U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REGULATORY RESEARCH

October 2006
Division 1

DRAFT REGULATORY GUIDE

Contact: W.E. Norris,
(301) 415-6796

DRAFT REGULATORY GUIDE DG-1133

(Proposed Revision 34 of Regulatory Guide 1.84, dated August 2005)

DESIGN, FABRICATION, AND MATERIALS CODE CASE ACCEPTABILITY, ASME SECTION III

A. INTRODUCTION

General Design Criterion (GDC) 1, "Quality Standards and Records," of Appendix A, "General Design Criteria for Nuclear Power Plants," to Title 10, Part 50, of the *Code of Federal Regulations* (10 CFR Part 50), "Domestic Licensing of Production and Utilization Facilities," requires, in part, that structures, systems, and components important to safety be designed, fabricated, erected, and tested to quality standards commensurate with the importance of the safety function to be performed. Where generally recognized codes and standards are used, Criterion 1 requires that they be identified and evaluated to determine their applicability, adequacy, and sufficiency and be supplemented or modified as necessary to ensure a quality product in keeping with the required safety function.

Criterion 30, "Quality of Reactor Coolant Pressure Boundary," of Appendix A requires, inpart, that components that are part of the reactor coolant pressure boundary be designed, fabricated, erected, and tested to the highest practical quality standards.

Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Processing Plants," to 10 CFR Part 50 requires, in part, that measures be established for the control of special processing of materials and that proper testing be performed.

This regulatory guide is being issued in draft form to involve the public in the early stages of the development of a regulatory position in this area. It has not received staff review or approval and does not represent an official NRC staff position.

Public comments are being solicited on this draft guide (including any implementation schedule) and its associated regulatory analysis or value/impact statement. Comments should be accompanied by appropriate supporting data. Written comments may be submitted to the Rules and Directives Branch, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001. Comments may be submitted electronically through the NRC's interactive rulemaking Web page at http://www.nrc.gov/what-we-do/regulatory/rulemaking.html. Copies of comments received may be examined at the NRC Public Document Room, 11555 Rockville Pike, Rockville, MD. Comments will be most helpful if received by **January 2, 2007**.

Requests for single copies of draft or active regulatory guides (which may be reproduced) or for placement on an automatic distribution list for single copies of future draft guides in specific divisions should be made to the U.S. Nuclear Regulatory Commission, Washington, DC 20555, Attention: Reproduction and Distribution Services Section, or by fax to (301)415-2289; or by email to Distribution@nrc.gov. Electronic copies of this draft regulatory guide are available through the NRC's interactive rulemaking Web page (see above); the NRC's public Web site under Draft Regulatory Guides in the Regulatory Guides document collection of the NRC's Electronic Reading Room at http://www.nrc.gov/reading-rm/doc-collections/; and the NRC's Agencywide Documents Access and Management System (ADAMS) at http://www.nrc.gov/reading-rm/adams.html, under Accession No. ML061210377.

Provisions of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (BPV) Code have been used since 1971 as one part of the framework to establish the necessary design, fabrication, construction, testing, and performance requirements for structures, systems, and components important to safety. Among other things, ASME standards committees develop improved methods for the construction and inservice inspection (ISI) of ASME Class 1, 2, 3, MC (metal containment), and CC (concrete containment) nuclear power plant components. A broad spectrum of stakeholders participate in the ASME process, which helps to ensure that the various interests are considered.

The regulation in 10 CFR 50.55a(c), "Reactor Coolant Pressure Boundary," requires, in part, that components of the reactor coolant pressure boundary must be designed, fabricated, erected, and tested in accordance with the requirements for Class 1 components of Section III, "Rules for Construction of Nuclear Power Plant Components,"[1] of the ASME BPV Code or equivalent quality standards. The ASME publishes a new edition of the BPV Code, which includes Section III, every 3 years, and new addenda every year. The latest editions and addenda of Section III that the U.S. Nuclear Regulatory Commission (NRC) has approved for use are referenced in 10 CFR 50.55a(b). The ASME also publishes Code Cases quarterly. Code Cases provide alternatives developed and approved by ASME. This regulatory guide identifies the Code Cases that have been determined by the NRC to be acceptable alternatives to applicable parts of Section III. Section III Code Cases not yet endorsed by the NRC may be implemented through 10 CFR 50.55a(a)(3), which permits the use of alternatives to the Code requirements referenced in 10 CFR 50.55a provided that the proposed alternatives result in an acceptable level of quality and safety, and that their use is authorized by the Director of the Office of Nuclear Reactor Regulation.

The ASME Code is incorporated by reference into 10 CFR 50.55a. Code Cases approved by the NRC provide an acceptable voluntary alternative to the mandatory ASME Code provisions. Therefore, the NRC will amend 10 CFR 50.55a to incorporate by reference the new Code Cases and revisions to existing Code Cases listed in this guide, and to state the requirements governing the use of Code Cases. Because of continuing change in the status of Code Cases, the staff plans periodic updates to 10 CFR 50.55a and this guide to accommodate new Code Cases and any revisions of existing Code Cases.

The NRC issues regulatory guides to describe to the public methods that the staff considers acceptable for use in implementing specific parts of the agency's regulations, to explain techniques that the staff uses in evaluating specific problems or postulated accidents, and to provide guidance to applicants. Regulatory guides are not substitutes for regulations, and compliance with regulatory guides is not required. The NRC issues regulatory guides in draft form to solicit public comment and involve the public in developing the agency's regulatory positions. Draft regulatory guides have not received complete staff review and, therefore, they do not represent official NRC staff positions.

---

[1] Copies may be obtained from the American Society of Mechanical Engineers, Three Park Avenue, New York, NY 10016-5990; phone (212) 591-8500; fax (212) 591-8501; www.asme.org.

This regulatory guide does not contain any new or amended information collection requirement subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq*.). This regulatory guide does, however, contain existing information collections that are covered by the requirements of 10 CFR Part 50, which the Office of Management and Budget (OMB) approved under OMB control number 3150-0011. The NRC may neither conduct nor sponsor, and a person is not required to respond to, an information collection request or requirement unless the requesting document displays a currently valid OMB control number.

B. DISCUSSION

Regulatory Guide 1.84 lists all Section III Code Cases that the NRC has approved for use. For proposed Revision 34 of the guide, the NRC staff reviewed the Section III Code Cases listed in Supplements 7–12 to the 2001 Edition of the ASME BPV Code and Supplement 1 to the 2004 Edition.[2] Appendix A to this guide lists the supplements reviewed, the applicable edition, and the date on which each supplement was approved by the ASME Board on Nuclear Codes and Standards. Appendix B is a list of the Section III Code Cases addressed in the seven supplements. Finally, Appendix C is a current list of all Section III Code Cases. The Code Cases addressed by this regulatory guide are listed in five tables:

(1) Table 1, "Acceptable Section III Code Cases," contains the Code Cases that are acceptable to the NRC for application in the design and construction of light-water-cooled nuclear power plants.

(2) Table 2, "Conditionally Acceptable Section III Code Cases," contains Code Cases that are acceptable provided that they are used with the identified limitations or modifications (i.e., the Code Case is generally acceptable but the NRC has determined that the alternative requirements must be supplemented in order to provide an acceptable level of quality and safety).

(3) Table 3, "Annulled Unconditionally Approved Section III Code Cases," contains the Code Cases that have been annulled by the ASME.

(4) Table 4, "Annulled Conditionally Acceptable Section III Code Cases," contains the Code Cases that the NRC determined to be acceptable, provided that they were used with the identified limitations or modifications, but were subsequently annulled by the ASME.

(5) Table 5, "Section III Code Cases That Have Been Superseded by Revised Code Cases on or After July 1, 1974," lists Code Cases that have been superseded through revision.

Code Cases that the NRC determined to be unacceptable are listed in Regulatory Guide 1.193, "ASME Code Cases Not Approved for Use."

---

[2] Except for Code Cases pertaining to high-temperature gas-cooled reactors; certain requirements in Section III, Division 2, not endorsed by the NRC; liquid metal; and submerged spent fuel waste casks.

Code Cases provide alternatives to existing Code requirements that the ASME developed and approved. The new Code Cases and revisions to existing Code Cases listed as approved in Tables 1 and 2 of this guide will be incorporated by reference into 10 CFR 50.55a. Code Cases approved by the NRC may be used voluntarily by licensees as an alternative to compliance with ASME Code provisions that have been incorporated by reference into 10 CFR 50.55a.

Requirements related to Code Case implementation are provided in 10 CFR 50.55a(b). When a licensee initially applies a Code Case listed in Tables 1 or 2, the licensee must implement the most recent version of that Code Case incorporated by reference in 10 CFR 50.55a.

Code Cases may expire or be annulled because the provisions have been incorporated into the Code, the application for which it was specifically developed no longer exists, or experience has shown that the design analysis or construction method is no longer adequate. After the ASME annuls a Code Case and the NRC amends 10 CFR 50.55a and this guide, licensees may not implement that Code Case for the first time. However, a licensee who implemented the Code Case prior to annulment may continue to use that Code Case until the licensee voluntarily updates its Section III Code of record. If a Code Case is incorporated by reference into 10 CFR 50.55a and later annulled by the ASME because experience has shown that the design analysis or construction method is no longer adequate, the NRC will amend 10 CFR 50.55a and this guide to remove the approval of the annulled Code Case. Licensees should not begin to implement such annulled Code Cases in advance of the rulemaking. Notwithstanding these requirements, the Commission may impose new or revised Code requirements, including implementation schedules, that it determines are consistent with the Backfit rule (10 CFR 50.109).

With regard to the use of any Code Case, it is the responsibility of the user to make certain that the provisions of the Code Case do not conflict with licensee commitments or regulatory requirements.

C. REGULATORY POSITION

1. Acceptable Code Cases

The Code Cases listed in Table 1 below are acceptable to the NRC for application in the design and construction of components and their supports for water-cooled nuclear power plants. The ASME issues a new edition of Section III every 3 years. Code Cases are published quarterly in supplements to each edition. Hence, there are 12 supplements to each edition. To assist users, new and revised Code Cases are shaded to distinguish them from those approved in previous versions of this guide. The shading will assist in focusing attention during the public comment period on the changes to the guide. For Code Cases previously listed in this guide, the third column of Table 1 lists the date of ASME approval. The letter "R" preceding a date indicates that the Code Case was reaffirmed in one of the seven supplements reviewed. (It should be noted that subsequent to issuance of these supplements and review by the NRC staff, the ASME discontinued its practice of imposing 3-year limits on Code Cases.) For new or revised Code Cases, the third column of Table 1 lists the supplement and edition in which each Code Case was published (e.g., "7/01E" means Code Case Supplement 7 to the 2001 Edition; "8-9/01" means Supplements 8 and 9, which were published collectively).

Table 1. Acceptable Section III Code Cases

Code Case Number	Table 1 Acceptable Section III Code Cases	Date or Supplement/ Edition
N-4-11	*Special Type 403 Modified Forgings or Bars, Section III, Division 1, Class 1 and CS*	2/25/02
N-7-1	*High Yield Strength Steel, Section III, Division 1, Class 1*	R2/3/03 (7/01E)
N-60-5	*Material for Core Support Structures, Section III, Division 1*	R2/20/04 (12/01E)
N-122-2	*Procedure for Evaluation of the Design of Rectangular Cross Section Attachments on Class 1 Piping, Section III, Division 1*	R2/3/03 (7/01E)
N-131-1 (1759-1)	*Material for Internal Pressure Retaining Items for Pressure Relief Valves, Section III, Division 1, Class 1, 2, and 3*	R2/3/03 (7/01E)
N-133-3	*Use of SB-148 Alloys 952 and 954, Section III, Division 1, Class 3*	R2/3/03 (7/01E)
N-154-1	*Projection Resistance Welding of Valve Seats, Section III, Division 1, Classes 1, 2, and 3*	R2/3/03 (7/01E)
N-160-1	*Finned Tubing for Construction, Section III, Division 1*	R2/3/03 (7/01E)
N-171	*Postweld Heat Treatment of P-No. 1 Material, Section III, Division 2*	4/30/93
N-192-3	*Use of Braided Flexible Connectors, Section III, Division 1, Class 2 and 3*	7/23/02
N-205	*Use of Ductile Iron SA-395, Section III, Division 1, Class 3*	2/25/02

Code Case Number	Table 1 Acceptable Section III Code Cases	Date or Supplement/ Edition
N-208-1	*Fatigue Analysis for Precipitation Hardening Nickel Alloy Bolting Material to Specification SB-637 N07718 for Section III Division 1, Class 1 Construction*	ASME Reinstated 8-9/01E
N-213	*Welded Radial Shear Bar Assemblies, Section III, Division 2*	2/25/02
N-243	*Boundaries Within Castings Used for Core Support Structures, Section III, Division 1, Class CS*	R2/3/03 (7/01E)
N-315	*Repair of Bellows, Section III, Division 1*	R2/3/03 (7/01E)
N-318-5	*Procedure for Evaluation of the Design of Rectangular Cross Section Attachments on Class 2 or 3 Piping, Section III, Division 1*	R2/3/03 (7/01E)
N-319-3	*Alternate Procedure for Evaluation of Stresses in Butt Welding Elbows in Class 1 Piping, Section III, Division 1*	R2/3/03 (7/01E)
N-329	*Examination of Bar Material, Section III, Division 1, Class 1*	7/23/02
N-351	*Use of Subsize Charpy V-Notch Specimens, Section III, Division 1*	1/17/00
N-369	*Resistance Welding of Bellows, Section III, Division 1*	R5/9/03 (8-9/01E)
N-373-2	*Alternative PWHT Time at Temperature for P-No. 5 Material, Section III, Division 1, Classes 1, 2, and 3*	5/4/04 (1/04E)
N-391-2	*Procedure for Evaluation of the Design of Hollow Circular Cross Section Welded Attachments on Class 1 Piping, Section III, Division 1*	5/4/04 (1/04E)
N-392-3	*Procedure for Evaluation of the Design of Hollow Circular Cross Section Welded Attachments on Classes 2 and 3 Piping, Section III, Division 1*	5/4/04 (1/04E)
N-405-1	*Socket Welds, Section III, Division 1*	R2/20/04 (12/01E)
N-438-1	*UNS N08367, Section III, Division 1, Class 2 and 3 Construction*	ASME Reinstated 5/24/96
N-452	*Specialized Subcontracted Welding Process (Electron Beam Welding), Section III, Division 1*	R5/9/03 (8-9/01E)
N-453-3	*Nickel-Chromium-Molybdenum-Copper Stainless Steel (UNS N08925) for Class 2 and 3 Construction, Section III, Division 1*	8/14/01
N-454-1	*Nickel-Chromium-Molybdenum-Copper Stainless Steels (UNS N08925 and N08926) Wrought Fittings for Class 2 and 3 Construction, Section III,Division 1*	R6/17/03 (10/01E)
N-455-1	*Nickel-Chromium-Molybdenum-Copper Stainless Steels (UNS N08925 and N08926) Forged Flanges and Fittings for Class 2 and 3, Section III, Division 1*	R6/17/03 (10/01E)

Code Case Number	Table 1 Acceptable Section III Code Cases	Date or Supplement/ Edition
N-469-1	*Martensitic Stainless Steel for Class 1, 2, and 3 Components, Section III, Division 1*	R2/3/03 (7/01E)
N-493	*Alternative Radiographic Acceptance Criteria for Vessels Used as Shipping Casks, Section III, Division 1, Class 1*	7/23/02
N-500-2	*Alternative Rules for Standard Supports for Classes 1, 2, 3 and MC, Section III, Division 1*	1/04E
N-505	*Alternative Rules for the Examination of Butt Welds Used as Closure Welds for Electrical Penetration Assemblies in Containment Structures, Section III, Division 1*	5/4/04 (1/04E)
N-511	*Design Temperature for Atmospheric and 0-15 psi Storage Tanks, Section III, Division 1*	5/4/04 (1/04E)
N-520-1	*Alternative Rules for Renewal of N-type Certificates for Plants Not in Active Construction, Section III, Division 1*	R5/9/03 (8-9/01E)
N-525	*Design Stress Intensities and Yield Strength Values for UNS N06690 With a Minimum Specified Yield Strength of 30 ksi, Class 1 Components, Section III, Division 1*	7/23/02
N-539	*UNS N08367 in Class 2 and 3 Valves, Section III, Division 1*	R2/20/04 (12/01E)
N-548	*Air Cooling of SA-182 Grades F304, F304L, F316, F316L Forgings Instead of Liquid Quenching After Solution Heat Treatment, Class 1, 2, and 3, Section III, Division 1*	9/7/01
N-558	*Stamping of Class 2 Vessels Fabricated to Subsection NB, Section III, Division 1*	2/25/02
N-564-2	*UNS J93380, Alloy CD3MWCuN, Class 2 and 3 Construction, Section III, Division 1*	R2/3/03 (7/01E)
N-570	*Alternative Rules for Linear Piping and Linear Standard Supports for Class 1, 2, 3, and MC, Section III, Division 1*	2/25/02
N-572	*Use of SB-425 (UNS N08825) Bar and Rod for Class 1 Construction, Section III, Division 1*	7/23/02
N-579	*Use of Nonstandard Nuts, Class 1, 2, and 3, MC, CS Components and Supports Construction, Section III, Division 1*	R2/3/03 (7/01E)
N-580-1	*Use of Alloy 600 With Columbium Added, Section III, Division 1*	5/20/98
N-594	*Repairs to P-4 and P-5A Materials for Pumps and Valves Without Postweld Heat Treatment, Section III, Division 1*	3/28/01
N-607	*Guidance on Implementation of NS Certificate of Accreditation, Section III, Division 1*	5/4/04 (1/04E)
N-610	*Alternative Reference Stress Intensity Factor (K_{1R}) Curve for Class Components, Section III, Division 1*	5/4/04 (1/04E)

Code Case Number	Table 1 Acceptable Section III Code Cases	Date or Supplement/ Edition
N-611	*Use of Stress Limits as an Alternate to Pressure Limits Subsection NC/ND-3500, Section III, Division 1*	R2/20/04 (12/01E)
N-620	*Rules for Class 1 Type M Pumps, Section III, Division 1*	5/4/04 (1/04E)
N-621	*Ni-Cr-Mo Alloy (UNS N06022) Welded Construction to 800 °F, Section III, Division 1*	5/4/04 (1/04E)
N-625-1	*Ni-Cr-Mo Alloy (UNS N06059) Welded Construction to 800 °F, Section III, Division 1*	R2/20/04 (12/01E)
N-631	*Use of Fracture Toughness Test Data to Establish Reference Temperature for Pressure Retaining Materials Other Than Bolting for Class 1 Vessels, Section III, Division 1*	7/23/02
N-632	*Use of ASTM A 572, Grades 50 and 65 for Structural Attachments to Class CC Containment Liners, Section III, Division 2*	R2/3/03 (7/01E)
N-635-1	*Use of 22Cr-5Ni-3Mo-N (Alloy UNS S31803) Forgings, Plate, Bar, Welded and Seamless Pipe, and/or Tube, Fittings, and Fusion Welded Pipe With Addition of Filler Metal, Classes 2 and 3, Section III, Division 1* (Note: Code Case N-635 was unconditionally approved for use in Revisions 32 and 33 of Regulatory Guide 1.84).	8-9/01
N-636	*Use of 18Cr-13Ni-3Mo (Alloy UNS S31703), 19Cr-15Ni-4Mo (Alloy UNS S31725), and 18.5Cr-15.5Ni-4.5Mo-N (Alloy UNS S31726) Forgings, Seamless Tubing, Plate, Welded Tubing, Welded and Seamless Pipe, Welded Pipe With Addition of Filler Metal and Fittings, Classes 2 and 3, Section III, Division 1*	7/23/02
N-637	*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*	9/24/99
N-642	*Alternative Rules for Progressive Liquid Penetrant Examination of Groove Welds In P-No. 8 Materials 3/16 in. (5 mm) Thick and Less Made by Autogenous Machine or Automatic Welding, Section III, Division 1*	R2/3/03 (7/01E)
N-644-1	*Weld Procedure Qualification for Procedures Exempt From PWHT in Classes 1, 2, and 3 Construction, Section III, Division 1*	8-9/01E
N-646	*Alternative Stress Intensification Factors for Circumferential Fillet Welded or Socket Welded Joints for Class 2 or 3 Piping, Section III, Division 1*	R2/20/04 (12/01E)
N-650	*Use of SA-537, Class 2 Plate Material in Non-pressure Boundary Application Service 700 °F to 850 °F, Class 1 or CS, Section III, Division 1*	R2/20/04 (12/01E)
N-657	*Use of the N-1A Data Report for Spent Fuel Canisters, Section III, Division 1*	2/25/02
N-692	*Use of Standard Welding Procedures, Section III, Divisions 1 and 2*	10/01E
N-698	*Design Stress Intensities and Yield Strength for UNS N06690 With a Minimum Specified Yield Strength of 35 ksi (240 Mpa), Class 1 Components, Section III, Division 1*	11/01E

Code Case Number	Table 1 Acceptable Section III Code Cases	Date or Supplement/ Edition
N-703	*Use of Strain Hardened Austenitic Material at Lower Design Stress Values for Class 1 Valves, Section III, Division 1*	1/04E
N-710	Use of Zirconium Alloy UNS R60702, Bars, Forgings, Plate, Seamless and Welded Fittings, Seamless and Welding Tubing, and Seamless and Welded Pipe, for Class 3 Construction, Section III, Division 1	1/04E

2. Conditionally Acceptable Section III Code Cases

The Code Cases listed in Table 2 below are acceptable to the NRC for application in the design and construction of components and their supports for water-cooled nuclear power plants within the limitations indicated by the NRC. Unless otherwise stated, limitations indicated by the NRC are in addition to the conditions specified in the Code Case. The ASME issues a new edition of Section III every 3 years. Code Cases are published quarterly in supplements to each edition. Hence, there are 12 supplements to each edition. To assist users, new and revised Code Cases are shaded to distinguish them from those approved in previous versions of this guide. The shading will assist in focusing attention during the public comment period on the changes to the guide. For Code Cases previously listed in this guide, the third column of Table 2 lists the date of ASME approval. The letter "R" preceding a date indicates that the Code Case was reaffirmed in one of the seven supplements reviewed. (It should be noted that subsequent to issuance of these supplements and review by the NRC staff, the ASME discontinued its practice of imposing 3-year limits on Code Cases.) For new or revised Code Cases, the third column of Table 1 lists the supplement and edition in which each Code Case was published (e.g., "7/01E" means Code Case Supplement 7 to the 2001 Edition; "8-9/01" means Supplements 8 and 9, which were published collectively).

Table 2. Conditionally Acceptable Section III Code Cases

Code Case Number	Table 2 Conditionally Acceptable Section III Code Cases Title/Condition	Date or Supplement/ Edition
N-62-7	*Internal and External Valve Items, Section III, Division 1, Classes 1, 2, and 3*	R2/3/03 (7/01E)
	The Code requires that Class 1 and Class 2 valve manufacturers meet the provisions of NCA-4000, "Quality Assurance." Class 3 valve manufacturers must also meet the provisions of NCA-4000 because all Code Class valve items are subject to the licensee's 10 CFR Part 50, Appendix B approved QA program.	
N-71-18	*Additional Materials for Subsection NF, Class 1, 2, 3, and MC Component Supports Fabricated by Welding, Section III, Division 1*	R5/9/03 (8-9/01E)
	(1) The maximum measured ultimate tensile strength (UTS) of the component support material must not exceed 170 Ksi in view of the susceptibility of high-strength materials to brittleness and stress corrosion cracking. (2) Certain applications may exist where a UTS value of up to 190 Ksi could be considered acceptable for a material and, under this condition, the Design Specification must specify impact testing for the material. For these cases, it must be demonstrated by the applicant that: the impact test results for the material meet Code requirements, (a) the impact test results for the material meet Code requirements,	

Code Case Number	Table 2 Conditionally Acceptable Section III Code Cases Title/Condition	Date or Supplement/ Edition
N-71-18 (cont'd)	*Additional Materials for Subsection NF, Class 1, 2, 3, and MC Component Supports Fabricated by Welding, Section III, Division 1*	R5/9/03 (8-9/01E)
	(b) the material is not subject to stress corrosion cracking by virtue of the fact that: (i) a corrosive environment is not present, and (ii) the component that contains the material has essentially no residual stresses or assembly stresses, and (iii) it does not experience frequent sustained loads in service. (3) In the last sentence of paragraph 5.3, reference must be made to paragraph 4.5.2.2, "Alternate Atmosphere Exposure Time Periods Established by Test," of the AWS D.1.1 Code for the evidence presented to and accepted by the Authorized Inspector concerning exposure of electrodes for longer periods of time. (4) Paragraph 16.2.2 is not acceptable as written and must be replaced with the following: "When not exempted by 16.2.1 above, the postweld heat treatment must be performed in accordance with NF-4622 except that ASTM A-710 Grade A Material must be at least 1000°F (540°C) and must not exceed 1150°F (620°C) for Class 1 and Class 2 material and 1175°F (640°C) for Class 3 material. (5) The new holding time at temperature for weld thickness (nominal) must be 30 minutes for ½ inch or less, 1 hour per inch for thickness over ½ inch to 5 inches, and for thicknesses over 5 inches, 5 hours plus 15 minutes for each additional inch over 5 inches. (6) The fracture toughness requirements as listed in this Code Case apply only to piping supports and not to Class 1, Class 2, and Class 3 component supports. (Note: conditions are identical to those in Revision 33 of Regulatory Guide 1.84 for Code Case N-71-17).	
N-155-2	*Fiberglass Reinforced Thermosetting Resin Pipe, Section III, Division 1*	R2/3/03 (7/01E)
	(1) The design temperature for spray pond piping must be 100°C (212°F). (2) The allowable design stress must be the value obtained from the minimum hydrostatic design basis (HDB) in Table 3611-1 of CodeCase N-155-2 (Procedure A or B) or the value determined as one-sixth of the stress obtained from a short-time burst test for the pipe being qualified, whichever is lower. The short-time burst strength must be determined by bursting the pipe (ASTM D-1599-74) using free-end mounting after it has been exposed to 10^5 pressure cycles from atmospheric to design pressure.	

Code Case Number	Table 2 Conditionally Acceptable Section III Code Cases Title/Condition	Date or Supplement/ Edition
N-155-2 (cont'd)	*Fiberglass Reinforced Thermosetting Resin Pipe, Section III, Division 1*	R2/3/03 (7/01E)
	(3) The value of "K" in equation 9 of paragraph 3652 must be limited to 1.2 unless it can be demonstrated that with the use of a large value of K_1 the functional capability of the system will not be impaired during upset and emergency conditions. (4) RTR piping must be uninsulated or uncovered and installed under conditions that make it readily accessible for inspection. (5) Preoperational and inservice inspections must be as follows: (a) During the preoperational testing period, tests must be made to verify that the piping is free of vibration induced by weather conditions or water flow that could fatigue the piping prematurely; (b) Fiberglass-reinforced piping components must be inspected in accordance with ASME Code, Section XI, for Code Class 3 components. In addition, all pipe supports must be inspected; (c) Inspection frequency for piping must be increased to once annually if an exterior weather-resistant coating is not provided.	
N-249-14	*Additional Materials for Subsection NF, Class 1, 2, 3, and MC Component Supports Fabricated Without Welding, Section III, Division 1*	R2/20/04 (12/01E)
	(1)The fracture toughness requirements apply only to piping supports and not to Class 1, Class 2, and Class 3 component supports. (2) The following is to be added to paragraph (e) of the Code Case: (a) "For these cases, it must be demonstrated by the Owner that: (i) the impact test results for the material meet Code requirements, and (ii) the material is not subject to stress corrosion cracking by virtue of the fact that: a corrosive environment is not present; the component that contains the material has essentially no residual stresses or assembly stresses; and it does not experience frequent sustained loads in service." (Note: Conditions are identical to those in Revision 33 of Regulatory Guide 1.84 for Code Case N-249-13).	
N-500-1	*Alternative Rules for Standard Supports for Class 1, 2, 3, and MC, Section III, Division 1*	5/20/98
	(1) The requirements of NF-3330, "High Cycle Fatigue Design for Class 1," must be met for Class 1 Standard Supports for fatigue consideration. (2) The requirements of NF-3225, "Design of Bolting," and NF-3324.6, "Design Requirements for Bolted Joints," must be met for bolted joints.	
N-595-3	*Requirements for Spent Fuel Storage Canisters, Section III, Division 1*	4/8/02
	The canisters must be made from austenitic stainless steel Type 304 or 316.	

Code Case Number	Table 2 Conditionally Acceptable Section III Code Cases Title/Condition	Date or Supplement/ Edition
N-626	*Use of Plastic Analysis for the Design of Type B Containment Components for Nuclear Material Transportation Casks, Section III, Division 3*	7/23/02
	(1) For the acceptability of a design by analysis, Paragraph WB-3211, “Requirements for Acceptability,” of Section III, Division 3, Subsection WB, “Class TP (Type B) Containment,” Subparagraphs (a) through (d) must be applied. (2) There is a typographical error in the title of Paragraph (a)(2) of the Code Case. Paragraph WB-3277 does not exist. Paragraph WB-3227, “Applications of Inelastic Analysis Procedures,” of Section III, Division 3, Subsection WB, “Class TP (Type B) Containment,” is to be used. (3) The first paragraph of WB-3324, “Design for Local Puncture Associated with a Hypothetical Accident Condition,” of Section III, Division 3, Subsection WB, “Class TP (Type B) Containment,” must be applied. The second paragraph of WB-3324 may be applied. In lieu of the third paragraph of WB-3324, the following may be applied: “In lieu of the application of the equation for outer shell thickness (t_{req}) the response of the containment boundary to puncture test loadings may be evaluated using plastic analysis according to the rules in Appendix F, “Rules for Evaluation of Service Loadings with Level D Service Limits.”	
N-655	*Use of SA-738, Grade B, for Metal Containment Vessels, Class MC, Section III, Division 1*	2/25/02
	For metal containment vessels up to 1.75 inch thick: (1) Supplementary Requirement S17, "Vacuum Carbon-Deoxidized Steel," of Material Specification SA-738 must be applied to the material, and (2) Supplementary Requirement S20, "Maximum Carbon Equivalent for Weldability," of Material Specification SA-738 must be applied to the material.	
N-656	*Rules for the Construction of Inner Transportation Containments, Section III, Division 3*	2/25/02
	The inner transportation containment must contain only solid and dry material.	

Code Case Number	Table 2 Conditionally Acceptable Section III Code Cases Title/Condition	Date or Supplement/ Edition
N-659	*Use of Ultrasonic Examination in Lieu of Radiography for Weld Examination, Section III, Division 1*	07/01E
	Chemical ranges of the calibration block may vary from the materials specification if: (1) it is within the chemical range of the component specification to be inspected, and (2) the phase and grain shape are maintained in the same ranges produced by the thermal process required by the material specification.	

3. Annulled Unconditionally Approved Section III Code Cases

The Code Cases listed in the table below were previously unconditionally approved by the NRC and have been annulled by the ASME.

Table 3. Annulled Unconditionally Approved Section III Code Cases

Code Case Number	Table 3 Annulled Unconditionally Approved Section III Code Cases	Annulment Date
N-1-7 (1332-7)	*Requirements for Steel Forgings, Section III, Division 1*	7/1/82
N-2 (1334-3)	*Requirements for Corrosion-Resisting Steel Bars and Shapes, Section III*	1/1/81
N-3-10 (1335-10)	*Requirements for Bolting Materials, Section III*	9/16/84
N-5-1	*Nickel Chromium Age Hardenable Alloys (Alloy X750), Section III, Division 1, Classes 1, 2, 3, MC, and CS*	12/13/85
N-6 (1345-2)	*Requirements for Nickel-Molybdenum-Chromium-Iron Alloys, Section III*	3/1/79
N-9-4 (1395-4)	*SA-508, Class 2 Forgings with Modified Manganese Content, Section III*	7/1/82
N-10 (1407-3)	*Time of Examination for Classes, 1, 2, and 3, Section III Vessels*	9/17/87
N-15 (1456-2)	*Substitution of Ultrasonic Examination for Progressive Penetrant or Magnetic Particle Examination of Partial Penetration and Oblique Nozzle Attachment Welds, Section III*	3/1/79
N-17 (1474-1)	*Integrally Finned Tubes for Section III*	1/21/91
N-20-4	*SB-163, Cold Worked UNS N08800; and SB-163 UNS N06600, UNS N06690, and UNS N08800 to Supplementary Requirements S2 of SB-163, Section III, Division 1, Class 1*	9/18/01
N-22 (1498-1)	*SA-508-Class 2 and 3, Minimum Tempering Temperature, Section III*	7/1/82
N-24 (1516-2)	*Welding of Seats or Minor Internal Permanent Attachments in Valves for Section III Applications*	1/1/80
N-26 (1527)	*Integrally Finned Tubes, Section III*	1/21/91
N-30-1 (1539-1)	*Metal Bellows and Metal Diaphragm Stem Sealed Valves, Section III, Division 1, Classes 1, 2, and 3*	1/1/81
N-32-3 (1541-3)	*Hydrostatic Testing of Embedded Class 2 and Class 3 Piping for Section III, Division 1 Construction*	7/1/79

Code Case Number	Table 3 Annulled Unconditionally Approved Section III Code Cases	Annulment Date
N-33 (1542-1)	*Type 403 Forgings or Bars for Bolting Material, Section III*	1/21/85
N-35-1 (1552-1)	*Design by Analysis of Section III, Class 1 Valves*	7/1/79
N-37-3 (1557-3)	*Steel Products Refined by Secondary Remelting, Section III and VIII, Division 1 and 2*	7/1/82
N-41 (1571)	*Additional Material for SA-234 Carbon Steel Fittings, Section III*	1/21/85
N-43 (1578)	*SB-167 Nickel-Chromium-Iron (Alloy 600) Pipe or Tube, Section III*	7/1/82
N-46 (1588)	*Electro-Etching of Section III Code Symbols*	3/19/82
N-48-2	*Fabrication and Installation of Elevated Temperature Components, Section III, Division 1*	7/1/96
N-49-4	*Examination of Elevated Temperature Nuclear Components, Section III, Class 1*	7/1/96
N-50-1	*Testing of Elevated Temperature Components, Section III, Division 1, Class 1*	7/1/96
N-51-2	*Protection Against Overpressure of Elevated Temperature Components, Section III, Division 1, Class 1*	7/1/96
N-55-1 (1609)	*Inertia and Continuous Drive Friction Welding, Section III, Division 1*	4/5/87
N-56 (1612)	*Use of Type 308 Stainless Steel Rod and Bar for Section III, Class 1, 2, 3, and CS Construction*	7/1/78
N-61 (1620)	*Stress Category for Partial Penetration Welded Penetrations, Section III, Class Construction*	1/8/82
N-65-1 (1626-1)	*Normalized and Tempered 1-1/4 Cr Low Alloy Steel Forgings, Section I and III*	1/21/85
N-66-1 (1630-1)	*External Pressure Charts for High Yield Strength Carbon Steels and Low Alloy Steels (Yield Strength above 38 Ksi to 60 Ksi Inclusive) For Section III, Class 1, 2, 3, and MC*	12/5/87
N-68 (1634-2)	*Use of SB-359 for Section III, Division, 1, Class 3 Construction*	7/1/78
N-77 (1660)	*Overpressure Protection Under Emergency Operating Conditions for Section III, Class 1*	7/1/77
N-81 (1665)	*Pressure-Temperature Ratings for Class 1 Valves Made from 5 Cr-1/2 Mo, Section III*	7/1/78
N-82 (1677)	*Clarification of Flange Design Loads, Section III, Class 1, 2, and 3*	3/1/79

Code Case Number	Table 3 Annulled Unconditionally Approved Section III Code Cases	Annulment Date
N-84 (1681-1)	*Organizations Accepting Overall Responsibility for Section III Construction*	3/1/79
N-90 (1692)	*Rules for Design of Welded Class 1 Pumps*	7/1/78
N-94 (1700)	*Determination of Capacities of Liquid Relief Valves, Section III, Division 1, Class 1, 2, and 3*	3/19/82
N-95-2 (1701-2)	*Determination of Capacities of Vacuum Relief Valves, Section III, Division 1, Classes 2, 3, and MC and Division 2 Concrete Containments*	7/9/82
N-96-1 (1702-1)	*Flanged Valves Larger than 24 inches for Section III, Division 1, Class 1, 2, and 3 Construction*	1/1/80
N-101 (1712)	*Nameplates and Stamping for Section III, Division 1, Class 1, 2, 3 and MC Construction as Referenced in NA-8300*	3/1/79
N-102-2	*Postweld Heat Treatment of P-1 Material, Section III, Class MC*	6/30/84
N-107-1 (1722-1)	*Vacuum, Carbon Deoxidized SA-508 Forgings, Section III, Division 1*	1/8/82
N-108 (1724)	*Deviation from the Specified Silicon Ranges in ASME Material Specifications, Section III, Division 1, and VIII, Division 1 and 2*	7/1/78
N-109 (1726)	*Refinement of Low Alloy Steel Heat Affected Zone Under Overlay Cladding, Section III, Division 1, Class 1 Components*	3/1/79
N-111 (1729)	*Minimum Edge Distance-Bolting for Section III, Division 1, Class 1, 2, and 3 and MC Construction of Component Supports*	3/1/79
N-114 (1732)	*Hardsurfaced Valves with Inlet Connections less than 2-in. Nominal Pipe Size for Section III, Division 1, Class 1 and 2 Construction*	1/1/79
N-115 (1733)	*Evaluation of Safe Shut Down Earthquake Loadings for Section III, Division 1, Class MC Containment Vessels*	1/1/78
N-119-6	*Pump Internal Items, Section III, Division 1, Class 1, 2, and 3*	3/14/94
N-121 (1744)	*Carbon Steel Pipe Flanges Larger than 24 in., Section III, Division 1, Class 2 and 3 Construction*	3/1/79
N-123 (1746)	*Leak Testing of Seal Welds, Section III, Division 1, Class 1, 2, and 3 Construction*	3/1/79
N-124 (1747)	*Requirements for Martensitic Stainless Forgings with 13% Chromium and 4% Nickel, Section III, Division 1*	7/13/87
N-125 (1748)	*Low Carbon Austenitic Stainless Steel Pipe Welded With Filler Metal, Section III, Division 1, Construction*	7/1/78
N-126 (1754)	*Hard Surfacing by the Spray-Fuse Method, Section III, Class 1, 2, and 3 Construction*	7/1/88
N-127 (1755-1)	*Alternative Rules for Examination of Welds in Piping, Section III, Class 1 and 2 Construction*	2/20/92

Code Case Number	Table 3 Annulled Unconditionally Approved Section III Code Cases	Annulment Date
N-139	*Testing of Electroslag Wire and Flux for Class 1, 2, 3, MC, and CS Construction, Section III, Division 1*	1/1/79
N-140 (1772)	*Use of SA-453 Bolts in Service Below 800 °F Without Stress Rupture Tests, Section III, Division 1*	12/31/85
N-142-1 (1774-1)	*Minimum Wall Thickness for Class 2 and 3 Valves, Section III, Division 1*	1/1/80
N-147 (1781)	*Use of Modified SA-487 Grade CA6NM, Section III, Division 1, Class 1, 2, 3, MC or CS*	7/1/78
N-148 (1782)	*Use of Copper-Nickel Alloy 962 for Castings, Section III, Division 1, Class 3 Construction*	6/30/83
N-156 (1793)	*Structural Steel Rolled Shapes, Section III, Division I, Class 2, 3, and MC*	2/14/86
N-157 (1794)	*Use of Seamless Al-Br, Alloy CDA 614 Pipe, Section III, Division 1, Class 3*	1/7/83
N-158 (1795)	*Examination of Weld Repairs in Forgings, Section III, Division 1, Class 1, 2, 3, MC and CS*	7/1/78
N-159 (1796)	*Body Neck Thickness Determination for Valves with Inlet Connections 4-Inch Nominal Pipe Size and Smaller, Section III, Division 1, Class 1, 2, and 3*	7/1/78
N-174 (1812)	*Size of Fillet Welds for Socket Welding of Piping, Section III, Division 1*	1/1/81
N-176-1 (1819-1)	*Use of Type XM-19 for Construction, Section III, Division 1, Class 1, 2, and 3*	8/25/83
N-177 (1820)	*Alternative Ultrasonic Examination Technique, Section III, Division 1*	1/1/84
N-178	*Use of ASTM B271, CDA 954, Alloy 9C for Class 3 Construction, Section III, Division 1*	1/1/80
N-179	*Openings in Valves for Section III, Division 1, Class 1, 2 and 3 Construction*	7/11/80
N-180	*Examination of Springs for Class 1 Component Standards Supports, Section III, Division 1*	7/1/78
N-181	*Steel Castings Refined by the Argon Decarburization Process, Section III, Division 1, Construction*	7/11/80
N-182	*Alternate Rules for Procedure Qualification Base Material Orientation, Section III, Division 1, Class 2 and 3 Construction*	7/1/81
N-183	*Use of Modified SA-182 Grade F22 for Section III, Division 1, Class 1, 2 and 3 Construction*	1/1/80
N-184	*Roll Threading of SA-453 Bolting for Section III, Division 1, Class 1, 2, 3, or CS Construction*	7/1/79

Code Case Number	Table 3 Annulled Unconditionally Approved Section III Code Cases	Annulment Date
N-188-1	*Use of Welded Ni-Fe-Cr-Mo-Cu (Alloy 825) and Ni-Cr-Mo-Cb (Alloy 625) Tubing, Section III, Division 1, Class 2 and 3*	8/14/96
N-189	*Primary Membrane Plus Primary Bending Stress Intensity Limits for Other Than Solid Rectangular Sections for Section III, Division 1, Class MC Construction*	7/1/79
N-190	*Use of SA-455 for Class 3 Components, Section III, Division 1*	7/1/78
N-193	*Use of SB-61 and SB-62 Bronze for Section III, Division 1, Class 3 Flange and Socket Weld End Valves*	11/21/80
N-196-1	*Exemption from the Shakedown Requirements When Plastic Analysis Is Performed for Section III, Division 1, Class 1 and CS Construction*	7/1/92
N-204	*Use of Modified SA-508, Class 3, and SA-541, Class 3 for Section III, Division 1, Class 1, 2, and 3 Components*	1/1/81
N-206	*Use of ASTM B151-75 Copper-Nickel Alloy 706 Rod and Bar for Section III, Division 1, Class 3 Construction*	6/30/83
N-207-1	*Use of Modified SA-479 Type XM-19 for Section III, Division 1, Class 1, 2, 3, or CS Construction*	1/21/85
N-208-2	*Fatigue Analysis for Precipitation Hardening Nickel Alloy Bolting Material to Specification SA-637 N07718 for Class 1 Construction, Section III, Division 1*	5/7/02
N-212 (1693)	*Welding Procedure Qualification of Dissimilar Metal Welds When "Buttering" with Alloy Weld Metal and Heat Treatment May Be Involved, Section III, Division 1, and Section IX.*	1/1/81
N-214-2	*Use of SA-351 Grade CN7M, for Valves, Section III, Division 1*	12/31/83
N-215	*Integrally Finned Titanium Tubes, Section III, Division 1, Class 3 Construction*	5/15/81
N-217-1	*Postweld Heat Treatment of Weld Deposit Cladding on Classes 1, 2, 3, MC, and CS Items, Section III, Division 1*	2/23/87
N-220	*Code Effective Date for Component Supports, Section III, Division 1*	7/13/81
N-223	*Requirements for Stainless Steel Precipitation Hardening, Section III, Division 1, Class MC*	11/20/81
N-224-1	*Use of ASTM A500 Grade B and ASTM A501 Structural Tubing for Welded Attachments for Section III, Class 2, 3, and MC*	4/5/90
N-225	*Certification and Identification of Material for Component Supports, Section III, Division 1*	1/1/81
N-226	*Temporary Attachment of Thermocouples, Section III, Division 1, Class 1, 2 and 3 Component Supports*	1/1/80
N-227	*Examination of Repair Welds, Section III, Class 2 and 3 Tanks*	7/9/82

Code Case Number	Table 3 Annulled Unconditionally Approved Section III Code Cases	Annulment Date
N-228	*Alternate Rules for Sequence of Completion of Code Data Report Forms and Stamping for Section III, Class 1, 2, 3 and MC Construction*	3/19/82
N-229	*Alternate Rules for Fabrication Welding SB-148 Alloy CDA 954 for Section III, Division 1, Class 3 Construction*	1/21/88
N-231	*Alternate Methods for Leak Detection in the Attachment Welds of Leak Chase Channels, Section III, Division 2, Class CC*	7/1/92
N-233	*Alternate Rules for PWHT of P-No. 6, Group 4 Material for Section III, Division 1, Class 3 Construction*	9/17/87
N-237-2	*Hydrostatic Testing of Internal Piping, Section III, Division 1, Classes 2 and 3*	7/1/88
N-240	*Hydrostatic Testing of Open Ended Piping, Section III, Division 1*	7/1/97
N-241	*Hydrostatic Testing of Piping, Section III, Division 1*	7/1/97
N-245	*Use of ASTM B61-76 and B62-76 Copper Alloy Castings for Section III, Division 1, Class 3 Construction*	7/17/85
N-246-2	*SB-169 Alloy C61400, Section III, Division 1, Class 3 Construction*	7/27/95
N-247	*Certified Design Report Summary for Component Standard Supports, Section III, Division 1, Class 1, 2, 3 and MC*	4/30/93
N-248	*Alternative Reference Radiographs, Section III, Division 1, Classes 1, 2, 3, MC, and CS Construction*	7/1/80
N-259	*Ni-Cu-Al Bolting Material SB 164 Modified, Section III, Division 1, Class 3*	1/1/84
N-261	*Weld Procedure Qualification for Materials with Impact Requirements for Section III, Division 1, Class 3 Construction*	12/13/82
N-262	*Electric Resistance Spot Welding for Structural Use in Component Supports, Section III, Division 1*	7/27/91
N-265-1	*Modified SA-487 Castings, Section III, Division 1, Class 1*	8/14/97
N-267	*Double-Wall Radiography, Section III, Division 1, Class 1 and 2*	7/1/81
N-271	*Simplified Method for Analyzing Flat Face Flanges with Metal to Metal Contact Outside the Bolt Circle for Section III, Class 2, 3, and MC Construction*	2/14/86
N-272	*Compiling Data Report Forms, Section III, Division 1*	1/1/82
N-276	*Welding of SA-358 Pipe, Section III, Division 1*	2/14/86
N-277	*Use of Type XM-19 Austenitic Stainless Steel for Section III, Division 1,Class MC Construction*	9/17/80
N-280	*Alternate Rules for Examination of Welds in Section III, Class 3 Storage Tanks*	7/1/81
N-281	*Welding Operator Performance Qualification, Section III, Division 1*	7/1/81

Code Case Number	Table 3 Annulled Unconditionally Approved Section III Code Cases	Annulment Date
N-282	*Nameplates for Valves, Section III, Division 1, Class 1, 2, and 3 Construction*	7/30/89
N-294	*SB-148 Alloys 952 and 954, and SB-62 Alloy 836 Fittings, Section III, Division 1, Class 2*	7/27/95
N-295	*NCA-1140, Materials, Section III, Division 1*	6/30/82
N-296	*Welding Material, Section III, Division 1 Construction*	12/1/83
N-298	*Examination of Component Supports, Section III, Division 1, Class 1, 2, 3, and MC*	12/1/83
N-299-1	*Use of Nickel-Chromium-Molybdenum-Columbium Alloy 625 Forgings, Section III, Division 1, Class 2 and Class 3 Components*	2/23/87
N-300	*Pressure-Temperature Ratings, Hydrostatic Tests, and Minimum Wall Thickness of Valves, Section III, Division 1, Class 1*	12/1/83
N-302	*Tack Welding, Section III, Division 1, Construction*	11/28/83
N-304-4	*Use of 20Cr-25Ni-6Mo (Alloy UNS N08366) Plate, Sheet, Strip, and Welded Pipe, Class 2 and 3, Section III, Division 1*	1/1/03
N-309-1	*Identification of Materials for Component Supports, Section III, Division 1*	7/1/95
N-313	*Alternative Rules for Half-Coupling Branch Connections, Section III, Division 1, Class 2*	7/1/96
N-316	*Alternative Rules for Fillet Weld Dimensions for Socket Welding Fittings, Section III, Division 1, Class 1, 2, and 3*	8/14/93
N-317	*ASTM A276 Bar, Section III, Division*	7/1/82
N-320	*Alternate PWHT for SA-487, Grade CA6NM, Section III, Division 1*	12/31/83
N-321-1	*Use of Modified SA-249, Grade TP 304, Section III, Division 1, Class 1*	12/5/88
N-324	*Qualification of Authorized Nuclear Inspector Supervisor (Concrete) and Authorized Nuclear Inspector (Concrete), Section III, Division 2, Classes CB and CC*	7/27/95
N-328	*Thermit Brazing or Welding of Nonstructural Attachments, Section III, Division 1*	9/17/87
N-336	*Examination of Welds Inaccessible During Pressure Test, Section III, Division 1, Class MC*	6/30/83
N-337-1	*Use of ASTM B 525-70 Grade II, Type II, Sintered Austenitic Stainless Steel for Classes 2, 3, and MC Component Standard Supports, Section III, Division 1*	3/14/94
N-339	*Examination of Ends of Fillet Welds, Section III, Division 1, Classes 1, 2, and MC*	9/17/84
N-341	*Certification of Level III NDE Examiner, Section III, Division 1 and 2*	7/1/88

Code Case Number	Table 3 Annulled Unconditionally Approved Section III Code Cases	Annulment Date
N-342	*Use of SA-249 and SA-312 Type 317 Stainless Steel, Section III, Division 1, Classes 1, 2, and 3*	4/2/85
N-345-1	*Attachment of AMS 5382 Alloy 31 Seat Rings by Friction Welding, Section III, Division 1, Classes 1, 2, and 3*	3/28/01
N-346	*Explosive Welding, Section III, Division 1*	6/30/86
N-347	*Continuous Electric Resistance Seam Welding of P-No. 8 Materials for Component Supports, Section III, Division 1*	12/13/85
N-349	*Pressure Testing Piping Systems, Section III, Division 1, Classes 2 and 3*	12/31/85
N-352-1	*Use of SA-638 Grade 660 Forgings and Bars Below 700 °F Without Stress Rupture Tests, Section III, Division 1*	6/30/86
N-353	*Marking of SA-354 Grade BD Bolting, Section III, Division 1*	9/5/88
N-354-1	*Subcontracted Service, Section III, Division 2*	8/14/94
N-355	*Calibration Block for Angle Beam Ultrasonic Examination of Large Fittings in Accordance with Appendix III-3410*	8/9/96
N-357	*Certification of Material for Component Supports, Section III, Division 1, Subsection NF*	7/1/88
N-359	*Weld Connection for Coaxial Cylinders, Section III, Division 1, Class 1*	12/31/84
N-362-2	*Pressure Testing of Containment Items, Section III, Division 1, Classes 1, 2, and MC*	7/1/88
N-367	*SA-372 Type V, Grade 1, Class B, Section III, Division 1*	2/19/89
N-368	*Pressure Testing of Pump Discharge Piping, Section III, Division 1, Classes 2 and 3*	7/1/95
N-370-2	*Modified SA-705 Type XM-13 Forgings, Section III, Division 1*	8/14/97
N-371-1	*12Cr-1W-1Mo-1/4V Martensitic Stainless Steel Valve Internals, Section III, Division 1*	7/18/88
N-372	*SB-163 Ni-Fe-Cr-Mo-Cu Alloy 825 (UNS N08825) Tubing, Section III, Division 1*	12/31/83
N-376	*Pressure Testing of Embedded Class 2 and 3 Piping, Section III, Division 1*	7/30/86
N-377	*Effective Throat Thickness of Partial Penetration Groove Welds, Section III, Division 1, Classes 1, 2, and 3*	12/31/83
N-378	*Examination of Piping Support Material, Section III, Division 1, Class 1*	10/28/86
N-379-1	*Bimetallic Tubing, Section III, Division 1, Class 1*	7/18/91

Code Case Number	Table 3 Annulled Unconditionally Approved Section III Code Cases	Annulment Date
N-384-1	*Use of Prepackaged General Purpose Cement Grouts, Epoxy Grouts, and Epoxy Bonding, Section III, Division 2, Class CC*	7/27/91
N-387	*Certification of Level III NDE Examiner,* Section III, Division 2	9/18/01
N-388	*Component Support Bolting, Section III, Division 1, Classes 2, 3, and MC*	2/23/87
N-393	*Repair Welding Structural Steel Bolted Shapes and Plates for Component Supports, Section III, Division 1*	7/27/95
N-394	*Restricting Lift to Achieve Reduced Relieving Capacities of Full Lift, Nozzle Type, and Flat Seated Safety and Safety Relief Valves for Compressible Fluid Applications, Section III, Division 1, Classes 2 and 3*	3/2/01
N-395	*Laser Welding, Section III, Division 1*	9/18/01
N-403	*Reassembly of Subsection NF Component and Piping Supports, Section III, Division 1*	7/1/95
N-410	*Certified Relieving Capacities of Pressure Relief Valves Having Set Pressure of 3 psig up to but Not including 15 psig Installed for Overpressure Protection of Compressible Fluid Systems, Section III, Division 1, Classes 2 and 3*	3/14/00
N-412	*Alternative Rules for Witnessing the Piping System Pressure Tests of Classes 1, 2, and 3 Piping Systems, Section III, Division 1*	4/15/91
N-413	*Minimum Size of Fillet Welds for Subsection NF Linear Type Supports, Section III, Division 1*	2/14/88
N-414	*Tack Welds for Class 1, 2, 3 and MC Components and Piping Supports, Section III, Division 1*	2/20/92
N-418-1	*Use of Seamless Ni-Fe-Cr-Mo-Cu Low Carbon (UNS N08028 and UNS N08904) Tubing, Section III, Division 1, Classes 2 and 3*	7/27/95
N-420	*Linear Energy Absorbing Supports for Subsection NF, Classes 1, 2, and 3 Construction*	1/1/99
N-421	*Brazing Using a Radiant Energy Source, Section III, Division 1*	6/30/86
N-433	*Non-Threaded Fasteners for Section III, Division 1, Class 1, 2, and 3 Components and Piping Supports*	12/16/95
N-438-4	*UNS N08367 Material, Section III, Division 1, Class 2 and 3 Construction*	7/1/98
N-439-1	*Use of 20Cr-18Ni-6Mo (Alloy UNS S31254) Forgings, Plate, Seamless and Welded Pipe, and Welded Tube, Class 2 and 3 Construction, Section III, Division 1*	9/18/01
N-440-1	*Use of 20Cr-18Ni-6Mo (Alloy UNS J93254) Castings, Class 2 and 3 Construction, Section III, Division 1*	9/18/01
N-441-2	*Use of 20Cr-18Ni-6Mo (Alloy UNS S31254) Fittings, Class 2 and 3 Construction, Section III, Division 1*	9/18/01

Code Case Number	Table 3 Annulled Unconditionally Approved Section III Code Cases	Annulment Date
N-442	*1977 Addendum to ANSI/ASME PTC 25.3-1976, Safety and Safety Relief Valves, Class 1, 2, 3, and MC, Section III, Division 1*	3/8/92
N-443-2	*High Yield Strength Cr-Mo Steel, Class 1 Components, Section III, Division 1*	1/1/01
N-451	*Alternative Rules for Analysis of Piping Under Seismic Loading, Class 1, Section III, Division 1*	8/14/96
N-459	*SA-508 Basic Oxygen-Ladle Furnace Process for Code Construction, Section III, Division 1*	3/14/94
N-462	*Alternative Rules for Analysis of Piping Products Under Seismic Loading, Class 2 and 3 Piping Systems, Section III, Division 1*	5/24/96
N-464	*Laser Welding of Lap Joints, Section III, Division 1, Classes 2 and 3 Construction*	5/9/03
N-466-1	*Modified 9Cr-1Mo Material, Section III, Division 1, Classes 1, 2, and 3*	8/14/97
N-468	*Alternative Method of Earthquake Description for Class 2 and 3 Piping of Low Seismicity Sites, Section III, Division 1*	11/92
N-470	*Class MC Material Requirements [NE-2121(c)], Section III, Division 1*	3/8/92
N-474-2	*Design Stress Intensities and Yield Strength Values for UNS N06690 With a Minimum Specified Yield Strength of 35 ksi, Class 1 Components,Section III, Division 1*	1/1/00
N-475	*Materials in Inventory, Section III, Division 1*	12/11/92
N-476	*Class 1, 2, 3, and MC Linear Component Supports - Design Criteria for Single Angle Members, Section III, Division 1, Subsection NF*	7/1/96
N-482	*Direct Quenched Stainless Bar, ASTM A 479-88b, Section III, Division 1*	3/5/93
N-484-1	*Real Time Radioscopic Examination of Welds, Section III, Division 1*	12/16/94
N-492-1	*Grade 9 Titanium Alloy Tubing, Section III, Division 1, Class 1, 2, and 3*	1/1/00
N-497-1	*Use of Fe-Ni-Cr-Mo-N (C-N-3MN) Cast Materials, Section III, Division 1, Class 2 and 3 Construction*	1/1/99
N-501	*Alternative Rules for NCA-3800, 1990 Addenda, Section III, Division 1*	12/31/93
N-502	*SA-268, Grade 26-3-3 (UNS S44660), Section III, Classes 2 and 3*	1/1/00
N-507	*Identification of Welders, Section III, Division 2*	7/27/95
N-519	*Use of 6061-T6 and 60610T651 Aluminum for Class 1 Nuclear Components, Section III, Division 1*	2/3/02
N-540	*Guidance on Implementation of NCA-3800 Revisions in 1994 Addenda, Section III, Division 1*	6/30/98
N-549	*Stamping and Flow Certification of Rupture Disk Devices, Classes 2 and 3, Section III, Division 1*	3/19/99

Code Case Number	Table 3 Annulled Unconditionally Approved Section III Code Cases	Annulment Date
N-550	*Alternative Rules for Examination of Welds in Instrument Tubing, Classes 1 and 2, Section III, Division 1*	5/20/01
N-551	*Alternative Methods of Analysis, NC/ND-3673.1, Class 2 and 3 Applications, Section III, Division 1*	8/14/97
N-559	*SA-203, Grade E (Plate) and SA-350, Grade LF3 (Forging), 3.5% Ni Nominal Composition Used in Class 1 Construction, Section III, Division 1*	5/24/99
N-596	*Use of Alternative Reference Specimens, Section III, Division 1*	2/20/04
N-608	*Applicable Code Edition and Addenda, NCA-1140(a)(2), Section III, Division 1*	5/20/01
1141-7	*Foreign Produced Steel*	7/23/76
1434-1	*Postweld Heat Treatment of SA-487 Class 8N Steel Castings, Section III*	1/1/78
1461-1	*Electron Beam Welding, Section I, III, and VIII, Division 1 and 2*	2/16/77
1470-2	*External Pressure Charts for High-Strength Carbon Steels and for Low-Alloy Steels, Section VIII, Division 1 and 2, and Section III*	11/4/74
1471-1	*Vacuum Electron Beam Welding of Tube Sheet Joints, Section III*	1/1/78
1475-1	*Ferritic-Austenitic Stainless Steel Seamless Tubes for Section III, Class 2 and 3 Construction*	7/1/75
1477-1	*Use of 1970 Addenda of ANSI B31.7, Section III*	1/1/78
1494-1	*Weld Procedure Qualification Test, Section III*	1/1/78
1506	*Stress Intensification Factors, Section III, Class 2 and 3 Piping*	1/1/78
1515	*Ultrasonic Examination of Ring Forgings for Shell Sections, Section III, Class 1 Vessels*	7/1/77
1529	*Materials for Instrument Line Fittings, Section III*	7/1/73
1531	*Electrical Penetrations, Special Alloys for Electrical Penetration Seals, Section III*	3/21/77
1532	*Section III, Class 3 Components Made of 8 Percent and 9 Percent Nickel Steel*	1/1/78
1533	*Pressure Temperature Ratings of SA-351 Grades CF8A, CF3, and CF3M, Section III*	7/1/75
1535-2	*Hydrostatic Testing of Section III, Class 1 Valves*	3/21/77
1536	*Closing Seam for Electrical Penetrations for Section III, Class 2, 3, and MC*	7/1/77
1553-1	*Upset Heading and Roll Threading of SA-453 for Bolting in Section III*	1/1/76
1555-1	*Certification of Safety Relief Valves, Section III, Division 1*	1/1/78

Code Case Number	Table 3 Annulled Unconditionally Approved Section III Code Cases	Annulment Date
1567	*Testing Lots of Carbon and Low Alloy Steel Covered Electrodes, Section III*	1/1/78
1568	*Testing Lots of Flux Cored and Fabricated Carbon and Low Alloy Steel Welded Electrodes, Section III*	1/1/78
1573	*Vacuum Relief Valves, Section III*	1/1/78
1574	*Hydrostatic Test Pressure for Safety Relief Valves, Section III*	12/31/74
1580-1	*Buttwelded Alignment Tolerance and Acceptable Slopes for Concentric Centerlines for Section III, Class 1, 2, and 3 Construction*	1/1/78
1581	*Power-Operated Pressure Relief Valves, Section III*	3/1/79
1583	*Use of 80-40 Carbon Steel Castings, Section III*	3/21/77
1587	*SA-508 Class 3 Forgings with 0.4/1.0 Ni for Section III and VIII, Division 2 Construction*	12/31/75
1590	*Chemical Analysis Variations, Section III Construction*	3/21/77
1601	*Limits of Reinforcement for Two-Thirds Area, Section III, Class 1*	7/1/74
1602-1	*Use of SB-42 Alloy 122, SB-111 Alloys 122, 715 and 706 and SB-466 Alloys 706 and 715, Section III, Class 2 and 3 Components*	12/31/74
1603	*Toughness Tests When Cross-Section Limits Orientation and Location of Specimens*	7/1/74
1605	*Cr-Ni-Mo-V Bolting Material for Section III, Class 1 Components*	3/17/80
1608-1	*Use of ASME SB-265, SB-337, SB-338, and SB-381, Grades 1, 2, 3, and 7 Unalloyed Titanium and ASTM B-363 Titanium Welding Fittings, Section III, Class 2 and 3 Components*	3/21/77
1613	*Use of SA-372 Class IV Forgings, Section III Construction*	1/1/78
1614	*Hydrostatic Testing of Piping Prior To or Following the Installation of Spray Nozzles for Section III, Classes 1, 2, and 3 Piping Systems*	1/1/79
1615	*Use of A587-73, Section III, Class 3 Construction*	1/1/78
1616	*Ultrasonic Examination of Seamless Austenitic Steel Pipe, Section III, Class 1 Construction*	7/1/75
1622	*PWHT of Repair Welds in Carbon Steel Castings, Section III, Class 1, 2,and 3*	1/1/76
1623	*Design by Analysis for Section III, Class 1 Sleeve-Coupled and Other Patented Piping Joints*	3/1/79
1625	*Repair of Section III Class 2 and 3 Tanks*	12/31/74
1633	*Brazing of Seats to Class 1, 2, and 3 Valve Body or Bonnets, Section III*	1/1/78
1637	*Effective Date for Compliance with NA-3700 of Section III*	1/1/75

Code Case Number	Table 3 Annulled Unconditionally Approved Section III Code Cases	Annulment Date
1645	*Use of DeLong Diagram for Calculating the Delta Ferrite Content of Welds in Section III, Class 1, 2, and CS Construction*	1/1/76
1648	*SA-537 Plates for Section III, Class 1, 2, 3, and MC Components*	7/1/76
1649	*Modified SA-453-GR 660 for Class 1, 2, 3, and CS Construction*	1/1/76
1650	*Use of SA-414 Grade C for Class 2 and 3 Components, Section III, Division 1*	12/31/74
1651	*Interim Requirements for Certification of Component Supports, Section III, Subsection NF*	3/1/79
1657	*Stress Criteria for Class 2 and 3 Atmospheric and Low Pressure (0-15 psig) Steel Storage Tanks*	7/1/77
1659	*Interconnection of Two Piping Systems for Section III, Class 1, 2, and 3 Construction*	7/1/77
1661	*Postweld Heat Treatment P-No.1 Materials for Section III, Class 1 Vessels*	1/1/78
1662	*Shop Assembly of Components, Appurtenances and Piping Subassemblies for Section III, Class 1, 2, 3, and MC Construction*	1/1/78
1664	*Use of Cr-Ni-Fe-Mo-Cu-Cb Stabilized Alloy Cb-3 for Section III Class 2 and 3 Construction*	3/21/77
1666	*Use of SB-12, Alloy 122 for Class 2 and 3 Construction*	7/1/75
1672	*Nuclear Valves for Section III, Division 1, Class 1, 2, 3 Construction*	3/21/77
1675	*Tubesheet to Shell or Formed Head Weld Joints, Section III, Class 1 Vessels*	7/1/76
1676	*Clarification of Stress Intensities in Curved Pipe or Welded Elbows, Section III*	7/1/76
1678	*Butterfly Valves of Circular Cross Section Larger than 24 in. NPS for Section III, Class 2 and 3 Construction*	1/1/80
1682-1	*Alternate Rules for Material Manufacturers and Suppliers, Section III, Subarticle NA-3700*	12/31/75
1683-1	*Bolt Holes for Section III, Class 1, 2, 3 and MC Component Supports*	7/1/76
1684	*A637 Grade 718 for Bolting Class 1 and 2 Construction*	1/1/76
1685	*Furnace Brazing Section III, Class 1, 2, 3 and MC Construction*	1/1/78
1686	*Furnace Brazing, Section III, Subsection NF, Component Supports*	1/1/78
1690	*Stock Materials for Section III Construction, Section III, Division 1*	1/1/77
1691	*Ultrasonic Examination in Lieu of Radiography of Repair Welds for Vessels, Section III, Class 1*	1/1/78
1703	*Brazing of Copper Alloys, Section III, Class 2*	1/1/78

Code Case Number	Table 3 Annulled Unconditionally Approved Section III Code Cases	Annulment Date
1706	*Data Report Forms for Component Supports, Section III, Class 1, 2 and 3*	12/31/75
1713	*Small Material Items, Section III, Division 1, Class 1, 2, 3, CS and MC*	12/31/75
1718	*Design of Structural Connections for Linear Type Component Supports, Section III, Division 1, Class 1, 2 and 3 and MC*	7/1/76
1719	*Single-Welded, Full-Penetration Sidewall Butt Joints in Atmospheric Storage Tanks, Section III, Division 1, Class 2*	7/1/76
1728	*Steel Structural Shapes and Small Material Products for Components Supports, Section II, Division 1 Construction*	7/1/77
1740	*Weld Metal Test, Section III, Class 1, 2, 3, MC and CS*	7/1/76
1741-1	*Interim Rules for the Required Number of Impact Tests for Rolled Shapes, Section III, Division 1, Subsection NF, Components Supports*	1/1/78
1742	*Use of SB-75 Annealed Copper Alloy 122, Section III, Division 1, Class 2 Construction*	7/1/76
1743	*Use of SB-98 Cu-SiB Rod CDA651 Section III, Division 1, Class 2 Components*	7/1/76
1760	*Maximum Dimensions for Isolated Pores in Welds–Class 1 Components, Section III, Division 1*	7/1/77
1765	*Machining After Hydrostatic Testing Class 2 and 3 Construction, Section III, Division 1*	7/1/77
1766	*Testing Requirements for Welding Materials, Class 1, 2, 3, MC and CS Construction, Section III, Division 1*	7/1/77
1767	*Examination of Tubular Products Without Filler Metal-Class 1 Construction, Section III, Division 1*	1/1/77
1768	*Permanent Attachments to Containment Vessels–Class MC, Section III, Division 1*	1/1/78
1769-1	*Qualification of NDE Level III Personnel, Section III, Division 1*	10/1/77
1773	*Use of Other Product Forms of Materials for Valves, Section III, Division 1*	7/1/77
1775	*Data Report Forms for Core Support Structures, Class CS, Section III, Division 1*	8/13/79
1777	*Use of SA-106, Grade C in Class MC Construction, Section III, Division 1*	7/1/77
1787	*Depth of Weld Repairs for Forgings, Section III, Division 1, Class 1, 2, 3, MC and CS Construction*	1/1/78
1798	*Use of ASTM A352-75, Grades LCA and LCC, Section III, Division 1, Class 1, 2, and 3*	1/1/78

Code Case Number	Table 3 Annulled Unconditionally Approved Section III Code Cases	Annulment Date
1808	*F-Number Classification of Low Alloy and Carbon Steel Bare Rod Electrodes, Sections I, II, III, IV, V, VIII, and IX.*	1/1/78
1810	*Testing Lots of Carbon Steel Solid, Bare Welding Electrode or Wire, Section III, Division 1, Class 1, 2, 3, MC, and CS*	3/3/80
1819	*Use of Type XM-19 for Construction, Section III, Division 1, Class 1, 2, 3*	1/1/78

4. Annulled Conditionally Acceptable Section III Code Cases

The Code Cases listed in Table 4 were conditionally approved by the NRC but were subsequently annulled by the ASME.

Table 4. Annulled Conditionally Acceptable Section III Code Cases

Code Case Number	Table 4 Annulled Conditionally Acceptable Section III Code Cases Title/Condition	Annulment Date
N-11-5 (1414-5)	*High Yield Strength Cr-Mo Steel for Section III, Division 1, Class 1 Vessels*	8/29/80
	The information required to be developed by Note 1 in the Code Case should be provided in each referencing Safety Analysis Report.	
N-31-1	*Elastomer Diaphragm Valves, Section III, Division 1, Classes 2 and 3*	7/1/93
	Each applicant who applies the Code Case should indicate in the referencing Safety Analysis Report that the service life of the elastomer diaphragm should not exceed the manufacturer's recommended service life. This recommended service life should not exceed 1/3 of the minimum cycle life as established by the requirements of paragraph 3 of the Code Case. In addition, the service life of the elastomer diaphragm should not exceed 5 years, and the combined service and storage life of the elastomer diaphragm should not exceed 10 years.	
N-32-4	*Hydrostatic Testing of Embedded Class 2 and Class 3 Piping for Section III, Division 1 Construction*	3/16/84
	The acceptance of Code Case N-32-4 was based on the following clarification and interpretation. Code Case N-32-4 does not replace paragraph NC/ND-6129, "Provisions for Embedded or Inaccessible Welded Joints in Piping," of the Code. The intent of the Code Case is to (1) provide additional testing above Code requirements and (2) permit liquid penetrant or magnetic particle testing in place of radiographic testing for Class 3 piping with 3/8" nominal wall thickness or less. Paragraph (1) contains an additional requirement to the Code. It was, therefore, acceptable but unnecessary to include in the Code Case. Paragraph (2) is a variation in the volumetric examination technique and was acceptable as written. Paragraph (3) contains an additional requirement and is not a relaxation of the Code. It was, therefore, acceptable but unnecessary to include in the Code Case.	

Code Case Number	Table 4 Annulled Conditionally Acceptable Section III Code Cases Title/Condition	Annulment Date
N-92 (1698)	*Waiver of Ultrasonic Transfer Method, Section III, V, and VIII, Division 1* The material from which the basic calibration block is fabricated should be of the same product form, alloy, and heat treatment as the material being examined. Alloys of equivalent P-number grouping may be used for the fabrication of calibration blocks if adjustments to signal height can be made to compensate for sound beam attenuation difference between the calibration block and the material under examination by following the transfer method procedure of T-535.1(d), Article 5, Section V, ASME BPV Code, 1977 Edition.	7/13/81
N-100 (1711)	*Pressure Relief Valve Design Rules, Section III, Division 1, Class 1, 2 and 3* The following information should be provided in the Safety Analysis Report: (1) If stress limits are used in excess of those specified for the upset operating condition, it should be demonstrated how the pressure relief function is ensured. Refer to paragraph 3.1, Section I, of the Code Case for Class and paragraph 3.2, Section II, of the Code Case for Class 2 and 3 pressure relief valves. (2) If Code Case 1660 is to be used in conjunction with the Code Case, it should be stated that the stress limits of Code Case 1660 supersede those of paragraph 3.2(b), Section I, of Code Case 1711. Functional assurance of (1) above is required in all situations.	1/1/83
N-106-2 (1720-2)	*Weld End Preparation for Section III, Division 1 Construction* The acceptance of weld end preparations other than those shown in Figures 1, 2, and 3 of the Code Case should be evaluated on a case-by-case basis.	8/14/93
N-110 (1727)	*Alternate Test Fluids, Section III, Division 1* The applicant should provide justification in the referencing Safety Analysis Report for the fluid selected for use in the pressure test. The information provided should demonstrate that the fluid selected will not have deleterious effects on the material of the pressure boundary and that the fluid may be safely used at the specified temperature and pressure of the test. When the fluid selected for use is the operating fluid, additional information is not required.	1/1/79

Code Case Number	Table 4 Annulled Conditionally Acceptable Section III Code Cases	Annulment Date
	Title/Condition	
N-116 (1734)	*Weld Design for Use for Section III, Division 1, Class 1, 2, 3 and MC Construction of Component Supports*	1/1/78
	If the configuration of Figure 1 of the Code Case is used for Class 1 and MC components supports, full penetration welds should be used. The application of the configuration shown in Figures 2 and 3 should be restricted to the welding of cans for spring encapsulation in spring hangers. In Figure 3, the length of the leg of the fillet weld adjacent to the plate should be equal to the thickness of the exposed edge of the plate; also, the leg of the fillet weld adjacent to the shell should be equal to the thickness of the exposed end of the shell.	
N-146-1 (1780-1)	*Hydrostatic Testing and Stamping of Components, Section III, Division 1, Construction*	1/1/82
	On a generic basis, the application of the Code Case is limited to pumps and valves. Application to other components should be treated on a case-by-case basis. Each licensing application in which the Code Case is to be used should contain information showing that, as a minimum the closure fixture will impose loads that result in stresses equal to or greater than those induced during the hydrostatic test of a complete pump assembly. A closure fixture for the part being tested that is similar in size and shape to the actual mating part is considered adequate to impose these loads. It is not intended that piping reaction loadings be simulated in the hydrostatic testing.	
N-175 (1818)	*Welded Joints in Component Standard Supports, Section III, Division 1*	7/1/79
	That portion of the unwelded housing that is limited to 90° maximum should include a minimum of two sectors that are uniform in length.	
N-199	*Intervening Elements, Section III, Division 1, Classes 1, 2, 3 and MC Component Construction*	1/1/81
	The applicants should provide information in the referencing Safety Analysis Report that demonstrates that all intervening elements have been designed in compliance with the requirements of the respective design specification.	

Code Case Number	Table 4 Annulled Conditionally Acceptable Section III Code Cases	Annulment Date
	Title/Condition	
N-238	*High Temperature Furnace Brazing of Seat Rings in Valve Bodies or Bonnets for Section III, Division 1, Class 1, 2, and 3 Valves*	1/1/82
	The furnace brazing process procedure qualification should include a verification for nonsensitization as given in ASTM A 262-70, Practices A or E, or ASTM A 708-74 whenever materials subject to sensitization are to be brazed. Documentation is required that a nonsensitizing brazing procedure was employed for valves produced to this Case.	
N-242-1	*Materials Certification, Section III, Division 1, Classes 1, 2, 3, MC, and CS Construction*	6/30/84
	Applicants should identify in their Safety Analysis Reports the components and supports for which the Code Case is being applied and should specify the respective paragraphs of the Code Case.	
N-252	*Low Energy Capacitive Discharge Welding Method for Temporary or Permanent Attachments to Components and Supports, Section III, Division 1, and XI*	7/1/82
	The applicant should indicate in the Safety Analysis Report the application, the material, and the material thickness to which the strain gage or thermocouple will be attached by CD welding.	
N-260-2	*Weld Repair of SA-182 Type 316 Forgings, Section III, Division 1, Classes 1, 2, 3, and MC*	12/5/88
	Type 308L welding materials should not be used to repair grade F 316 N forgings because of the difference in strength levels.	
N-263	*Alternate Thread Forms, Series and Fits for Component Supports, Section III, Division 1*	3/17/83
	The following information should be provided in the Safety Analysis Report: (1) a description of the application, (2) a need for the use of the Code Case, and (3) a demonstration that support design will withstand maximum conditions of loading with the worst combination of thread tolerance.	
N-274	*Alternative Rules for Examination of Weld Repairs for Section III, Division 1 Construction*	6/30/86
	The ultrasonic examination procedures shall be proven by actual demonstration, to the satisfaction of the Authorized Nuclear Inspector, that the procedures are capable of detecting unacceptable cracks according to Section XI requirements.	

Code Case Number	Table 4 Annulled Conditionally Acceptable Section III Code Cases Title/Condition	Annulment Date
N-275	*Repair of Welds, Section III, Division 1* Use of the Code Case is applicable only when the removal of an indication requires that the full weld thickness be removed and, in addition, the backside of the weld assembly joint is not accessible for the removal of examination material. If an indication is removed and weld-metal layers still remain, it is not acceptable to gouge through the wall in order to qualify for use of the Code Case. Instead, examination of the cavity is required when such an indication has been removed.	12/31/83
N-279	*Use of Torquing as a Locking Device for Section III, Division 1, Class 1, 2, 3, and MC Component Supports* When torquing or other preloading is used as a locking device and the joint is later unloaded or disassembled, the bolting should be replaced unless it can be demonstrated or proved to the Authorized Nuclear Inspector that the original bolting has not been permanently strained.	7/13/81
N-292	*Depositing Weld Metal Prior to Preparing Ends for Welding, Section III, Division 1, Class 1, 2, and 3* Class 3 piping that is longitudinally welded and that has a weld efficiency factor of 1.0 as selected from Table ND-3613.4-1, "Weld Joint Efficiency Factor," must receive a 100 percent volumetric examination (RT or UT) of the deposited weld metal in accordance with the requirements of ND-5000, "Examination."	2/20/04
N-310-1	*Certification of Bolting Materials, Section III, Division 1, Class 1, 2, 3, MC and CS* Each applicant who applies the Code Case should indicate in the referencing port Safety Analysis Report: (1) in what way the bolting does not meet NCA-3800 (or NA-3700), (2) where the bolting will be used in the plant, and (3) how it will be shown that the bolting material properties required by the Equipment Support Design Specification are present in the actual bolting material.	7/1/82
N-314	*Alternate Rules for Thread Engagement, Section III, Division 1* Applicants should identify in their Safety Analysis Report: (1) the minimum length of thread engagement and (2) the procedure used to establish thread engagement.	5/11/84

Code Case Number	Table 4 Annulled Conditionally Acceptable Section III Code Cases Title/Condition	Annulment Date
N-348 N-348-1 N-348-2	*Use of SA-574 Socket Weld Head Cap Screws, Section III, Division 1*	9/7/85 2/20/89 8/14/93
	Applicants should justify in their Safety Analysis Reports why use of these socket head cap screws will not result in early failure from stress corrosion cracking.	
N-350	*Postweld Heat Treatment–Thickness of Material, Section III, Division 1*	9/5/85
	Applicants wishing to use this Code Case for other than P-1 materials should demonstrate that the use of this Code Case will not adversely affect the required material properties.	
N-383-1	*Weld Repair of SA-182 Austenitic Forgings, Section III, Division 1, Classes 1, 2, and 3*	9/5/85
	Applicants who apply the provisions of this Code Case to permit material manufacturers to weld repair austenitic forgings without resolution heat treatment should provide justification to the NRC staff (via the Safety Analysis Report) why this is acceptable for their applications, including their evaluation of the susceptibility for stress corrosion cracking.	
N-397	*Alternative Rules to the Spectral Broadening Procedures of N-1226.3 for Classes 1, 2, and 3 Piping, Section III, Division 1*	2/20/87
	The Code Case is acceptable for specific plant applications on a case-by-case basis pending revision of Regulatory Guide 1.122, "Development of Floor Design Response Spectra for Seismic Design of Floor-Supported Equipment or Components."	
N-398	*Reporting of Charpy-V Notch Test Results, Section III, Division 1*	2/20/87
	The Code Case is not acceptable to steam generator or reactor coolant pump supports. Applicants wishing to use this Code Case should indicate in the Safety Analysis Report the component supports to which the case is applied for review on a case-by-case basis.	
N-404	*Annealed Alloy UNS N06625 Over UNS N06600 Bimetallic Tubing, Section III, Division 1, Class 1*	12/11/95
	The outside layer of the bimetallic tubing should be limited to a minimum of 5 percent and to a maximum of 40 percent of the wall thickness. The tolerance on the outside layer of material should not exceed -0.000 to +0.007 inches of the specified design wall thickness.	

Code Case Number	Table 4 Annulled Conditionally Acceptable Section III Code Cases Title/Condition	Annulment Date
N-411-1	*Alternative Damping Values for Response Spectra Analysis of Class 1, 2, and 3 Piping, Section III, Division 1* (1) The Code Case damping should be used completely and consistently, if used at all. (For equipment other than piping, the damping values specified in Regulatory Guide 1.61, "Damping Values for Seismic Design of Nuclear Power Plants," are to be used). (2) The damping values specified may be used only in those analyses in which current seismic spectra and procedures have been employed. Such use is to be limited only to response spectral analyses (similar to that used in the study supporting its acceptance, NUREG/CR-3526). The acceptance of the use with other types of dynamic analyses (e.g., time-history analyses or independent support motion method) is pending further justification. (3) When used for reconciliation work or for support optimization of existing designs, the effects of increased motion on existing clearances and on-line mounted equipment should be checked. (4) This Code Case is not appropriate for analyzing the dynamic response of piping systems using supports designed to dissipate energy by yielding (i.e., the design of which is covered by Code Case N-420). (5) This Code Case is not applicable to piping in which stress corrosion cracking has occurred unless a case-specific evaluation is made and is reviewed by the NRC staff.	5/5/00
N-430	*Alternative Requirements for Welding Workmanship and Visual Acceptance Criteria for Class 1, 2, 3 and MC Linear-Type and Standard Supports, Section III, Division 1* (1) The applicant should demonstrate that the applicable supports are not subject to cyclic loading in excess of 20,000 cycles; and (2) The first sentence of 3.0(f)(1) should be replaced with the following: "For material 3/8 in. and less nominal thickness, undercut depth of 1/32 in. on one side of the member for the full length of the weld, or 1/32 in. on one side for one-half the length of the weld, and 1/16 in. for one-fourth of the length of the weld on the face of a rectangular tube or one-fourth the length of the weld on the same side of the member is acceptable."	7/1/93

Code Case Number	Table 4 Annulled Conditionally Acceptable Section III Code Cases Title/Condition	Annulment Date
1361-2	*Socket Welds, Section III* Code Case 1361-2 was acceptable when used in connection with Section III, paragraph NB-3356, Fillet Welds.	3/1/79
1412-4	*Modified High Yield Strength Steel for Section III, Division 1, Class 1 Vessels* The information required to be developed by Note 1 in the Code Case should be provided in each referencing Safety Analysis Report. The material given in the Inquiry section of the Code Case should be SA-508, Class 4b, instead of SA-508, Class 4.	1/1/77
1423-2	*Wrought Type 304 and 316 with Nitrogen Added, Sections I, III, VIII, Division 1 and 2* Code Case 1423-2 was acceptable subject to compliance with the recommendations contained in Regulatory Guides 1.31, "Control of Ferrite Content in Stainless Steel Weld Metal," and 1.44, "Control of the Use of Sensitized Stainless Steel."	7/1/77
1521-1	*Use of H-Grades of SA-240, SA-479, SA-336, and SA-358, Section III* Code Case 1521-1 was acceptable subject to compliance with the recommendations contained in Regulatory Guides 1.31, "Control of Ferrite Content in Stainless Steel Weld Metal," and 1.44, "Control of the Use of Sensitized Stainless Steel."	1/1/78
1528-3	*High Strength Steel SA-508, Class 2 and SA-541, Class 2 Forgings, Section III, Class 1 Components* The information required to be developed by Note 1 in the Code Case should be provided in each referencing Safety Analysis Report.	1/1/78
1569	*Design of Piping for Pressure Relief Valve Station, Section III* Code Case 1569 was acceptable subject to compliance with the recommendations contained in Regulatory Guide 1.67, "Installation of Over-pressure Protection Devices."	7/1/79
1606-1	*Stress Criteria Section III, Classes 2 and 3 Piping Subject to Upset, Emergency, and Faulted Operating Conditions* Code Case 1606-1 was acceptable subject to the interpretation that the stress limit designations of "Upset," "Emergency," and "Faulted" do not necessarily imply agreement with specified plant conditions applicable to ASME Code Class 2 and 3 components for fluid systems. These designations should be established and justified in the design specifications.	7/1/77

Code Case Number	Table 4 Annulled Conditionally Acceptable Section III Code Cases Title/Condition	Annulment Date
1607-1	*Stress Criteria for Section III, Classes 2 and 3 Vessels Designed to NC/NC-3300 Excluding the NC-3200 Alternate*	7/1/77
	Code Case 1607-1 was acceptable subject to the interpretation that the stress limit designations of “Upset,” “Emergency,” and “Faulted” do not necessarily imply agreement with specified plant conditions applicable to ASME Code Class 2 and 3 components for fluid systems. These designations should be established and justified in the design specifications.	
1635-1	*Stress Criteria for Section III, Class 2 and 3 Valves Subjected to Upset, Emergency, and Faulted Operating Conditions*	7/1/77
	Code Case 1635-1 was acceptable subject to the interpretation that the stress limit designations of “Upset,” “Emergency,” and “Faulted” do not necessarily imply agreement with specified plant conditions applicable to ASME Code Class 2 and 3 components for fluid systems. These designations should be established and justified in the design specifications.	
1636-1	*Stress Criteria for Section III, Class 2 and 3 Pumps Subjected to Upset, Emergency, and Faulted Operating Conditions*	7/1/77
	Code Case 1636-1 was acceptable subject to the interpretation that the stress limit designations of “Upset,” “Emergency,” and “Faulted” do not necessarily imply agreement with specified plant conditions applicable to ASME Code Class 2 and 3 components for fluid systems. These designations should be established and justified in the design specifications.	
1689-1	*Alternate PWHT Time and Temperature for SA-182 Grade F-22, SA-387 Grade 22, Class 2, and SA-335 Grade P-22 Section III, Class 1, 2, 3 and CS*	1/1/78
	The alternate postweld heat treatment should be prequalified along with the applicable welding procedure in accordance with ASME Section IX.	
1783-1	*Qualification of Nondestructive Examination Personnel, Section III, Division 1*	1/1/79
	The first sentence of paragraph (1) should be replaced with the following: “The certification of the Level III nondestructive examination personnel for the purpose of this Section of the Code will be the responsibility of the employer of the Level III individual. If the employer is not a Certificate Holder, then the verification of such certificate is the responsibility of the Certificate Holder.”	

5. Code Cases Superseded by Revised Code Cases

The Code Cases listed in Table 5 were approved in prior versions of this guide and have since been superseded by revised Code Cases (on or after July 1, 1974). The date in Column 3 indicates the date on which the ASME approved the revision to the Code Case. Note: Code Cases listed without conditions were unconditionally approved for use by the NRC.

Table 5. Section III Code Cases That Have Been Superseded by Revised Code Cases on or after July 1, 1974

Code Case Number	Table 5 Code Cases That Have Been Superseded by Revised Code Cases on or after July 1, 1974	Revision Date
N-5 (1344-5)	*Nickel-Chromium, Age-Hardenable Alloys (Alloy X750), Section III*	12/13/82
N-7 (1358-5)	*High Yield Strength Steel, Section III, Division 1, Class 1 Vessels*	12/13/82
	The information required to be developed by Note 1 in the Code Case should be provided in each referencing Safety Analysis Report.	
N-20 (1484-3) N-20-1	*SB-163 Nickel-Chromium-Iron Tubing (Alloy 600 and 690) at Nickel-Iron-Chromium Alloy 800 at a Specified Minimum Yield Strength of 40.0 Ksi, Section III, Division 1, Class 1*	9/5/85 12/7/87
N-20-2 N-20-3	*SB-163 Nickel-Chromium-Iron Tubing (Alloy 600 and 690) at Nickel-Iron-Chromium Alloy 800 at a Specified Minimum Yield Strength of 40.0 Ksi and Cold Worked Alloy 800 at a yield strength of 47.0 Ksi, Section III, Division 1, Class 1*	11/30/88 2/26/99
N-31 (1540-2)	*Elastomer Diaphragm Valves, Section III, Class 2 and 3*	7/18/85
	Each applicant who applies the Code Case should indicate in the referencing Safety Analysis Report that the service life of the elastomer diaphragm should not exceed the manufacturer's recommended service life. This recommended service life should not exceed 1/3 of the minimum cycle life as established by the requirements of paragraph 3 of the Code Case. In addition, the service life of the elastomer diaphragm should not exceed 5 years, and the combined service and storage life of the elastomer diaphragm should not exceed 10 years.	
N-55 (1609-1)	*Inertia and Continuous Drive Friction Welding, Section I, III, IV, VIII, Division 1 and 2, and IX*	4/5/84
N-60 (1618-2) N-60-1	*Material for Core Support Structures, Section III, Division 1, Subsection NG*	5/25/83 9/17/84
	Welding of age-hardenable alloy SA-453 Grade 660 and SA-637 Grade 688 should be performed when the material is in the solution-treated condition.	

Code Case Number	Table 5 Code Cases That Have Been Superseded by Revised Code Cases on or after July 1, 1974	Revision Date
N-60-2 N-60-3 N-60-4	*Material for Core Support Structures, Section III, Division 1, Subsection NG*	9/5/85 5/13/91 2/15/94
	Welding of age-hardenable alloy SA-453 Grade 660 and SA-637 Grade 688 should be performed when the material is in the solution-treated condition. For SA-479 material, the maximum yield strength should not exceed 90,000 psi in view of the susceptibility of this material to environmental cracking.	
N-62-2 (1621-2) N-62-3 N-62-4 N-62-5 N-62-6	*Internal and External Valve Items, Section III, Division 1, Class 1, 2 and 3 Line Valves*	7/18/85 9/5/85 7/24/89 12/11/89 5/11/94
	The Code requires that Class 1 and Class 2 valve manufacturers meet the provisions of NCA 4000, "Quality Assurance," and, in addition, Class 3 valve manufacturers should also meet the provisions of NCA-4000.	
N-71-7 (1644-7) N-71-8 (1644-8)	*Additional Materials for Component Supports, Section III, Division 1, Subsection NF, Class 1, 2, 3 and MC Component Supports*	5/15/78 1/7/80
	The maximum measured ultimate tensile strength (UTS) of the component support material should not exceed 170 Ksi in view of the susceptibility of high-strength materials to brittleness and stress corrosion cracking. Certain applications may exist where a UTS value of up to 190 Ksi could be considered acceptable for a material and, under this condition, the Design Specification should specify impact testing for the material. For these cases, it should be demonstrated by the applicant that: (1) the impact test results for the material meet Code requirements and (2) the material is not subject to stress corrosion cracking by virtue of the fact that (a) a corrosive environment is not present, and (b) the component that contains the material has essentially no residual stresses or assembly stresses, and it does not experience frequent sustained loads in service.	
N-71-9 (1644-9)	*Additional Materials for Component Supports Fabricated by Welding, Section III, Division 1, Subsection NF, Class 1, 2, 3, and MC Component Supports*	5/11/81
	In the last sentence of paragraph 5.3, reference should be made to paragraph 4.5.2.2, "Alternate Atmosphere Exposure Time Periods Established by Test," of the AWS D.1.1 Code for the evidence presented to and accepted by the Authorized Inspector concerning exposure of electrodes for longer periods of time.	

Code Case Number	Table 5 Code Cases That Have Been Superseded by Revised Code Cases on or after July 1, 1974	Revision Date
N-71-10 N-71-11	*Additional Materials for Component Supports Fabricated by Welding, Section III, Division 1, Subsection NF, Class 1, 2, 3, and MC Component Supports*	6/17/82 2/14/83
	The maximum measured ultimate tensile strength (UTS) of the component support material should not exceed 170 Ksi in view of the susceptibility of high-strength materials to brittleness and stress corrosion cracking. Certain applications may exist where a UTS value of up to 190 Ksi could be considered acceptable for a material and, under this condition, the Design Specification should specify impact testing for the material. For these cases, it should be demonstrated by the applicant that: (1) the impact test results for the material meet Code requirements and (2) the material is not subject to stress corrosion cracking by virtue of the fact that (a) a corrosive environment is not present, and (b) the component that contains the material has essentially no residual stresses or assembly stresses, and it does not experience frequent sustained loads in service. In the last sentence of paragraph 5.3, reference should be made to paragraph 4.5.2.2, “Alternate Atmosphere Exposure Time Periods Established by Test,” of the AWS D.1.1 Code for the evidence presented to and accepted by the Authorized Inspector concerning exposure of electrodes for longer periods of time.	
N-71-12	*Additional Materials for Component Supports Fabricated by Welding, Section III, Division 1, Class 1, 2, 3 and MC*	2/20/84
	The maximum measured ultimate tensile strength (UTS) of the component support material should not exceed 170 Ksi in view of the susceptibility of high-strength materials to brittleness and stress corrosion cracking. Certain applications may exist where a UTS value of up to 190 Ksi could be considered acceptable for a material and, under this condition, the Design Specification should specify impact testing for the material. For these cases, it should be demonstrated by the applicant that: (1) the impact test results for the material meet Code requirements and (2) the material is not subject to stress corrosion cracking by virtue of the fact that (a) a corrosive environment is not present, and (b) the component that contains the material has essentially no residual stresses or assembly stresses, and it does not experience frequent sustained loads in service.	

Code Case Number	Table 5 Code Cases That Have Been Superseded by Revised Code Cases on or after July 1, 1974	Revision Date
N-71-12 (cont'd)	*Additional Materials for Component Supports Fabricated by Welding, Section III, Division 1, Class 1, 2, 3 and MC*	2/20/84
	In the last sentence of paragraph 5.3, reference should be made to paragraph 4.5.2.2, "Alternate Atmosphere Exposure Time Periods Established by Test," of the AWS D.1.1 Code for the evidence presented to and accepted by the Authorized Inspector concerning exposure of electrodes for longer periods of time. Paragraph 16.2.2 is not acceptable as written and should be replaced with the following: "When not exempted by 16.2.1, above, the postweld heat treatment shall be performed in accordance with NF-4622 except that for ASTM A-710 Grade A material, it should be at least 1000°F (540°C) and should not exceed 1150°F (620°C) for Class 1 and Class 2 material and 1175°F (640°C) for Class 3 material. The new holding time at temperature for weld thickness (nominal) should be 30 minutes for ½ inch or less, 1 hour per inch for thickness over ½ inch to 5 inches, and 5 hours plus 15 minutes for each additional inch over 5 inches."	
N-71-13 N-71-14 N-71-15 N-71-16 N-71-17	*Additional Materials for Subsection NF, Classes 1, 2, 3 and MC Component Supports Fabricated by Welding, Section III, Division 1*	12/5/85 12/16/86 2/12/93 12/31/96 12/8/00
	The maximum measured ultimate tensile strength (UTS) of the component support material should not exceed 170 Ksi in view of the susceptibility of high-strength materials to brittleness and stress corrosion cracking. Certain applications may exist where a UTS value of up to 190 Ksi could be considered acceptable for a material and, under this condition, the Design Specification should specify impact testing for the material. For these cases, it should be demonstrated by the applicant that: (1) the impact test results for the material meet Code requirements, and (2) the material is not subject to stress corrosion cracking by virtue of the fact that (a) a corrosive environment is not present, and (b) the component that contains the material has essentially no residual stresses or assembly stresses, and it does not experience frequent sustained loads in service.	

Code Case Number	Table 5 Code Cases That Have Been Superseded by Revised Code Cases on or after July 1, 1974	Revision Date
N-71-13 N-71-14 N-71-15 N-71-16 N-71-17 (cont'd)	*Additional Materials for Subsection NF, Classes 1, 2, 3 and MC Component Supports Fabricated by Welding, Section III, Division 1*	12/5/85 12/16/86 2/12/93 12/31/96 12/8/00
	In the last sentence of paragraph 5.3, reference should be made to paragraph 4.5.2.2, "Alternate Atmosphere Exposure Time Periods Established by Test," of the AWS D.1.1 Code for the evidence presented to and accepted by the Authorized Inspector concerning exposure of electrodes for longer periods of time. Paragraph 16.2.2 is not acceptable as written and should be replaced with the following: When not exempted by 16.2.1, above, the postweld heat treatment should be performed in accordance with NF-4622 except that for ASTM A-710 Grade A material, it should be at least 1000°F (540°C) and should not exceed 1150°F (620°C) for Class 1 and Class 2 material and 1175°F (640°C) for Class 3 material. The new holding time at temperature for weld thickness (nominal) should be 30 minutes for ½ inch or less, 1 hour per inch for thickness over ½ inch to 5 inches, and 5 hours plus 15 minutes for each additional inch over 5 inches. The fracture toughness of Classes 1, 2, and 3 component supports should be characterized in accordance with Section 5.3.4 of the USNRC Standard Review Plan (NUREG-0800) or on a case-by-case basis. The fracture toughness requirements as listed in this Code Case apply only to piping supports and not to Class 1, Class 2, and Class 3 component supports.	
N-95-1 (1701-1)	*Determination of Capacities of Vacuum Relief Valves, Section III, Division 1 and 2, Class MC*	7/9/79
N-102-1 (1714-2)	*Postweld Heat Treatment of P-1 Material, Section III, Class MC*	8/28/78
N-119-2 (1739-2) N-119-3 (1739-3 N-119-4 (1739-4) N-119-5	*Pump Internal Items, Section III, Division 1, Class 1, 2, and 3*	8/25/80 12/1/80 7/18/85
N-122	*Stress Indices for Structural Attachments, Class 1, Section III, Division 1*	7/24/89
N-133 (1761-1)	*Use of SB-148 Alloy CA954 for Section III, Division 1, Class 2 or 3 Flanged End Valves*	1/14/77
N-133-1 N-133-2	*Use of SB-148 Alloys 952 and 954, Section III, Division 1, Class 3*	5/19/85 7/18/85
N-154 (1791)	*Projection Resistance Welding of Valve Seats, Section III, Division 1, Class 1, 2and 3 Valves*	1/14/80
N-160 (1797)	*Finned Tubing for Construction, Section III, Division 1*	7/18/85

Code Case Number	Table 5 Code Cases That Have Been Superseded by Revised Code Cases on or after July 1, 1974	Revision Date
N-188	*Use of Welded Ni-Fe-Cr-Mo-Cu (Alloy 825) and Ni-Cr-Mo-Cb (Alloy 625) Tubing, Section III, Division 1, Class 3*	1/1/78
N-192 N-192-1 N-192-2	*Use of Flexible Hose for Section III, Division 1, Class 1, 2, and 3 Construction*	8/30/79 9/16/81 7/23/02
	The applicant should indicate system application, design and operating pressure, and pressure-temperature rating of the flexible hose. Data to demonstrate compliance of the flexible hose with NC/ND-3649, particularly NC-ND-3649.4(e), are required to be furnished with the application.	
N-196	*Exemption from the Shake-down Requirements When Plastic Analysis is Performed for Section III, Division 1, Class 1 Construction*	1/8/79
N-207	*Use of Modified SA-479 Type XM-19 for Section III, Division 1, Class 1, 2, or 3 Construction*	3/19/79
N-214 N-214-1	*Use of SA-351, Grade CN7M, for Valves for Section III, Division 1, Construction*	9/7/82 5/25/83
N-224	*Use of ASTM A500 Grade B and ASTM A501 Structural Tubing for Welded Attachments for Section III, Class 2 and 3 Construction*	5/11/81
N-237	*Hydrostatic Testing of Internal Piping, Section III, Division 1*	9/7/82
N-237-1	*Hydrostatic Testing of Internal Piping, Section III, Division 1, Classes 2 and 3*	5/25/83
N-242	*Materials Certification, Section III, Division 1, Classes 1, 2, 3, MC, and CS Construction*	4/10/80
	Applicants should identify the components and supports requiring the use of paragraphs 1.0 through 4.0 of the Code Case in their Safety Analysis Reports.	
N-246	*Use of SB-169 Alloy CA614, Section III, Division 1, Class 3*	9/7/82
N-246-1	*SB-169, Alloy C 61400, Section III, Division 1, Class 3*	5/25/83
N-249	*Additional Materials for Component Supports Fabricated Without Welding, Section III, Division 1, Subsection NF, Class 1, 2, 3, and MC Component Supports*	5/11/81
	Footnote 2 of the Code Case should apply to all materials listed in Tables 1, 2, 3, 4, and 5 of the Code Case and should be so indicated on line 5 of the "Reply."	
N-249-1	*Additional Materials for Component Supports Fabricated Without Welding, Section III, Division 1, Subsection NF, Class 1, 2, 3, and MC Component Supports*	6/17/82
	Paragraph 7 of the "Reply" should reference the requirements of NF-2600 instead of NF-2800. This is a typographical error in that NF-2800 does not exist.	

Code Case Number	Table 5 Code Cases That Have Been Superseded by Revised Code Cases on or after July 1, 1974	Revision Date
N-249-2 N-249-3	*Additional Materials for Subsection NF Class 1, 2, 3, and MC Component Supports Fabricated Without Welding, Section III, Division 1*	2/14/83 2/20/84
N-249-4 N-249-5	*Additional Material for Subsection NF, Classes 1, 2, 3, and MC Component Supports Fabricated Without Welding, Section III, Division 1*	9/17/84 4/8/85
	The fracture toughness requirements as listed in Code Case N-249-4 apply only to piping supports and not to Classes 1, 2, and 3 component supports. The fracture toughness of Classes 1, 2, and 3 component supports should be characterized in accordance with Section 5.3.4 of the USNRC Standard Review Plan (NUREG-0800) or on a case-by-case basis.	
N-249-6 N-249-7 N-249-8 N-249-9 N-249-10 N-249-11 N-249-12 N-249-13	*Additional Material for Subsection NF, Classes 1, 2, 3, and MC Component Supports Fabricated Without Welding, Section III, Division 1*	9/5/85 12/5/85 12/16/86 5/6/89 5/13/91 2/12/93 5/11/94 12/8/00
	The fracture toughness requirements apply only to piping supports and not to Classes 1, 2, and 3 component supports. The fracture toughness of Classes 1, 2, and 3 component supports should be characterized in accordance with Section 5.3.4 of the USNRC Standard Review Plan (NUREG-0800) or on a case-by-case basis. The following is to be added to paragraph (5) of the Code Case: "For these cases, it should be demonstrated by the Owner that: (1) the impact test results for the material meet Code requirements, and (2) the material is not subject to stress corrosion cracking by virtue of the fact that: (a) a corrosive environment is not present and (b) the component that contains the material has essentially no residual stresses or assembly stresses, and it does not experience frequent sustained loads in service."	
N-260	*Weld Repair of SA-182 Type 316 Forgings, Section III, Division 1, Classes 1, 2, 3, and MC*	7/18/85
N-260-1	*Weld Repair of SA-182 Type 316 Forgings, Section III, Division 1, Classes 1, 2, 3, and MC*	12/5/85
	Type 308 L welding materials should not be used to repair grade F 316 N forgings because of the difference in strength levels.	
N-265	*Modified SA-487 Castings, Section III, Division 1, Class 1*	5/19/85
N-299	*Use of Nickel-Chromium-Molybdenum-Columbium Alloy 625 Forgings, Section III, Division 1, Class 2 and Class 3 Components*	7/18/85
N-304 N-304-1 N-304-2 N-304-3	*Use of 20 Cr-25Ni-6Mo (Alloy UNS N08366) Welded Tubes for Section III, Division 1, Classes 2 and 3 Construction*	7/12/84 5/19/85 12/5/85 2/23/87
N-309	*Identification of Materials for Component Supports, Section III, Division 1*	5/11/84

Code Case Number	Table 5 Code Cases That Have Been Superseded by Revised Code Cases on or after July 1, 1974	Revision Date
N-318 N-318-1 N-318-2 N-318-3 N-318-4	*Procedure for Evaluation of the Design of Rectangular Cross Section Attachments on Class 2 or 3 Piping, Section III, Division 1*	2/20/84 7/12/84 9/5/85 12/11/89 4/28/94
	Applicants should identify in their Safety Analysis Report: (1) the method of lug attachment, (2) the piping system involved, and (3) the location in the system where the Code Case is to be applied.	
N-319 N-319-1 N-319-2	*Alternate Procedure for Evaluation of Stresses in Butt Weld Elbows in Class 1 Piping, Section III, Division 1*	7/24/89 8/14/90 1/17/00
N-321	*Use of Modified SA-249, Type 304, Section III, Division 1, Class 1 Construction*	12/5/85
N-337	*Use of ASTM B 525-70 Grade II, Type II, Sintered Austenitic Stainless Steel for Class 2, 3, and MC Component Standard Supports, Section III, Division 1*	7/18/85
N-345	*Attachment of AMS 5382 Alloy 31 Seat Rings by Friction Welding, Section III, Division 1, Classes 1, 2, and 3*	12/13/82
N-352	*Use of SA-638 Grade 660 Forgings and Bars Below 700 °F Without Stress Rupture Tests, Section III, Division 1*	7/18/85
N-362	*Alternate Rules for Pressure Testing of Containment Items, Section III, Division 1*	12/13/82
N-362-1	*Pressure Testing of Containment Items, Section III, Division 1, Classes 1, 2, and MC*	7/12/84
N-370 N-370-1	*Modified SA-705 Grade XM-13 Forgings, Section III, Division 1*	7/18/85 12/5/85
N-371	*12Cr-1W-1Mo-1/4V Martensitic Stainless Steel Valve Internals, Section III, Division 1*	7/18/85
N-373-1	*Alternative PWHT Time at Temperature for P-No. 5 Material, Section III, Division 1, Classes 1, 2, and 3*	9/7/01
N-379	*Bimetallic Tubing Section III, Division 1, Class 1*	7/18/85
N-383	*Weld Repair of SA-182 Austenitic Forgings, Section III, Division 1, Classes 1, 2, and 3*	7/18/85
	Applicants who apply the provisions of the Code Case to permit material manufacturers to weld repair austenitic forgings without resolution heat treatment should provide justification to the NRC staff (via the Safety Analysis Report) why this is acceptable for their applications, including their evaluation of the susceptibility for stress corrosion cracking.	
N-391	*Procedure for Evaluation of the Design of Hollow Circular Cross Section Welded Attachments on Class 1 Piping, Section III, Division 1*	7/24/89

Code Case Number	Table 5 Code Cases That Have Been Superseded by Revised Code Cases on or after July 1, 1974	Revision Date
N-391-1	*Procedure for Evaluation of the Design of Hollow Circular Cross Section Welded Attachments on Class 1 Piping, Section III, Division 1*	8/24/95
	The following typographical errors need to be corrected: (1) In equation (3) the + sign should be changed to an = sign, and (2) In equation (4) the first + sign should be changed to an = sign.	
N-392	*Procedure for Evaluation of the Design of Hollow Circular Cross Section Welded Attachments on Classes 2 and 3 Piping, Section III, Division 1*	12/11/89
N-392-1	*Procedure for Evaluation of the Design of Hollow Circular Cross Section Welded Attachments on Classes 2 and 3 Piping, Section III, Division 1*	12/11/92
	Applicants should identify in their Safety Analysis Report: (1) the method of lug attachment, (2) the piping system involved, and (3) the location in the system where the Code Case is to be applied.	
N-392-2	*Procedure for Evaluation of the Design of Hollow Circular Cross Section Welded Attachments on Classes 2 and 3 Piping, Section III, Division 1*	12/12/94
	Applicants should identify in their Safety Analysis Report: (1) the method of lug attachment, (2) the piping system involved, and (3) the location in the system where the Code Case is to be applied.	
N-411	*Alternative Damping Values for Seismic Analysis of Classes 1, 2, and 3 Piping Sections, Section III, Division 1*	2/20/86
	(1) The damping values specified may be used in analyzing piping response for seismic and other dynamic loads being filtered through building structures provided response mode frequencies are limited to 33 Hz and below. Within this range, the Code Case damping should be used completely and consistently, if used at all. (For equipment other than piping, the damping values specified in Regulatory Guide 1.61, "Damping Values for Seismic Design of Nuclear Power Plants," should be used). (2) The damping values specified may be used only in those analyses in which current seismic spectra and procedures have been employed. Such use should be limited only to response spectral analyses (similar to that used in the study supporting its acceptance–Reference NUREG/CR-3526. The acceptance of the use with other types of dynamic analyses (e.g., time-history analysis) is pending further justification. (3) When used for reconciliation work or for support optimization of existing designs, the effects of increased motion on existing clearances and on line mounted equipment should be checked. (4) This Code Case is not appropriate for analyzing the dynamic response of piping systems using supports designed to dissipate energy by yielding (i.e., the design of which is covered by Code Case N-420). (5) This Code Case is not applicable to piping in which stress corrosion cracking has occurred unless a case-specific evaluation is made and is reviewed by the NRC staff.	

Code Case Number	Table 5 Code Cases That Have Been Superseded by Revised Code Cases on or after July 1, 1974	Revision Date
N-418	*Use of Seamless Ni-Fe-Cr-Mo-Cu Low Carbon (UNS N08028 and UNS N08904) Tubing, Section III, Division 1, Classes 2 and 3*	7/30/86
N-438 N-438-1 N-438-2	*Fe-24.5Ni-21Cr-6.5 Mo-0.2N (Alloy UNS N08367) Seamless and Welded Pipe, Tube, Plate, Bar, Fittings, and Forgings, Class 2 and 3 Construction, Section III, Division 1*	3/8/89 Reinstated on 5/24/96 7/27/92
N-438-3	*UNS N08367 Material, Section III, Division 1, Class 2 and 3 Construction*	5/24/96
N-439	*Use of 20Cr-18Ni-6Mo (Alloy UNS S31254) Forgings, Plate, Seamless and Welded Pipe, and Welded Tube, Class 2 and 3 Construction, Section III, Division 1*	7/10/00
N-440	*Use of 20Cr-18Ni-6Mo (Alloy UNS J93254) Castings, Class 2 and 3 Construction, Section III, Division 1*	7/10/00
N-441 N-441-1	*Use of 20Cr-18Ni-6Mo (Alloy UNS S31254) Fittings, Class 2 and 3 Construction, Section III, Division 1*	11/25/92 7/10/00
N-443 N-443-1	*High Yield Strength Cr-Mo Steel, Class 1 Components, Section III, Division 1*	3/8/89 11/11/99
N-453	*Nickel-Chromium-Molybdenum-Copper Stainless Steel (UNS N08925) Welded Pipe for Class 2 and 3 Construction, Section III, Division 1*	11/30/88
N-453-1	*Nickel-Chromium-Molybdenum-Copper Stainless Steel (UNS N08925) Seamless and Welded Pipe for Class 2 and 3 Construction, Section III, Division 1*	4/30/92
N-453-2	*Nickel-Chromium-Molybdenum-Copper Stainless Steel (UNS N08925 and N08926) Seamless and Welded Pipe for Class 2 and 3 Construction, Section III, Division 1*	12/12/95
N-454	*Nickel-Chromium-Molybdenum-Copper Stainless Steel (UNS N08925) Wrought Fittings for Class 2 and 3 Construction, Section III, Division 1*	4/30/92
N-455	*Nickel-Chromium-Molybdenum-Copper Stainless Steel (UNS N08925) Forged Flanges and Fittings for Class 2 and 3 Construction, Section III, Division 1*	4/30/92
N-466	*Modified 9Cr-1Mo Material, Section III, Division 1, Classes 1, 2, and 3*	4/30/90
N-469	*Martensitic Stainless Steel for Class 1, 2, and 3 Components, Section III, Division 1*	6/14/00
N-474	*Design Stress Intensities and Yield Strength Values for Alloy 690 With a Minimum Yield Strength of 35 ksi, Class 1 Components, Section III, Division 1*	3/5/90
N-474-1	*Design Stress Intensities and Yield Strength Values for UNS N06690 With a Minimum Specified Yield Strength of 35 ksi, Class 1 Components, Section III, Division 1*	12/9/93
N-484	*Real Time Radioscopic Examination of Welds, Section III, Division 1*	12/16/91

Code Case Number	Table 5 Code Cases That Have Been Superseded by Revised Code Cases on or after July 1, 1974	Revision Date
N-492	*Grade 9 Titanium Alloy Tubing, Section III, Division 1, Class 1, 2, and 3*	5/11/94
N-497	*Use of Fe-Ni-Cr-Mo-N (C-N-3MN) Cast Materials, Section III, Division 1, Class 2 and 3 Construction*	12/9/93
N-510	*Borated Stainless Steel for Class CS Core Support Structures and Class 1 Components, Section III, Division 1*	12/12/94
N-520	*Alternative Rules for Renewal of N-type Certificates for Plants Not in Active Construction, Section III, Division 1*	10/26/94
N-564 N-564-1	*UNS J93380, Alloy CD3MWCuN, Class 2 and 3 Construction, Section III, Division 1*	7/30/98 12/31/96
N-580	*Use of Alloy 600 With Columbium Added, Section III, Division 1*	5/20/98
N-625	*Ni-Cr-Mo Alloy (UNS N06059) Welded Construction to 800 °F, Section III, Division 1*	3/28/01
N-635	*Use of 22Cr-5Ni-3Mo-N (Alloy UNS S31803) Forgings, Plate, Bar, Welded and Seamless Pipe, and/or Tube, Fittings, and Fusion Welded Pipe With Addition of Filler Metal, Classes 2 and 3, Section III, Division 1*	2/14/03
N-644	*Weld Procedure Qualification for Procedures Exempt from PWHT in Class 1, 2, and 3 Construction, Section III, Division 1*	Reinstated 2/14/03
1332-6	*Requirements for Steel Forgings, Section III and VIII, Division 1*	1/8/79
1335-9	*Requirements for Bolting Materials*	8/28/78
1337-9 1337-10	*Special Type 403 Modified Forgings or Bars, Section III*	4/28/75 5/15/78
1395-3	*SA-508, Class 2 Forgings with Modified Manganese Content, Section III or Section VIII, Division 2*	1/8/79
1407-2	*Time of Examination for Class 1, 2, and 3, Section III Vessels*	7/1/74
1414-3 1414-4	*High Yield Strength Cr-Mo Steel for Section III, Division 1, Class 1 Vessels*	3/1/76 8/9/77
	The information required to be developed by Note 1 in the Code Case should be provided in each referencing Safety Analysis Report.	
1484-1	*SB-163 Nickel-Chromium-Iron Tubing (Alloy 600) at a Specified Minimum Yield Strength of 40.0 Ksi, Section III, Class 1*	11/4/74
1484-2	*SB-163 Nickel-Chromium-Iron Tubing (Alloy 600 and 690) at a Specified Minimum Yield Strength of 40.0 Ksi, Section III, Class 1*	8/13/76
1492	*Post Weld Heat Treatment, Section I, III and VIII, Division 1 and 2*	3/3/75
1508	*Allowable Stresses, Design Intensity and/or Yield Strength Values, Section I, III, and VIII, Divisions 1 and 2*	6/30/75
1516-1	*Welding of Seats in Valves for Section III Applications*	8/11/75

Code Case Number	Table 5 Code Cases That Have Been Superseded by Revised Code Cases on or after July 1, 1974	Revision Date
1540-1	*Elastomer Diaphragm Valves, Section III, Classes 2 and 3*	1/14/77
1541-1	*Hydrostatic Testing of Embedded Class 2 and Class 3 Piping for Section III Construction*	9/30/76
1541-2	*Hydrostatic Testing of Embedded Class 2 and Class 3 Piping for Section III, Division 1 Construction*	5/15/78
1552	*Design by Analysis of Section III, Class 1 Valves*	8/29/77
1553	*Upset Heading and Roll Threading of SA-453 for Bolting in Section III*	3/3/75
1555	*Certification of Safety Relief Valves on Liquids*	1/14/77
1557-2	*Steel Products Refined by Secondary Remelting*	1/8/79
1606	*Stress Criteria for Section III, Class 2 and 3 Piping Subjected to Upset, Emergency, and Faulted Operating Conditions*	12/16/74
	Code Case 1606 was acceptable subject to the interpretation that the stress limit designations of “Upset,” “Emergency,” and “Faulted” do not necessarily imply agreement with specified plant conditions applicable to ASME Code Class 2 and 3 components for fluid systems. These designations should be established and justified in the design specifications.	
1607	*Stress Criteria for Section III, Classes 2 and 3 Vessels Subjected to Upset, Emergency, and Faulted Operating Conditions*	11/4/74
	Code Case 1607 was acceptable subject to the interpretation that the stress limit designations of “Upset,” “Emergency,” and “Faulted” do not necessarily imply agreement with specified plant conditions applicable to ASME Code Class 2 and 3 components for fluid systems. These designations should be established and justified in the design specifications.	
1618	*Material for Core Support Structures, Section III, Subsection NG*	3/3/75
	(a) Welding of age-hardenable alloy SA-453 Grade 660 and SA-637 Grade 688 should be performed when the material is in the solution-treated condition. (b) Use of alloy ASTM A-564 Grade 631 is not acceptable on a generic basis.	
1618-1	*Material for Core Support Structures, Section III, Subsection NG*	3/1/76
	Welding of age-hardenable alloy SA-453 Grade 660 and SA-637 Grade 688 should be performed when the material is in the solution-treated condition.	
1626	*Normalized and Tempered 1-1/4 Cr Low Alloy Steel Forgings, Section I, Section III, and Section VIII, Division 1 and 2*	1/8/79
1634 1634-1	*Use of SB-359 for Section III, Class 3 Construction*	8/12/74 8/13/76

Code Case Number	Table 5 Code Cases That Have Been Superseded by Revised Code Cases on or after July 1, 1974	Revision Date
1644 1644-1 1644-2 1644-3	*Additional Materials for Component Supports, Section III, Subsection NF, Class 1, 2, 3, and MC Construction*	4/28/75 6/30/75 11/3/75 3/1/76
	The maximum measured ultimate tensile strength of the component support material should not exceed 170 Ksi.	
1644-4 1644-5 1644-6	*Additional Materials for Component Supports and Alternate Design Requirements for Bolted Joints, Section III, Division 1, Subsection NF, Class 1, 2, 3, and MC Construction*	8/13/76 3/3/77 11/21/77
	The maximum measured ultimate tensile strength (UTS) of the component support material should not exceed 170 Ksi in view of the susceptibility of high-strength materials to brittleness and stress corrosion cracking. Certain applications may exist where a UTS value of up to 190 Ksi could be considered acceptable for a material and, under this condition, the Design Specification should specify impact testing for the material. For these cases, it should be demonstrated by the applicant that (1) the impact test results for the material meet code requirements, and (2) the material is not subject to stress corrosion cracking by virtue of the fact that (a) a corrosive environment is not present and (b) the component that contains the material has essentially no residual stresses or assembly stresses, and it does not experience frequent sustained loads in service.	
1682	*Alternate Rules for Material Manufacturers and Suppliers, Section III, Subarticle NA-3700*	8/11/75
1683	*Bolt Holes for Section III, Division 1, Class 1, 2, 3 and MC Component Supports*	3/1/76
1689	*Alternate PWHT Time and Temperature for SA-182 Grade F22, Section III, Class 1, 2, 3 and CS*	9/10/76
	The alternate postweld heat treatment should be prequalified along with the applicable welding procedure in accordance with ASME Section IX.	
1695	*Brazing, Section III, Class 3*	11/3/75
1701	*Determination of Capacities of Vacuum Relief Valves, Section III, Class MC*	3/20/78
1702	*Flanged Valves Larger than 24 inches for Section III, Class 1, 2 and 3 Construction*	7/11/77
1714	*Postweld Heat Treatment of P-1 Material, Section III, Class MC*	7/11/77

Code Case Number	Table 5 Code Cases That Have Been Superseded by Revised Code Cases on or after July 1, 1974	Revision Date
1720	*Weld End Preparation for Section III, Division Construction*	3/1/76
	Weld end preparations other than those shown in Figures 1, 2, and 3 of the Code Case are not acceptable on a generic basis. Such alternative end preparations should be treated on a case-by-case basis.	
1720-1	*Weld End Preparation for Section III, Division Construction*	11/20/78
	The acceptance of weld end preparations other than those shown in Figures 1, 2, and 3 of the Code Case should be evaluated on a case-by-case basis.	
1722	*Vacuum, Carbon Deoxidized SA-508 Forgings, Section III, Division 1, and VIII, Division 1 and 2*	1/8/79
1741	*Interim Rules for the Required Number of Impact Tests for Rolled Shapes, Section III, Division 1, Subsection NF, Component Supports*	1/14/77
1755	*Alternate Rules for Examination of Welds in Piping, Class 1 and 2 Construction, Section III, Division 1*	1/14/77
1759	*Material for Internal Pressure Retaining Items for Pressure Relief Valves, Section III, Division 1, Class 1, 2, and 3*	5/15/78
	Applicants using this Case should also use Code Case 1711 for the design of pressure relief valves.	
1761	*Use of SG-148 Alloy CA954 for Section III, Division 1, Class 2 or 3 Flanged End Valves*	1/14/77
1769	*Qualification of NDE Level III Personnel, Section III, Division 1*	2/16/77
1774	*Minimum Wall Thickness for Class 2 and 3 Valves, Section III, Division 1*	7/11/77
1780	*Hydrostatic Testing and Stamping of Pumps for Class 1 Construction, Section III, Division 1*	3/10/78
	Each licensing application in which the Code Case is to be used should present information that satisfactorily demonstrates that the subassembly tests adequately simulate the pressure loadings. Also, the closure fixture for the test subassembly should adequately simulate the rigidity of adjacent subassemblies and also simulate the interface loadings from adjacent subassemblies that would result from a hydrostatic pressure test of a complete pump assembly. As a minimum, the closure fixture should impose loads that result in stresses equal to or greater than those induced during the hydrostatic test of a complete pump assembly. It is not intended that piping reactor loadings be simulated in the hydrostatic testing.	

Code Case Number	Table 5 Code Cases That Have Been Superseded by Revised Code Cases on or after July 1, 1974	Revision Date
1783	*Qualification of Nondestructive Personnel, Section III, Division 1*	1/14/77
	The first sentence of paragraph (1) should be replaced with the following: “The certification of the Level III nondestructive examination personnel for the purposes of this Section of the Code shall be the responsibility of the employer of the Level III individual. If the employer is not a Certificate Holder, then the verification of such certificate is the responsibility of the Certificate Holder.”	

D. IMPLEMENTATION

The purpose of this section is to provide information to applicants and licensees regarding the NRC staff's plans for using this draft regulatory guide. The requirements addressing implementation of Section III Code Cases are contained in 10 CFR 50.55a(b)(4).

The NRC has issued this draft guide to encourage public participation in its development. Except in those cases in which an applicant or licensee proposes or has previously established an acceptable alternative method for complying with specified portions of the NRC's regulations, the methods to be described in the active guide will reflect public comments and will be used in evaluating (1) submittals in connection with applications for construction permits, design certifications, operating licenses, and combined licenses, and (2) submittals from operating reactor licensees who voluntarily propose to initiate system modifications that have a clear nexus with this guidance.

REGULATORY ANALYSIS

The NRC staff did not prepare a separate regulatory analysis for this regulatory guide. The regulatory basis for this guide is the regulatory analysis prepared for the amendment to 10 CFR 50.55a, "Codes and Standards," which incorporates this regulatory guide by reference.

Publicly available NRC documents related to this proposed rule can also be viewed on public computers in the NRC's Public Document Room (PDR) at One White Flint North, 11555 Rockville Pike, Public File Area (O-1F21), Rockville, MD 20852. The PDR's reproduction contractor will make coopies of the documents for a fee. The PDR's mailing address is USNRC PDR, Washington, DC 20555-0001, and the PDR can be reached by telephone (301) 415-4737 or 1 (800) 397-4209; by fax at (301) 415-3548; or by email to PDR@nrc.gov. In addition, the regulatory analysis is available through the NRC's Agencywide Documents Access and Management System (ADAMS) at http://www.nrc.gov/reading-rm/adams.html, under Accession No. ML043640544.

APPENDIX A

SUPPLEMENTS ADDRESSED IN REVISION 34 OF REGULATORY GUIDE 1.84

Edition	Supplement Number	BNCS[1] Approval Date of Code Cases in Supplement[2]
2001	7	February 3, 2003
2001	8	February 14, 2003
2001	9	May 9, 2003
2001	10	June 17, 2003
2001	11	November 18, 2003
2001	12	February 20, 2004
2004	1	May 4, 2004

[1] BNCS = ASME Board on Nuclear Codes and Standards
[2] Publication of supplements approximately 6 months after BNCS approval.

APPENDIX B

NUMERICAL LISTING OF SECTION III CODE CASES IN SUPPLEMENT 7 THROUGH SUPPLEMENT 12, 2001 EDITION AND SUPPLEMENT 1 TO THE 2004 EDITION[1]

N-7-1
N-60-5
N-62-7
N-71-18
N-122-2
N-131-1
N-133-3
N-154-1
N-155-2
N-160-1
N-208-1
N-243
N-249-14
N-284-1[2]
N-292
N-315
N-318-5
N-319-3
N-369
N-373-2
N-391-2
N-393-3
N-405-1
N-452
N-454-1
N-455-1
N-464
N-469-1
N-500-2
N-505
N-511
N-519[2]
N-520-1
N-530[2]
N-539
N-564-2
N-579
N-596
N-607
N-610
N-611
N-620
N-621
N-625-1
N-632
N-635-1
N-642
N-644
N-644-1
N-645-1[2]
N-646
N-650
N-659[1]
N-659-1[1]
N-673[2]
N-692
N-693
N-698
N-703
N-710
N-717[2]

---

[1] Except for those Code Cases pertaining to high temperature gas-cooled reactors; Section III, Division 2; liquid metal; and submerged spent fuel waste casks.

[2] Code Case is not acceptable for use; See Regulatory Guide 1.193.

APPENDIX C

NUMERICAL LISTING OF SECTION III CODE CASES[1] AND TABLE WHERE EACH CODE CASE IS LISTED

N-1-7 [T3]
N-2 [T3]
N-3-10 [T3]
N-4-11 [T1]
N-5 [T5]
N-5-1 [T3]
N-6 [T3]
N-7 [T5]
N-7-1 [T1]
N-9-4 [T3]
N-10 [T3]
N-11-5 [T4]
N-15 [T3]
N-17 [T3]
N-20 [T5]
N-20-1 [T5]
N-20-2 [T5]
N-20-3 [T5]
N-20-4 [T3]
N-22 [T3]
N-24 [T3]
N-26 [T3]
N-30-1 [T3]
N-31 [T5]
N-31-1 [T4]
N-32-3 [T3]
N-32-4 [T4]
N-33 [T3]
N-35-1 [T3]
N-37-3 [T3]
N-41 [T3]
N-43 [T3]
N-46 [T3]
N-47-33 [T3]
N-48-2 [T3]
N-49-4 [T3]
N-50-1 [T3]
N-51-2 [T3]
N-55 [T5]
N-55-1 [T3]
N-56 [T3]
N-60 [T5]
N-60-1 [T5]
N-60-2 [T5]
N-60-3 [T5]
N-60-4 [T5]
N-60-5 [T1]
N-61 [T3]
N-62-2 [T5]
N-62-3 [T5]
N-62-4 [T5]
N-62-5 [T5]
N-62-6 [T5]
N-62-7 [T2]
N-65-1 [T3]
N-66-1 [T3]
N-68 [T3]
N-71-7 [T5]
N-71-8 [T5]
N-71-9 [T5]
N-71-10 [T5]
N-71-11 [T5]
N-71-12 [T5]
N-71-13 [T5]
N-71-14 [T5]
N-71-15 [T5]
N-71-16 [T5]
N-71-17 [T5]
N-71-18 [T2]
N-77 [T3]
N-81 [T3]
N-82 [T3]
N-84 [T3]
N-90 [T3]
N-92 [T4]
N-94 [T3]
N-95-1 [T5]
N-95-2 [T3]
N-96-1 [T3]
N-100 [T4]
N-101 [T3]
N-102-1 [T5]
N-102-2 [T3]
N-106-2 [T4]
N-107-1 [T3]
N-108 [T3]
N-109 [T3]
N-110 [T4]
N-111 [T3]
N-114 [T3]
N-115 [T3]
N-116 [T4]
N-119-2 [T5]
N-119-3 [T5]
N-119-4 [T5]
N-119-5 [T5]
N-119-6 [T3]
N-121 [T3]
N-122 [T5]
N-122-2 [T1]
N-123 [T3]
N-124 [T3]
N-125 [T3]
N-126 [T3]
N-127 [T3]
N-131-1 [T1]
N-133 [T5]
N-133-1 [T5]
N-133-2 [T5]
N-133-3 [T1]
N-139 [T3]
N-140 [T3]
N-142-1 [T3]
N-146-1 [T4]
N-147 [T3]
N-148 [T3]
N-154 [T5]
N-154-1 [T1]
N-155-2 [T2]
N-156 [T3]
N-157 [T3]
N-158 [T3]
N-159 [T3]
N-160 [T5]
N-160-1 [T1]
N-171 [T1]
N-174 [T3]
N-175 [T4]
N-176-1 [T3]
N-177 [T3]
N-178 [T3]
N-179 [T3]
N-180 [T3]
N-181 [T3]
N-182 [T3]
N-183 [T3]
N-184 [T3]
N-188 [T5]
N-188-1 [T3]
N-189 [T3]
N-190 [T3]
N-192 [T5]
N-192-1 [T5]
N-192-2 [T5]
N-192-3 [T1]
N-193 [T3]
N-196 [T5]
N-196-1 [T3]
N-199 [T4]
N-204 [T3]
N-205 [T1]
N-206 [T3]

---

1 Except for those Code Cases pertaining to high temperature gas-cooled reactors; Section III, Division 2; liquid metal; and submerged spent fuel waste casks.

2 Code Case is not acceptable for use; See Regulatory Guide 1.193.

3 Code Case was not been approved for use; hence, never listed in previous versions of RG 1.84 or 1.85.

N-207 [T5]
N-207-1 [T3]
N-208-1 [T1]
N-208-2 [T3]
N-212 [T3]
N-213 [T1]
N-214 [T5]
N-214-1 [T5]
N-214-2 [T3]
N-215 [T3]
N-217-1 [T3]
N-220 [T3]
N-223 [T3]
N-224 [T5]
N-224-1 [T3]
N-225 [T3]
N-226 [T3]
N-227 [T3]
N-228 [T3]
N-229 [T3]
N-231 [T3]
N-233 [T3]
N-237 [T5]
N-237-1 [T5]
N-237-2 [T3]
N-238 [T4]
N-240 [T3]
N-241 [T3]
N-242 [T5]
N-242-1 [T4]
N-243 [T1]
N-245 [T3]
N-246 [T5]
N-246-1 [T5]
N-246-2 [T3]
N-247 [T3]
N-248 [T3]
N-249 [T5]
N-249-1 [T5]
N-249-2 [T5]
N-249-3 [T5]
N-249-4 [T5]
N-249-5 [T5]
N-249-6 [T5]
N-249-7 [T5]
N-249-8 [T5]
N-249-9 [T5]
N-249-10 [T5]
N-249-11 [T5]
N-249-12 [T5]
N-249-13 [T5]
N-249-14 [T2]
N-252 [T4]
N-259 [T3]
N-260 [T5]
N-260-1 [T5]
N-260-2 [T4]
N-261 [T3]
N-262 [T3]
N-263 [T4]
N-265 [T5]
N-265-1 [T3]
N-267 [T3]
N-271 [T3]
N-272 [T3]
N-274 [T4]
N-275 [T4]
N-276 [T3]
N-277 [T3]
N-279 [T4]
N-280 [T3]
N-281 [T3]
N-282 [T3]
N-284[3]
N-284-1[2]
N-292 [T4]
N-294 [T3]
N-295 [T3]
N-296 [T3]
N-298 [T3]
N-299 [T5]
N-299-1 [T3]
N-300 [T3]
N-302 [T3]
N-304 [T5]
N-304-1 [T5]
N-304-2 [T5]
N-304-3 [T5]
N-304-4 [T3]
N-309 [T5]
N-309-1 [T3]
N-310-1 [T4]
N-313 [T3]
N-314 [T4]
N-315 [T1]
N-316 [T3]
N-317 [T3]
N-318 [T5]
N-318-1 [T5]
N-318-2 [T5]
N-318-3 [T5]
N-318-4 [T5]
N-318-5 [T1]
N-319 [T5]
N-319-1 [T5]
N-319-2 [T5]
N-319-3 [T1]
N-320 [T3]
N-321 [T5]
N-321-1 [T3]
N-324 [T3]
N-328 [T3]
N-329 [T1]
N-336 [T3]
N-337 [T5]
N-337-1 [T3]
N-339 [T3]
N-341 [T3]
N-342 [T3]
N-345 [T5]
N-345-1 [T3]
N-346 [T3]
N-347 [T3]
N-348 [T4]
N-348-1 [T4]
N-348-2 [T4]
N-349 [T3]
N-350 [T4]
N-351 [T1]
N-352 [T5]
N-352-1 [T3]
N-353 [T3]
N-354-1 [T3]
N-355 [T3]
N-357 [T3]
N-359 [T3]
N-362 [T5]
N-362-1 [T5]
N-362-2 [T3]
N-367 [T3]
N-368 [T3]
N-369 [T1]
N-370 [T5]
N-370-1 [T5]
N-370-2 [T3]
N-371 [T5]
N-371-1 [T3]
N-372 [T3]
N-373-1 [T5]
N-373-2 [T1]
N-376 [T3]
N-377 [T3]
N-378 [T3]
N-379 [T5]
N-379-1 [T3]
N-383 [T5]
N-383-1 [T4]
N-384-1 [T3]
N-387 [T3]
N-388 [T3]
N-391 [T5]
N-391-1 [T5]
N-391-2 [T1]
N-392 [T5]
N-392-1 [T5]
N-392-2 [T5]
N-392-3 [T1]
N-393 [T3]
N-394 [T3]
N-395 [T3]
N-397 [T4]
N-398 [T4]
N-403 [T3]
N-404 [T4]
N-405-1 [T1]
N-410 [T3]
N-411 [T5]
N-411-1 [T4]
N-412 [T3]
N-413 [T3]
N-414 [T3]
N-418 [T5]
N-418-1 [T3]
N-420 [T3]
N-421 [T3]
N-430 [T4]
N-433 [T3]
N-438 [T5]
N-438-1 [T1][T5]
N-438-2 [T5]
N-438-3 [T5]
N-438-4 [T3]
N-439 [T5]
N-439-1 [T3]
N-440 [T5]
N-440-1 [T3]
N-441 [T5]
N-441-1 [T5]
N-441-2 [T3]
N-442 [T3]
N-443 [T5]
N-443-1 [T5]
N-443-2 [T3]
N-451 [T3]

N-452 [T1]
N-453 [T5]
N-453-1 [T5]
N-453-2 [T5]
N-453-3 [T1]
N-454 [T5]
N-454-1 [T1]
N-455 [T5]
N-455-1 [T1]
N-459 [T3]
N-462 [T3]
N-464 [T3]
N-466 [T5]
N-466-1 [T3]
N-468 [T3]
N-469 [T5]
N-469-1 [T1]
N-470 [T3]
N-474 [T5]
N-474-1 [T5]
N-474-2 [T3]
N-475 [T3]
N-476 [T3]
N-482 [T3]
N-483-2[2]
N-483-3[2]
N-484 [T5]
N-484-1 [T3]
N-492 [T5]
N-492-1 [T3]
N-493 [T1]
N-497 [T5]
N-497-1 [T3]
N-500[3]
N-500-1 [T2]
N-500-2 [T1]
N-501 [T3]
N-502 [T3]
N-505 [T1]
N-507 [T3]
N-510 [T5]
N-510[2]
N-510-1[2]
N-511 [T1]
N-519[2] [T3]
N-520 [T5]
N-520-1 [T1]
N-525 [T1]
N-530[2]
N-539 [T1]
N-540 [T3]
N-548 [T1]
N-549 [T3]
N-550 [T3]
N-551 [T3]
N-558 [T1]
N-559 [T3]
N-564 [T5]
N-564-1 [T5]
N-564-2 [T1]
N-565[2]
N-570 [T1]
N-572 [T1]
N-579 [T1]
N-580 [T5]
N-580-1 [T1]
N-594 [T1]
N-595[2]
N-595-1[2]
N-595-2[2]
N-595-3 [T2]
N-596 [T3]
N-607 [T1]
N-608 [T3]
N-610 [T1]
N-611 [T1]
N-620 [T1]
N-621 [T1]
N-625 [T5]
N-625-1 [T1]
N-626 [T2]
N-631 [T1]
N-632 [T1]
N-635 [T5]
N-635-1 [T1]
N-636 [T1]
N-637 [T1]
N-642 [T1]
N-644 [T5]
N-644-1 [T1]
N-645[2]
N-645-1[2]
N-646 [T1]
N-650 [T1]
N-655 [T2]
N-656 [T2]
N-657 [T1]
N-659[2] [T2]
N-659-1[2]
N-673[2]
N-692 [T1]
N-693[2]
N-698 [T1]
N-703 [T1]
N-710 [T1]
1141-7 [T3]
1332-6 [T5]
1335-9 [T5]
1337-9 [T5]
1337-10 [T5]
1361-2 [T4]
1395-3 [T5]
1407-2 [T5]
1412-4 [T4]
1414-3 [T5]
1414-4 [T5]
1423-2 [T4]
1434-1 [T3]
1461-1 [T3]
1470-2 [T3]
1471-1 [T3]
1475-1 [T3]
1477-1 [T3]
1484-1 [T5]
1484-2 [T5]
1492 [T5]
1494-1 [T3]
1506 [T3]
1508 [T5]
1515 [T3]
1516-1 [T5]
1521-1 [T4]
1528-3 [T4]
1529 [T3]
1531 [T3]
1532 [T3]
1533 [T3]
1535-2 [T3]
1536 [T3]
1540-1 [T5]
1541-1 [T5]
1541-2 [T5]
1552 [T5]
1553 [T5]
1553-1 [T3]
1555 [T5]
1555-1 [T3]
1557-2 [T5]
1567 [T3]
1568 [T3]
1569 [T4]
1573 [T3]
1574 [T3]
1580-1 [T3]
1581 [T3]
1583 [T3]
1587 [T3]
1590 [T3]
1601 [T3]
1602-1 [T3]
1603 [T3]
1605 [T3]
1606 [T5]
1606-1 [T4]
1607 [T5]
1607-1 [T4]
1608-1 [T3]
1613 [T3]
1614 [T3]
1615 [T3]
1616 [T3]
1618 [T5]
1618-1 [T5]
1622 [T3]
1623 [T3]
1625 [T3]
1626 [T5]
1633 [T3]
1634 [T5]
1634-1 [T5]
1635-1 [T4]
1636-1 [T4]
1637 [T3]
1644 [T5]
1644-1 [T5]
1644-2 [T5]
1644-3 [T5]
1644-4 [T5]
1644-5 [T5]
1644-6 [T5]
1645 [T3]
1648 [T3]
1649 [T3]
1650 [T3]
1651 [T3]
1657 [T3]
1659 [T3]
1661 [T3]
1662 [T3]
1664 [T3]
1666 [T3]
1672 [T3]
1675 [T3]
1676 [T3]

1678 [T3]
1682 [T5]
1682-1 [T3]
1683 [T5]
1683-1 [T3]
1684 [T3]
1685 [T3]
1686 [T3]
1689 [T5]
1689-1 [T4]
1690 [T3]
1691 [T3]
1695 [T5]
1701 [T5]
1702 [T5]
1703 [T3]
1706 [T3]
1713 [T3]
1714 [T5]
1718 [T3]
1719 [T3]
1720 [T5]
1720-1 [T5]
1722 [T5]
1728 [T3]
1740 [T3]
1741 [T5]
1741-1 [T3]
1742 [T3]
1743 [T3]
1755 [T5]
1759 [T5]
1760 [T3]
1761 [T5]
1765 [T3]
1766 [T3]
1767 [T3]
1768 [T3]
1769 [T5]
1769-1 [T3]
1773 [T3]
1774 [T5]
1775 [T3]
1777 [T3]
1780 [T5]
1783 [T5]
1783-1 [T4]
1787 [T3]
1798 [T3]
1808 [T3]
1810 [T3]
1819 [T3]