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U.S. NUCLEAR REGULATORY COMMISSION

REGULATORY GUIDE

OFFICE OF STANDARDS DEVELOPMENT

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REGULATORY GUIDE 1.85

MATERIALS CODE CASE ACCEPTABILITY ASME SECTION III DIVISION 1

A. INTRODUCTION

Section 50.55a, "Codes and Standards," of 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," requires, in part, that components of the reactor coolant pressure boundary be designed, fabricated, erected, and tested in accordance with the requirements for Class 1 components of Section III, "Nuclear Power Plant Components,"[1] of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code or equivalent quality standards. Footnote 6 to §50.55a states that the use of specific Code Cases may be authorized by the Commission upon request pursuant to §50.55a(a)(2)(ii), which requires that proposed alternatives to the described requirements or portions thereof provide an acceptable level of quality and safety.

General Design Criterion 1, "Quality Standards and Records," of Appendix A, "General Design Criteria for Nuclear Power Plants," to 10 CFR Part 50 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 the same appendix requires, in part, that components that are part of the reactor coolant pressure boundary be designed, fabricated, erected, and tested to the highest quality standards practical.

Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing 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 lists those Section III ASME Code Cases oriented to materials and testing that are generally acceptable to the NRC staff for implementation in the licensing of light-water-cooled nuclear power plants.

B. DISCUSSION

The Boiler and Pressure Vessel Committee of the ASME publishes a document entitled "Code Cases."[1] Generally, the individual Code Cases that make up this document explain the intent of Code rules or provide for alternative requirements under special circumstances.

Most Code Cases are eventually superseded by revision to the Code and then are annulled by action of the ASME Council. In such cases, the intent of the annulled Code Case becomes part of the revised Code, and therefore continued use of the Code Case intent is sanctioned under the rules of the Code. In other cases, the Code Case is annulled because it is no longer acceptable or there is no further requirement for it. A Code Case that was approved for a particular situation and not for a generic application should be used only for construction of the approved situation because annulment of such a Code Case could result in construction that would not meet Code requirements.

The Code Cases listed in this guide are limited to those cases applicable to Section III that are oriented toward materials and testing.

All published Code Cases in the area of materials and testing that are applicable to Section III of the Code and were in effect on July 10, 1979, were reviewed for inclusion * in this guide. In addition to the listing of acceptable Code Cases, this revision of the guide includes listings of (1) Code

[1] Copies may be obtained from the American Society of Mechanical Engineers, United Engineering Center, 345 East 47th Street, New York, New York 10017.

* Lines indicate substantive changes from Revision 15.

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Regulatory Guides are issued to describe and make available to the public methods acceptable to the NRC staff of implementing specific parts of the Commission's regulations, to delineate techniques used by the staff in evaluating specific problems or postulated accidents, or to provide guidance to applicants. Regulatory Guides are not substitutes for regulations, and compliance with them is not required. Methods and solutions different from those set out in the guides will be acceptable if they provide a basis for the findings requisite to the issuance or continuance of a permit or license by the Commission.

Comments and suggestions for improvements in these guides are encouraged at all times, and guides will be revised, as appropriate, to accommodate comments and to reflect new information or experience. This guide was revised as a result of substantive comments received from the public and additional staff review.

Comments should be sent to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Branch.

The guides are issued in the following ten broad divisions:

1. Power Reactors
2. Research and Test Reactors
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Cases that were identified as acceptable in a prior version of this regulatory guide and that were annulled after the original issuance of this guide (June 1974) and (2) Code Cases that were identified as acceptable in a prior version of this regulatory guide and that were superseded by revised Code Cases after the original issuance of this guide (June 1974). Code Cases that are not listed herein are either not endorsed or will require supplementary provisions on an individual basis to attain endorsement status.

The endorsement of a Code Case by this guide constitutes acceptance of its technical position for applications not precluded by regulatory or other requirements or by the recommendations in this or other regulatory guides. Contingent endorsement is indicated in regulatory position C.1.a for specific cases. However, it is the responsibility of the user to make certain that no regulatory requirements are violated and that there are no conflicts with other recommended limitations resulting from Code Case usage.

Acceptance or endorsement by the NRC staff applies only to those Code Cases or Code Case revisions with the date of "Council Approval" as shown in the regulatory position of this guide. Earlier or later revisions of a Code Case are not endorsed by this guide. New Code Cases will require evaluation by the NRC staff to determine if they qualify for inclusion in the approved list. Because of the continuing change in the status of Code Cases, it is planned that this guide will require periodic updating to accommodate new Code Cases and any revisions of existing Code Cases.

C. REGULATORY POSITION

1. The Section III ASME Code Cases[2] listed below (by number, date of Council approval, and title) are acceptable to the NRC staff for application in the construction of components for light-water-cooled nuclear power plants. Their use is acceptable within the limitations stated in the "Inquiry" and "Reply" sections of each individual Code Case, within the limitations of such NRC or other requirements as may exist, and within the additional limitations recommended by the NRC staff given with the individual Code Cases in the listing. The categorization of Code Cases used in this guide is intended to facilitate the Code Case listing and is not intended to indicate a limitation on its usage.

a. Materials-oriented Code Cases (Code Case number, date of Council approval,[3] and title):

(1) Code Cases involving plate:

1358-5 11-03-75 High Yield Strength Steel, Section III

Code Case 1358-5 is acceptable subject to the following condition in addition to those conditions specified in the Code Case: The information required to be developed by Note 1 in the Code Case should be provided in each referencing Safety Analysis Report.

1414-5 (N-11-5) 08-29-77 High Yield Strength Cr-Mo Steel for Section III, Division 1, Class 1 Vessels

Code Case 1414-5 is acceptable subject to the following condition in addition to those conditions specified in the Code Case: The information required to be developed by Note 1 in the Code Case should be provided in each referencing Safety Analysis Report.

1571 03-03-73 01-08-79 Additional Material for SA-234 Carbon Steel Fittings, Section III

(2) Code Cases involving pipe and tubes:

1474-1 10-29-71 01-08-79 Integrally Finned Tubes for Section III

1484-3 08-13-76 SB-163 Nickel-Chromium-Iron Tubing (Alloy 600 and 690) and Nickel-Iron-Chromium Alloy 800 at a Specified Minimum Yield Strength of 40.0 Ksi Section III, Division 1, Class 1

Code Case 1484-3 is acceptable subject to the following condition in addition to those conditions specified in the Code Case: Alloy 690 is not acceptable on a generic basis.

1527 06-26-72[4] 01-08-79 Integrally Finned Tubes, Section III

1578 06-25-73 01-08-79 SB-167 Nickel-Chromium-Iron (Alloy 600) Pipe or Tube, Section III

1794 01-14-77 Use of Seamless Al-Br, Alloy CDA 614 Pipe, Section III, Division 1, Class 3

N-188-1 05-15-78 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

N-224 11-20-78 Use of ASTM A500 Grade B and ASTM A501 Structural Tubing for Welded Attachments for Section III, Class 2 and 3 Construction

(3) Code Cases involving bars and forgings:

1332-7 01-08-79 Requirements for Steel Forgings, Section III, Division 1

1334-3 04-29-74 01-08-79 Requirements for Corrosion-Resisting Steel Bars and Shapes, Section III

1335-10 (N-3-10) 08-28-78 Requirements for Bolting Materials, Section III

1337-11 (N-4-11) 05-15-78 Special Type 403 Modified Forgings or Bars, Section III, Division 1, Class 1 and CS

[2] A numerical listing of the Code Cases appears in the appendix.

[3] When two dates are given, the earlier date is that on which the Code Case was approved by the ASME Council and the later date is that on which the Code Case was reaffirmed by the ASME Council.

[4] Corrected date.

1395-4 (N-9-4)	01-08-79	SA-508, Class 2 Forgings with Modified Manganese Content, Section III
1498-1	11-06-72 01-08-79	SA-508–Class 2 and 3, Minimum Tempering Temperature, Section III
1542-1	04-29-74 01-08-79	Type 403 Forgings or Bars for Bolting Material, Section III
1605	11-05-73 11-20-78	Cr-Ni-Mo-V Bolting Material for Section III, Class 1 Components
1626-1 (N-65-1)	01-08-79	Normalized and Tempered 1-1/4 Cr Low Alloy Steel Forgings, Section I and Section III
1722-1 (N-107-1)	01-08-79	Vacuum, Carbon Deoxidized SA-508 Forgings Section III, Division 1
1747	03-01-76 01-08-79	Requirements for Martensitic Stainless Steel Forgings with 17% Chromium and 4% Nickel, Section III, Division 1
1772	08-13-76	Use of SA-453 Bolts in Service Below 800°F Without Stress Rupture Tests, Section III, Division 1
1793	01-14-77	Structural Steel Rolled Shapes, Section III, Division 1, Class 2, 3, and MC
N-204	03-20-78	Use of Modified SA-508, Class 3, and SA-541, Class 3 for Section III, Division 1, Class 1, 2 and 3 Construction

(4) Code Cases involving general usage:

1344-5	04-29-74 01-08-79	Nickel-Chromium, Age-Hardenable Alloys, (Alloy X750) Section III
1557-3 (N-37-3)	01-08-79	Steel Products Refined by Secondary Remelting, Section III and VIII, Division 1 and 2
1618-2	03-01-76 01-08-79	Material for Core Support Structures – Section III, Division 1, Subsection NG

Code Case 1618-2 is acceptable subject to the following condition in addition to those conditions specified in the Code Case: 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.

1644-8 (N-71-8)	05-15-78	Additional Materials for Component Supports, Section III, Division 1, Subsection NF, Class 1, 2, 3 and MC Component Supports

Code Case 1644-8 is acceptable subject to the following conditions in addition to those specified in the Code Case: 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.

1714-2 (N-102-2)	08-28-78	Postweld Heat Treatment of P-1 Material, Section III, Class MC
1754	01-14-77	Hard Surfacing by the Spray-Fuse Method, Section III, Class 1, 2 and 3 Construction
1759-1 (N-131-1)	05-15-78	Material for Internal Pressure Retaining Items for Pressure Relief Valves, Section III, Division 1, Class 1, 2, and 3

Code Case 1759-1 is acceptable subject to the following condition in addition to those conditions specified in the Code Case: Applicants using this Case should also use Code Case 1711 for the design of pressure relief valves.

1782	09-10-76	Use of Copper-Nickel Alloy 962 for Castings, Section III, Division 1, Class 3 Construction
1810	03-03-77	Testing Lots of Carbon Steel Solid, Bare Welding Electrode or Wire, Section III, Division 1, Class 1, 2, 3, MC, and CS
1819-1[5] (N-176-1)	03-23-77	Use of Type XM-19 for Construction, Section III, Division 1, Class 1, 2 and 3
N-178	05-25-77	Use of ASTM B271, CDA 954, Alloy 9C for Class 3 Construction, Section III, Division 1
N-181	07-11-77	Steel Castings Refined by the Argon Decarburization Process, Section III, Division 1 Construction
N-183	07-11-77	Use of Modified SA-182 Grade F22 for Section III, Division 1, Class 1, 2 and 3 Construction
N-205	05-15-78	Use of Ductile Iron SA-395 for Section III, Division 1, Class 3 Construction
N-206	03-20-78	Use of ASTM B151-75 Copper-Nickel Alloy 706 Rod and Bar for Section III, Division 1, Class 3 Construction
N-207-1	03-19-79	Use of Modified SA-479 Type XM-19 for Section III, Division 1, Class 1, 2, 3, or CS Construction
N-223	11-30-78	Requirements for Stainless Steel - Precipitation Hardening, Section III, Division 1, Class MC
N-225	11-20-78	Certification and Identification of Material for Component Supports, Section III, Division 1
N-242	04-12-79	Materials Certification, Section III, Division 1, Classes 1, 2, 3, MC, and CS Construction

[5]Case 1819 (N-176) was annulled December 31, 1977. However, it was later reaffirmed to continue providing rules pertaining to external pressure charts.

Code Case N-242 is acceptable subject to the following condition in addition to those conditions specified in the Code Case: 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-245	07-09-79	Use of ASTM B61-76 and B62-76 Copper Alloy Castings for Section III, Division 1, Class 3 Construction
N-246	07-09-79	Use of SB-169, Alloy CA 614, Section III, Division 1, Class 3

b. Testing-oriented Code Cases:

(1) Code Cases involving plates:

1407-3	07-01-74 01-08-79	Time of Examination for Classes 1, 2, and 3 Section III Vessels
N-227	07-09-79	Examination of Repair Welds, Section III, Class 2 and 3 Tanks

(2) Code Case involving bars and forgings:

(Code Cases will be added as needed.)

(3) Code Case involving pipe and tubes:

1755-1	01-14-77	Alternative Rules for Examination of Welds in Piping, Section III, Class 1 and 2 Construction

(4) Code Cases involving general usage:

1698 (N-92)	06-30-75[4] 11-20-78	Waiver of Ultrasonic Transfer Method, Section III, V, and VIII, Division 1

Code Case 1698 is acceptable subject to the following conditions in addition to those specified in the Code Case: 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 or should be shown to have the same sound beam attenuation characteristics 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 B&PV Code, 1977 edition.

1820	03-23-77	Alternative Ultrasonic Examination Technique, Section III, Division 1

2. Code Cases that were endorsed by the NRC in a prior version of this guide and were later annulled by action of the ASME Council should be considered as deleted from the list of acceptable Code Cases as of the date of the ASME Council action that approved the annulment. Such Code Cases that were annulled on or after July 1, 1974, are listed in the following by number, effective dates,[6] and title.[7]

1141-1	08-31-61 07-23-76	Foreign Produced Steel
1345-2 (N-6)	03-09-72 03-01-79	Requirements for Nickel-Molybdenum-Chromium-Iron Alloys, Section III
1412-4	11-03-75 01-01-77	Modified High Yield Strength Steel for Section III, Division 1, Class 1 Vessels

Code Case 1412-4 was acceptable subject to the following condition in addition to those conditions specified in the Code Case: 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.

1423-2	03-09-72 07-01-77	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."

1434-1	03-09-72 01-01-78	Postweld Heat Treatment of SA-487 Class 8N Steel Castings, Section III
1456-2 (N-15)	06-25-73 03-01-79	Substitution of Ultrasonic Examination for Progressive Penetrant or Magnetic Particle Examinations of Partial Penetration and Oblique Nozzle Attachment Welds, Section III
1475-1[8]	03-02-74 07-01-75	Ferritic-Austenitic Stainless Steel Seamless Tubes for Section III, Class 2 and 3 Construction
1515	03-09-72 07-01-77	Ultrasonic Examination of Ring Forgings for Shell Sections, Section III, Class 1 Vessels
1521-1	04-29-74 01-01-78	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."

1528-3	11-03-75 01-01-78	High Strength Steel SA-508, Class 2 and SA-541, Class 2 Forgings, Section III, Class 1 Components

[6]Earlier date–date Code Case was approved by ASME Council; later date–date Code Case was annulled.

[7]Code Cases 1401-1, 1493-1, and 1599, which were listed in the original issue of this guide, were annulled by Council action prior to July 1, 1974.

[8]Code Cases were annulled on date as indicated, but the annulment was first so indicated in Revision 12 of this guide.

Code Case 1528-3 was acceptable subject to the following condition in addition to those conditions specified in the Code Case: The information required to be developed by Note 1 in the Code Case should be provided in each referencing Safety Analysis Report.

1529[8]	06-29-72 07-01-73	Materials for Instrument Line Fittings, Section III
1531	08-14-72 03-21-77	Electrical Penetrations, Special Alloys for Electrical Penetration Seals, Section III
1532	08-14-72 01-01-78	Section III, Class 3 Components Made of 8 Percent and 9 Percent Nickel Steel
1567	03-03-73 01-01-78	Testing Lots of Carbon and Low Alloy Steel Covered Electrodes, Section III
1568	03-03-73 01-01-78	Testing Lots of Flux Cored and Fabricated Carbon and Low Alloy Steel Welding, Electrodes, Section III
1583	06-25-73 03-21-77	Use of 80-40 Carbon Steel Castings, Section III
1587[8]	08-13-73 12-31-75	SA-508 Class 3 Forgings with 0.4/1.0 Ni for Section III and VIII, Division 2 Construction
1590	08-13-73 03-21-77	Chemical Analysis Variations, Section III Construction
1602-1	04-29-74 12-31-74	Use of SB-42 Alloy 122, SB-111 Alloys 122, 715 and 706, SB-171 Alloys 715 and 706 and SB-466 Alloys 706 and 715, Section III, Class 2 and 3 Components
1603	12-17-73 07-01-74	Toughness Tests When Cross-Section Limits Orientation and Location of Specimens
1608-1	12-17-73 03-21-77	Use of ASME SB-265, SB-337, SB-338, SB-348, 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
1612 (N-56)	12-17-73 07-01-78	Use of Type 308 Stainless Steel Rod and Bar for Section III, Class 1, 2, 3, and CS Construction
1613	12-17-73 01-01-78	Use of SA-372 Class IV Forgings, Section III Construction
1615	12-17-73 01-01-78	Use of A587-73, Section III, Class 3 Construction
1616[8]	12-17-73 07-01-75	Ultrasonic Examination of Seamless Austenitic Steel Pipe, Section III, Class 1 Construction
1622[8]	03-02-74 01-01-76	PWHT of Repair Welds in Carbon Steel Castings, Section III, Class 1, 2, and 3
1625	03-02-74 12-31-74	Repair of Section III Class 2 and 3 Tanks
1634-2 (N-68)	08-13-76 07-01-78	Use of SB-359 for Section III, Division 1, Class 3 Construction
1637[9]	04-29-74 01-01-75	Effective Date for Compliance with NA-3700 of Section III
1645[8]	08-12-74 01-01-76	Use of DeLong Diagram for Calculating the Delta Ferrite Content of Welds in Section III, Class 1, 2, and CS Construction
1648	08-12-74 07-01-76	SA-537 Plates for Section III, Class 1, 2, 3, and MC Components
1649[8]	08-12-74 01-01-76	Modified SA 453-GR 660 for Class 1, 2, 3, and CS Construction
1650	08-12-74 12-31-74	Use of SA-414 Grade C for Class 2 and 3 Components, Section III, Division 1
1664	11-04-74 03-21-77	Use of Cr-Ni-Fe-Mo-Cu-Cb, Stabilized Alloy Cb-3 for Section III Class 2 and 3 Construction
1666	11-04-74 07-01-75	Use of SB-12, Alloy 122 for Section III, Class 2 and 3 Construction
1682-1	08-11-75 12-31-75	Alternate Rules for Material Manufacturers and Suppliers, Section III, Subarticle NA-3700
1684[8]	03-03-75 01-01-76	A637 Grade 718 for Bolting Class 1 and 2 Construction
1690[8]	04-28-75 01-01-77	Stock Materials for Section III Construction, Section III, Division 1
1691	04-28-75 01-01-78	Ultrasonic Examination in Lieu of Radiography of Repair Welds for Vessels, Section III, Class 1
1713	08-11-75 12-31-75	Small Material Items, Section III, Division 1, Class 1, 2, 3, CS and MC
1724 (N-108)	11-03-75 07-01-78	Deviation from the Specified Silicon Ranges in ASME Material Specifications Section III, Division 1, and VIII, Division 1 and 2
1728	11-03-75 07-01-77	Steel Structural Shapes and Small Material Products for Component Supports, Section III, Division 1 Construction
1740	12-22-75 07-01-76	Weld Metal Test, Section III, Class 1, 2, 3, MC and CS
1741-1	01-14-77 01-01-78	Interim Rules for the Required Number of Impact Tests for Rolled Shapes, Section III, Division 1, Subsection NF, Component Supports
1742	03-01-76 07-01-76	Use of SB-75 Annealed Copper Alloy 122, Section III, Division 1, Class 2 Construction
1743	03-01-76 07-01-76	Use of SB-98 Cu-SiB Rod CDA651 Section III, Division 1, Class 2 Components
1746 (N-123)	03-01-76 03-01-79	Leak Testing of Seal Welds, Section III, Division 1, Class 1, 2, and 3 Construction
1748 (N-125)	03-01-76 07-01-78	Low Carbon Austenitic Stainless Steel Pipe Welded With Filler Metal, Section III, Division 1, Construction
1760	04-26-76 01-01-78	Maximum Dimensions for Isolated Pores in Welds–Class 1 Components, Section III, Division 1
1766	04-26-76 07-01-77	Testing Requirements for Welding Materials, Class 1, 2, 3, MC and CS Construction, Section III, Division 1

[9]Code Case 1637 has been accepted only on a case-by-case basis.

1767	04-26-76 01-01-77	Examination of Tubular Products Without Filler Metal–Class 1 Construction, Section III, Division 1
1770 (N-139)	08-13-76 01-01-79	Testing of Electroslag Wire and Flux for Class 1, 2, 3, MC, and CS Construction, Section III, Division 1
1773	08-13-76 07-01-77	Use of Other Product Forms of Materials for Valves, Section III, Division 1
1777	08-13-76 07-01-77	Use of SA-106, Grade C in Class MC Construction, Section III, Division 1
1781 (N-147)	09-10-76 07-01-78	Use of Modified SA-487 Grade CA6NM, Section III, Division 1, Class 1, 2, 3, MC or CS
1787	09-10-76 01-01-78	Depth of Weld Repairs for Forgings, Section III, Division 1, Class 1, 2, 3, MC and CS Construction
1795 (N-158)	01-14-77 07-01-78	Examination of Weld Repairs in Forgings, Section III, Division 1, Class 1, 2, 3, MC and CS
1798	01-14-77 01-01-78	Use of ASTM A352-75, Grades LCA and LCC, Section III, Division 1, Class 1, 2, and 3
1819[10]	03-23-77 01-01-78	Use of Type XM-19 for Construction, Section III, Division 1, Class 1, 2, 3
N-180	07-11-77 07-01-78	Examination of Springs for Class 1 Component Standard Supports, Section III, Division 1
N-190	08-29-77 07-01-78	Use of SA-455 for Class 3 Components, Section III, Division 1

3. Code Cases that were endorsed by the NRC in a prior version of this guide and were superseded by revised Code Cases on or after July 1, 1974, should be considered as not endorsed as of the date of the Council action that approved the revised version of the Code Cases. These Code Cases that are no longer endorsed are listed in the following by number, effective dates,[11] and title.[12]

1332-6	03-09-72 01-08-79	Requirements for Steel Forgings, Section III and VIII, Division 2
1335-9	04-29-74 08-28-78	Requirements for Bolting Materials
1337-9	04-29-74 04-28-75	Special Type 403 Modified Forgings or Bars, Section III
1337-10	04-28-75 05-15-78	Special Type 403 Modified Forgings or Bars, Section III
1395-3	11-06-72 01-08-79	SA-508, Class 2 Forgings with Modified Manganese Content, Section III or Section VIII, Division 2
1407-2	06-26-72 07-01-74	Time of Examination for Class 1, 2, and 3, Section III Vessels
1414-3	11-03-75 03-01-76	High Yield Strength Cr-Mo Steel for Section III, Division 1, Class 1 Vessels

Code Case 1414-3 was acceptable subject to the following condition in addition to those conditions specified in the Code Case: The information required to be developed by Note 1 in the Code Case should be provided in each referencing Safety Analysis Report.

1414-4	03-01-76 08-09-77	High Yield Strength Cr-Mo Steel for Section III, Division 1, Class 1 Vessels

Code Case 1414-4 was acceptable subject to the following condition in addition to those conditions specified in the Code Case: The information required to be developed by Note 1 in the Code Case should be provided in each referencing Safety Analysis Report.

1484-1	04-29-74 11-04-74	SB-163 Nickel-Chromium-Iron Tubing (Alloy 600) at a Specified Minimum Yield Strength of 40.0 Ksi, Section III, Class 1
1484-2	11-04-74 08-13-76	SB-163 Nickel-Chromium-Iron Tubing (Alloy 600 and 690) at a Specified Minimum Yield Strength of 40.0 Ksi, Section III, Class 1
1492[13]	10-29-71 03-03-75	Post Weld Heat Treatment Section I, III and VIII, Division 1 and 2
1557-2	12-17-73 01-08-79	Steel Products Refined by Secondary Remelting
1618	03-02-74 03-03-75	Material for Core Support Structures – Section III, Subsection NG

Code Case 1618 was acceptable subject to the following conditions in addition to those specified in the Code Case:

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	03-03-75 03-01-76	Material for Core Support Structures Section III, Subsection NG

Code Case 1618-1 was acceptable subject to the following condition in addition to those specified in the Code Case: 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	03-02-74 01-08-79	Normalized and Tempered 1-1/4 Cr Low Alloy Steel Forgings, Section 1, Section III, and Section VIII, Division 1 and 2

[10] This Code Case was reaffirmed as Case 1819-1. See regulatory position 1.a(4) for the effective dates.

[11] Earlier date–date Code Case was approved by ASME Council; later date–date revision of Code Case was approved by ASME Council.

[12] Code Cases 1334-2, 1337-7, 1344-3, 1484, 1521, and 1542, which were listed in the original issue of this guide, were revised by the ASME prior to July 1, 1974.

[13] Code Case 1492 is no longer listed by ASME as a Section III Code Case and is therefore deleted from the acceptable listing.

1634	07-01-74 08-12-74	Use of SB-359 for Section III, Class 3 Construction
1634-1	08-12-74 08-13-76	Use of SB-359 for Section III, Class 3 Construction
1644	08-12-74 04-28-75	Additional Materials for Component Supports – Section III, Subsection NF, Class 1, 2, 3, and MC Construction

Code Case 1644 was acceptable subject to the following condition in addition to those conditions specified in the Code Case: The maximum measured ultimate tensile strength of the component support material should not exceed 170 Ksi.

1644-1	04-28-75 06-30-75	Additional Materials for Component Supports – Section III, Subsection NF, Class 1, 2, 3, and MC Construction

Code Case 1644-1 was acceptable subject to the following condition in addition to those conditions specified in the Code Case: The maximum measured ultimate tensile strength of the component support material should not exceed 170 Ksi.

1644-2	06-30-75 11-03-75	Additional Materials for Component Supports – Section III, Subsection NF, Class 1, 2, 3 and MC Construction

Code Case 1644-2 was acceptable subject to the following condition in addition to those conditions specified in the Code Case: The maximum measured ultimate tensile strength of the component support material should not exceed 170 Ksi.

1644-3	11-03-75 03-01-76	Additional Materials for Component Supports – Section III, Subsection NF, Class 1, 2, 3 and MC Construction

Code Case 1644-3 was acceptable subject to the following condition in addition to those conditions specified in the Code Case: The maximum measured ultimate tensile strength of the component support material should not exceed 170 Ksi.

1644-4	03-01-76 08-13-76	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

Code Case 1644-4 was acceptable subject to the following conditions in addition to those specified in the Code Case: 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.

1644-5	08-13-76 03-03-77	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

Code Case 1644-5 was acceptable subject to the following conditions in addition to those specified in the Code Case: 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) 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.

1644-6	03-03-77 11-21-77	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

Code Case 1644-6 was acceptable subject to the following conditions in addition to those specified in the Code Case: 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 com-

ponent that contains the material has essentially no residual stresses or assembly stresses, and it does not experience frequent sustained loads in service.

1644-7 (N-71-7)	11-21-77 05-15-78	Additional Materials for Component Supports, Section III, Division 1, Subsection NF, Class 1, 2, 3 and MC Component Supports

Code Case 1644-7 was acceptable subject to the following conditions in addition to those specified in the Code Case: 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	01-29-75 08-11-75	Alternate Rules for Material Manufacturers and Suppliers, Section III, Subarticle NA-3700
1714	08-11-75 07-11-77[4]	Postweld Heat Treatment of P-1 Material, Section III, Class MC
1714-1 (N-102-1)	07-11-77[4] 08-28-78	Postweld Heat Treatment of P-1 Material, Section III, Class MC
1722	11-03-75 01-08-79	Vacuum, Carbon Deoxidized SA-508 Forgings, Section III, Division 1, and VIII, Division 1 and 2
1741	12-22-75 01-14-77	Interim Rules for the Required Number of Impact Tests for Rolled Shapes, Section III, Division 1, Subsection NF, Component Supports
1755	04-26-76 01-14-77	Alternative Rules for Examination of Welds in Piping, Class 1 and 2 Construction, Section III, Division 1
1759	08-13-76 05-15-78	Material for Internal Pressure Retaining Items for Pressure Relief Valves, Section III, Division 1, Class 1, 2, and 3

Code Case 1759 was acceptable subject to the following condition in addition to those conditions specified in the Code Case: Applicants using this Case should also use Code Case 1711 for the design of pressure relief valves.

N-188	08-29-77 05-15-78	Use of Welded Ni-Fe-Cr-Mo-Cu (Alloy 825) and Ni-Cr-Mo-Cb (Alloy 625) Tubing, Section III, Division 1, Class 3
N-207	03-20-78 03-19-79	Use of Modified SA-479 Type XM-19 for Section III, Division 1, Class 1, 2 or 3 Construction

4. Code Cases for Class 1 components that are not on the approved list of this guide (paragraph C.1) or other regulatory guides, or for which authorization by the Commission has not been granted, are not acceptable for Class 1 components.

5. Code Cases for other classes of components that are not on the approved list of this guide (paragraph C.1) or other regulatory guides should be considered not acceptable on a generic basis.

D. IMPLEMENTATION

The purpose of this section is to provide information to applicants regarding the use of this regulatory guide.

1. Except for those Code Cases that have been annulled by action of the ASME Council, the NRC staff has found the Code Cases listed in this regulatory guide under regulatory position C.1 acceptable for appropriate use. Other Code Cases may be considered for use in accordance with footnote 6 of the Codes and Standards rule, § 50.55a of 10 CFR Part 50.

2. Components ordered to a specific version of a Code Case need not be changed because a subsequent revision of the Code Case is listed as the approved version in this guide.

3. Components ordered to a Code Case that was previously approved for use need not be changed because the Code Case has been subsequently annulled.

4. Code Cases on the approved list may be applied to components that were in process of construction prior to the effective date of the Code Case within the limits specified in the Code Case and applicable regulations or recommended in other regulatory guides.

APPENDIX

NUMERICAL LISTING OF CODE CASES*

1332-7	1605	1820
1334-3	1618-2	N-178
1335-10 (N-3-10)	1626-1 (N-65-1)	N-181
1337-11 (N-4-11)	1644-8 (N-71-8)	N-183
1344-5	1698 (N-92)	N-188-1
1358-5	1714-2 (N-102-2)	N-204
1395-4 (N-9-4)	1722-1 (N-107-1)	N-205
1407-3	1747	N-206
1414-5 (N-11-5)	1754	N-207-1
1474-1	1755-1	N-223
1484-3	1759-1 (N-131-1)	N-224
1498-1	1772	N-225
1527	1782	N-227
1542-1	1793	N-242
1557-3 (N-37-3)	1794	N-245
1571	1810	N-246
1578	1819-1 (N-176-1)	

*Code Case 1624 was inadvertently listed in the appendix of Regulatory Guide 1.85, Revision 1.