

U.S. NUCLEAR REGULATORY COMMISSION November 1978 **REGULATORY GUIDE** OFFICE OF STANDARDS DEVELOPMENT

> 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," 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 upon request pursuant to Commission §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 I 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

USNRC REGULATORY GUIDES

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 issuence 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. 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.

Revision 14

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.

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

Comments should he 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

7. Transportation 8. Occupational Health

6. Products

- 3. Fuels and Materials Facilities 8. Occup 4. Environmental and Siting 9. Antitr
- 5. Materials and Plant Protection

9. Antitrust and Financial Review 10. General

Requests for single copies of issued guides (which may be reproduced) or for placement on an automatic distribution list for single copies of future guides in specific divisions should be made in writing to the U.S. Nuclear Regulatory Commission, Washington, D.C. 20565, Attention; Director, Division of Technical Information and Document Control.



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 May 16, 1978, 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 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 Cases² listed below (by number, date of Council approval, and title) are acceptable to the NRC staff for application in the construction of components for 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 list. 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, and title):

(1) Code Cases involving plate:

1358-5 11/3/75 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.

1414-58/29/77High Yield Strength Cr-Mo(N-11-5)Steel for Section III, Division
1, Class I Vessels.

Code Case 1414-5 is acceptable subject to the following conditions 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 3/3/73 Additional Material for SA-234 Carbon Steel Fittings, Section III

(2) Code Cases involving pipe and tubes:

- 1474-1 10/29/71 Integrally Finned Tubes for Section III
- 1484-3 8/13/76 SB-153 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	6/6/72	Integrally Finned Tubes, Sec-
		tion III
1578	6/25/73	SB-167 Nickel-Chromium-Iron
		(Alloy 600) Pipe or Tube,
		Section III
1748	3/1/76	Low Carbon Austenitic Stain-
		less Steel Pipe Welded With
		Filler Metal, Section III, Divi-
		sion I, Construction
1794	1/14/77	Use of Seamless Al-Br, Alloy
		CDA 614 Pipe, Section III,
		Division 1, Class 3
N-188-1	5/15/78	Use of Welded Ni-Fe-Cr-
		Mo-Cu (Alloy 825) and Ni-
		Cr Ma Ch (Allow 625) Tubing

Mo-Cu (Alloy 825) and Ni-Cr-Mo-Cb (Alloy 625) Tubing, Section III, Division 1, Class 2 and 3



^{*} Lines indicate substantive changes from previous issue.

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

(3) Code Cases involving bars and forgings:.

	1332-6	3/9/72	Requirements for Steel Forg- ings, Section III and VIII, Di-
	1334-3	4/29/74	Requirements for Corrosion- Resisting Steel Bars and
	1335-9	4/29/74	Shapes, Section III Requirements for Bolting Ma-
	1337-11 (N-4-11)	5/15/78	Special Type 403 Modified Forgings or Bars, Section III,
l	1395-3	11/6/72	SA-508, Class 2 Forgings with Modified Manganese Content, Section III or Section VIII, Division 2
	1498-1	11/6/72	SA-508—Class 2 and 3, Minimum Tempering Temper-
	1542-1	4/29/74	Type 403 Forgings or Bars for Bolting Material Section III
	1605	11/5/73	Cr-Ni Mo-V Bolting Material for Section III, Class 1 Com-
	1612	12/17/73	Use of Type 308 Stainless Steel Rod and Bar for Section III, Class 1.2.3, and CS Con-
·	1626	3/2/74	struction Normalized and Tempered 1-1/4 Cr Low Alloy Steel Forgings, Section I, Section
	1722	11/3/75	1 and 2 Vacuum, Carbon Deoxidized SA-508 Forgings Section III, Division 1, and VIII, Division
	1724	11/3/75	1 and 2 Deviation from the Specified Silicon Ranges in ASME Ma- terial Specifications, Section III, Division 1, and VIII, Di-
	1747	3/1/76	vision 1 and 2 Requirements for Martensitic Stainless Steel Forgings with 13% Chromium and 4% Nic-
	1772	8/13/76	Use of SA-453 Bolts in Serv- ice Below 800°F Without Stress Rupture Tests, Section
	1793	1/14/77	Structural Steel Rolled Shapes, Section III, Division 1, Class 2, 3, and MC
	N-204	3/20/78	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	4/29/74	Nickel-Chromium, Age-Hard-

		Section III
1345-2	3/9/72	Requirements for Nickel- Molybdenum-Chromium-Iron
1557-2	12/17/73	Alloys, Section III Steel Products Refined by Secondary Remelting
1618-2	3/1/76	Material for Core Support Structures—Section III, Divi- sion 1, Subsection NG

Allow

Code Case 1618-2 is acceptable subject to the following condition in addition to those conditions specified in the Code Case: Welding of agehardenable alloy SA-453 Grade 660 and SA-637 Grade 688 should be performed when the material is in the solution-treated condition.

1644-8 5/15/78 (N-71-8)

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Additional Materials for Component Supports, Section III, Division 1, Subsection NF, Class 1, 2, 3 and MC Component Supports

(Allow ¥750)

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.

1714-1	6/11/77	Postweld Heat Treatment of
(N-102-1)		P-1 Material, Section III,
		Class MC
1754	1/14/77	Hard Surfacing by the Spray-
		Fuse Method, Section III,
		Class 1, 2 and 3 Construction
1759-1	5/15/78	Material for Internal Pressure
(N-131-1)		Retaining Items for Pressure
		Relief Valves, Section III, Di-
		vision 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.

1.85-3

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	1781	9/10/76	Use of Modified SA-487 Grade CA6NM, Section 111, Division 1, Class 1, 2, 3, MC or CS		
	1782	9/10/76	Use of Copper-Nickel Alloy 962 for Castings, Section III, Division 1, Class 3 Construc- tion	1795	I
	1810	3/3/77	Testing Lots of Carbon Steel Solid, Bare Welding Electrode or Wire, Section III, Division 1, Class 1, 2, 3, MC, and CS	(3 1634-2) C 8
	1819-1 ³ (N-176-1)	3/23/77	Use of Type XM-19 for Con- struction, Section III, Division 1, Class 1, 2 and 3	1755-1	1
	N-178	5/25/77	Use of ASTM B271, CDA 954, Alloy 9C for Class 3 Construc- tion, Section III, Division 1		
	N-181	7/11/77	Steel Castings Refined by the Argon Decarburization Proc- ess, Section III, Division 1 Construction	(4 1698 (N-92)) C(6
	N-183	7/11/77	Use of Modified SA-182 Grade F22 for Section III, Di- vision 1, Class 1, 2 and 3 Con- struction	Cod follo in tl basi	e (owin he (c ca
	N-190	8/29/77	Use of SA-455 for Class 3 Components, Section III, Di- vision 1	the as the to h to h	sam ie n ave tics
	N-205	5/15/78	Use of Ductile Iron SA-395 for Section III, Division 1, Class 3 Construction	equi fabri sign	vale icati al h
	N-206	3/20/78	Use of ASTM B151-75 Copper-Nickel Alloy 706 Rod and Bar for Section III, Division 1, Class 3 Construction	tion follo 535. Code	n a blo wir l(d e, 1
	N-207	3/20/78	Use of Modified SA-479 Type XM-19 for Section III, Division 1, Class 1, 2 or 3 Construction	1746	
	b. Tes number, da	sting-orien ate of Cour	ited Code Cases (Code Case incil approval, and title):	1770	8
	(1) 1407-3	Code Cases 7/1/74	s involving plates: Time of Examination for Classes 1, 2, and 3 Section III	1820	3

		Vessels
1456-2	6/25/73	Substitution of Ultrasonic Examination for Progressive Penetrant or Magnetic Particle

³Case 1819 (N-176) was annulled December 31, 1977. It is being reaffirmed to continue providing rules pertaining to external pressure charts.

Examinations of Partial Penetration and Oblique Nozzle Attachment Welds, Section III

(2) Code Case involving bars and forgings:

1795 1/14/77 Examination of Weld Repairs in Forgings, Section III, Division 1, Class 1, 2, 3, MC and CS

(3) Code Cases involving pipe and tubes:

- 1634-2 8/13/76 Use of SB-359 for Section III, Division 1, Class 3 Construction
- 1755-1 1/14/77 Alternative Rules for Examination of Welds in Piping, Section III, Class 1 and 2 Construction

(4) Code Cases involving general usage:

1698	6/20/75	Waiver of Ultrasonic	Transfer
(N-92)		Method, Section III,	V, and
		VIII. Division 1	

Case 1698 is acceptable subject to the ng conditions in addition to those specified Code Case: The material from which the alibration block is fabricated should be of e product form, alloy, and heat treatment naterial being examined or should be shown the same sound beam attenuation characas the material being examined. Alloys of ent P-number grouping may be used for the ion of calibration blocks if adjustments to eight can be made to compensate for sound ttenuation difference between the calibrack and the material under examination by ig the transfer method procedure of T-), Article 5, Section V, ASME B&PV 977 edition.

- 1746 3/1/76 Leak Testing of Seal Welds, Section III, Division 1, Class 1, 2, and 3 Construction
 - 70 8/13/76 Testing of Electroslag Wire and Flux for Class 1, 2, 3, MC and CS Construction, Section III, Division 1
 - 20 3/23/77 Alternative Ultrasonic Examination Technique, Section III, Division 1
- N-180 7/11/77 Examination of Springs for Class 1 Component Standard Supports, 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,⁴ and title.⁵

- 1141-1 8/31/61 Foreign Produced Steel 7/23/76
- 1412-4
- 11/3/75Modified High Yield Strength1/1/77Steel for Section III, Division1, 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.

1423-23/9/72Wrought Type 304 and 3167/1/77with Nitrogen Added, Sections1, 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	3/9/72 1/1/78	Postweld Heat Treatment of SA-487 Class 8N Steel Cast- ings, Section III
1475-16	3/2/74 7/1/75	Ferritic-Austenitic Stainless Steel Seamless Tubes for Sec- tion III, Class 2 and 3 Con- struction
1515	3/9/72 7/1/77	Ultrasonic Examination of Ring Forgings for Shell Sec- tions, Section III, Class I Ves- sels
1521-1	4/29/74 1/1/78	Use of H-Grades of SA-240, SA-479, SA-336, and SA-358, Section III
Code	Case 152	21-1 was acceptable subject to

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."

⁴Earlier date—date Code Case approved by ASME Council; later date—date Code Case was annulled. 1528-3 11/3/75 High Strength Steel SA 508, 1/1/78 Class 2 and SA 541, Class 2 Forgings, Section III, Class 1 Components

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 *	6/29/72 7/1/73	Materials for Instrument Line Fittings, Section III
1531	8/14/72 3/21/77	Electrical Penetrations, Special Alloys for Electrical Penetra- tion Seals, Section III
1532	8/14/72 1/1/78	Section III, Class 3 Compo- nents Made of 8 Percent and 9 Percent Nickel Steel
1507	3/3/73 1/1/78	Testing Lots of Carbon and Low Alloy Steel Covered Elec- trodes, Section III
1568	3/3/73 1/1/78	Testing Lots of Flux Cored and Fabricated Carbon and Low Alloy Steel Welding, Elec- trodes, Section III
1583	6/25/73 3/21/77	Use of 80-40 Carbon Steel Castings, Section III
1587 °	8/13/73 12/31/75	SA-508 Class 3 Forgings with 0.4/1.0 Ni for Section III and VIII, Division 2 Construction
1590	8/13/73 3/21/77	Chemical Analysis Variations, Section III Construction
1602-1	4/29/74 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 7/1/74	Toughness Tests When Cross-Section Limits Orienta- tion and Location of Speci- mens
1608-1	12/17/73 3/21/77	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 Weld- ing Fittings, Section III Class 2 and 3 Components
1613	12/17/73 1/1/78	Use of SA-372 Class IV Forg- ings, Section III Construction

⁶Code Cases were annulled on date as indicated, but the annulment was first so indicated in Revision 12 of this guide.

1.85-5



⁵Code 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.

	1615	12/17/73	Use of A587-73, Section III,
	10166		Class 5 Construction
	1010.	12/17/13	Citrasonic Examination of
·		11115	Seamless Austennic Steel
	* *	· ·	Pipe, Section III, Class I Con-
	16226	2/1/74	Struction DWITE of Densir Wolds in
	10220	314114	PWHI Of Repair Welus in
	••	1/1//0	Carbon Steel Castings, Section
	1626	2/2/24	III, Class 1, 2, and 5
	1625	3/2/74	Repair of Section III Class-2
	16277	12/31/74	and 5 ranks Effective Data for Compliance
	1037	4/29/14.	with NA 3700 of Section III
	16466	0/17/73	the of Dat and Diagram for
	1045 °	0/12/74	Calculating the Delta Ferrite
		1/1//0	Contrast of Welds in Section
			III Case I 2 and CS Con-
			struction
	1648	8/12/7.1	SA-537 Plates for Section III
	1040	7/1/76	Class 1 2 3 and MC Compos
		1711110	nonts
	16406	8/12/74	Modified SA 453-GR 660 for
	1043	1/1/76	Class 1 2 3 and CS Con-
		1/1//0	struction
	1650	8/17/74	lise of SA-414 Grade C for
	1050	12/31/74	Class 2 and 3 Components.
			Section III. Division 1
	1664	11/4/74	Use of Cr-Ni-Fe-Mo-Cu-Cb.
		3/21/77	Stabilized Alloy Cb-3 for Sec-
			tion III Class 2 and 3 Con-
			struction
	1666	11/4/74	Use of SB-12, Alloy 122 for
	1000	7/1/75	Section III, Class 2 and 3 Con-
			struction
	1682-1	8/11/75	Alternate Rules for Material
		12/31/75	Manufacturers and Suppliers,
			Section III, Subarticle NA-
			3700
	1684 6	3/3/75	A637 Grade 718 for Bolting
		1/1/76	Class 1 and 2 Construction
	1690 °	4/28/75	Stock Materials for Section III
•		1/1/77	Construction, Section III, Di-
			vision 1
	1691	4/28/75	Ultrasonic Examination in
		1/1/78	Lieu of Radiography of Repair
		•••••	Welds for Vessels, Section III.
			Class 1
	1713	8/11/75	Small Material Items Section
	1115	12/31/75	111 Division 1 Class 1 2 3
			CS and MC
	1728	11/3/75	Steel Structural Shanes and
		7/1/77	Small Material Products for
			Component Supports. Section
			III. Division 1 Construction
	1740	12/22/75	Weld Metal Test. Section III.
		7/1/76	Class 1, 2, 3, MC and CS
	the second s		

1741-1	1/14/7 <u>7</u> 1/1/78	Interim Rules for the Required Number of Impact Tests for Rolled Shapes, Section III, Division 1, Subsection NF, Component Supports
1742	3/1/76 7/1/76	Use of SB-75 Annealed Cop- per Alloy 122, Section III, Di- vision 1, Class 2 Construction
1743	3/1/76 7/1/76	Use of SB-98 Cu-SiB Rod CDA651 Section III, Division 1, Class 2 Components
1760	4/26/76 1/1/78	Maximum Dimensions for Iso- lated Pores in Welds—Class 1 Components, Section 111, Division 1
1766	4/26/76 7/1/77	Testing Requirements for Welding Materials, Class 1, 2, 3, MC and CS Construction, Section III, Division 1
1767	4/26/76 1/1/77	Examination of Tubular Pro- ducts Without Filler Metal— Class 1 Construction, Section III, Division 1
1773	8/13/76 7/1/77	Use of Other Product Forms of Materials for Valves, Section III, Division 1
1777	8/13/76 7/1/77	Use of SA-106, Grade C in Class MC Construction, Sec- tion III, Division 1
1787	9/10/76 1/1/78	Depth of Weld Repairs for Forgings, Section III, Division 1, Class 1, 2, 3, MC and CS Construction
1798	1/14/77 1/1/78	Use of ASTM A352-75, Grades LCA and LCC, Section III, Division 1, Class 1, 2, and 3
1819	3/23/77 1/1/78	Use of Type XM-19 for Con- struction, Section III, Division 1, Class 1, 2, 3

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,⁸ and title.⁹

1337-9	4/29/74	Special Type 403 Modified
	4/28/75	Forgings or Bars Section III
1337-10	4/28/75	Special Type 403 Modified
	5/15/70	Forgings of bars, section in

*Earlier date—date Code Case approved by ASME Council; later date—date revision of Code Case was approved by ASME Council.

*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 I, 1974.

⁷Code Case 1637 has been accepted only on a case-by-case basis.

1407-2 6/26/72 7/1/74

Vessels 11/3/75 High Yield Strength Cr-Mo 3/1/76 Steel for Section III, Division 1, Class 1 Vessels

Time of Examination for Class

1, 2, and 3, Section III

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

1414-3

3/1/76 High Yield Strength Cr-Mo 8/9/77 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	4/29/74	SB-163 Nickel-Chromium-Iron
	11/4/74	Tubing (Alloy 600) at a Speci-
		fied Minimum Yield Strength
		of 40.0 Ksi, Section III, Class
		i
1484-2	11/4/74	SB-163 Nickel-Chromium-Iron
	8/13/76	Tubing (Alloy 600 and 690) at
		a Specified Minimum Yield
		Strength of 40.0 Ksi, Section
		III, Class 1
149210	10/29/71	Post Weld Heat Treatment Sec-
	3/3/75	tion I, III and VIII, Division 1
		and 2
1618	3/2/74	Material for Core Support
	3/3/75	Structures - Section III, Sub-
	5,5,15	section NG
1618	3/2/74 3/3/75	Material for Core Support Structures — Section III, Sub- section 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 3/3/75 Material for Core Support 3/1/76 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.

¹⁰Code Case 1492 is no longer listed by ASME as a Section III Code Case and is therefore deleted from the acceptable listing.

1634	7/1/74	Use of SB-359 for Section III.
	8/12/74	Class 3 Construction
1634-1	8/12/74	Use of SB-359 for Section III,
	8/13/76	Class 3 Construction
1644	8/12/74	Additional Materials for Com-
	4/28/75	ponent SupportsSection 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 4/28/75 Additional Materials for Com-6/30/75 ponent 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 6/30/75 Additional Materials for Com-11/3/75 ponent 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 11/3/75 3/1/76 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 3/1/76 8/13/76 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 mate-

1.85-7

rials 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 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

8/13/76 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 1644-5 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

 3/3/77 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 veiw 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 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.

1644-7 11/21/77 (N-71-7) 5/15/78 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	1/29/75	Alternate Rules for Material	
	8/11/75	Manufacturers and Suppliers,	
		Section III, Subarticle NA-	
		3700	
1714	8/11/75	Postweld Heat Treatment of	
	6/11/77	P-1 Material, Section 111,	
		Class MC	
1741	12/22/75	Interim Rules for the Required	
	1/14/77	Number of Impact Tests for	
		Rolled Shapes, Section III,	
		Division 1, Subsection NF,	
		Component Supports	
1755	4/26/76	Alternative Rules for Examina-	
	1/14/77	tion of Welds in Piping, Class	
		1 and 2 Construction, Section	
		III, Division 1	

1759 8/13/76 5/15/78

76 Material for Internal Pressure
78 Retaining Items for Pressure
Relief Valves, Section III, Di vision 1, Class 1, 2, and 3

Lede 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 8/29/77 Use of Welded Ni-Fe-Cr-5/15/78 Mo-Cu (Alloy 825) and Ni-Cr-Mo-Cb (Alloy 625) Tubing, Section III, Division 1, Class 3

4. Code Cases for Class 1 components that are not on the approved list of this guide (paragraph \gtrsim 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 will authorize appropriate use of the Code Cases listed in this guide under regulatory position C.1 upon specific request by the applicant in accordance with footnote 6 to §50.55a of the Codes and Standards rule.

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 apprend 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+

1332-6 1334-3 1335-9 1337-11 (N-4-11) 1344-5 1345-2 1358-5 1395-3 1407-3 1414 5(N-11-5) 1456-2 1474-1 1484-3 1498-1	1527 1542-1 1557-2 1571 1578 1605 1612 1618-2 1626 1634-2 1644-8 (N-71-8) 1698 (N-92) 1714-1(N-102-1) 1722	1724 1746 1747 1748 1754 1755-1 1759-1 (N-131-1) 1770 1772 1781 1782 1783 1794	1810 1819-1 (N-176-1) 1820 N-178 N-180 N-181 N-183 N-188-1 N-190 N-204 N-205 N-206 N-207
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*Code Case 1624 was inadvertently listed in the appendix of Regulatory Guide 1.85, Revision 1.