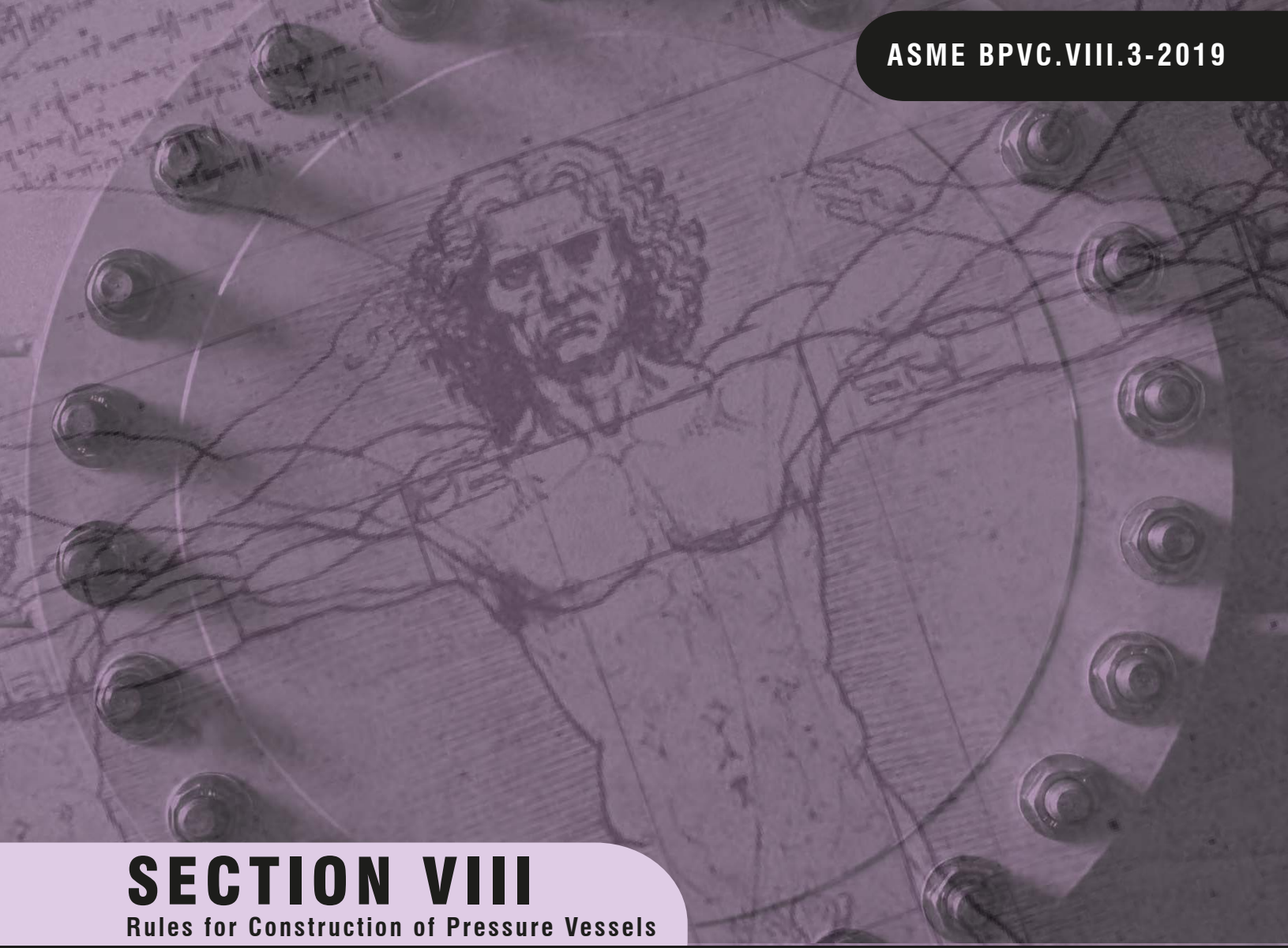
ASME BPVC.VIII.3-2019

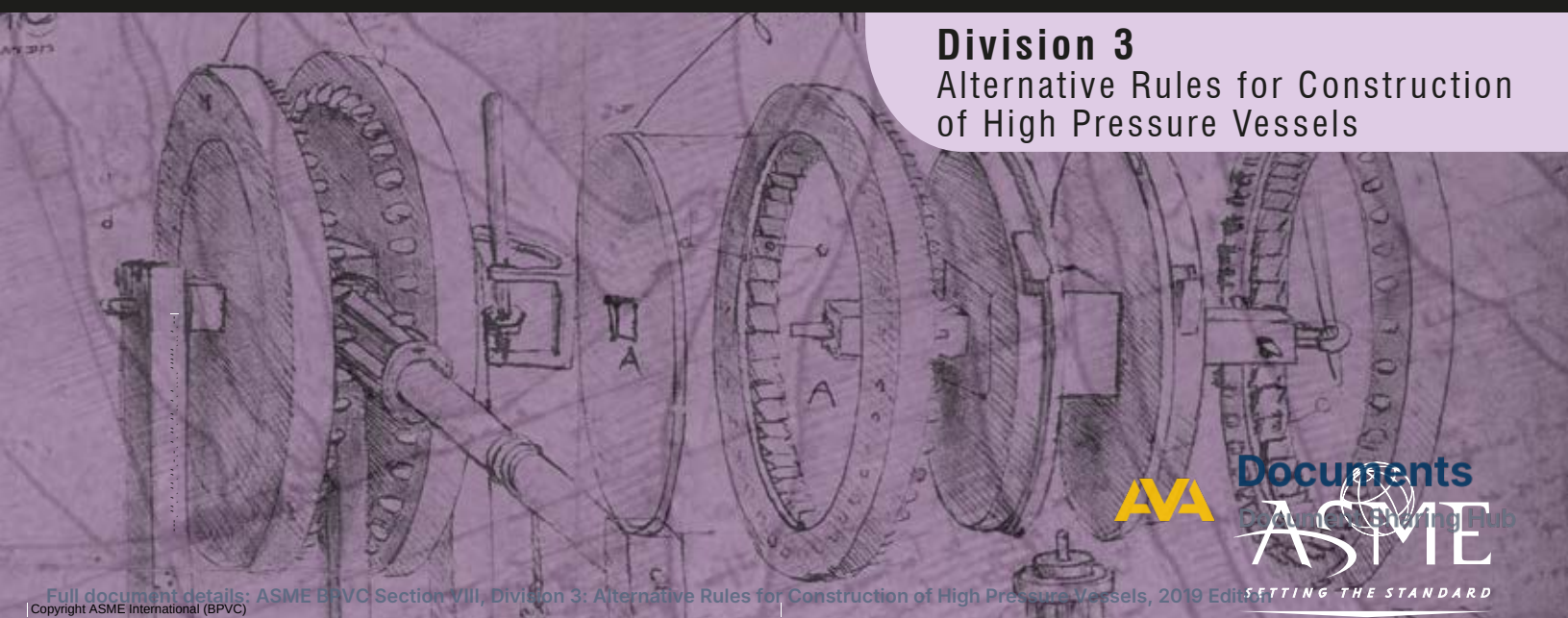


SECTION VIII

Rules for Construction of Pressure Vessels

2019 ASME Boiler and Pressure Vessel Code

An International Code



Division 3

Alternative Rules for Construction of High Pressure Vessels

Documents
Document Buying Hub
SETTING THE STANDARD
Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

Markings such as “ASME,” “ASME Standard,” or any other marking including “ASME,” ASME logos, or the ASME Single Certification Mark shall not be used on any item that is not constructed in accordance with all of the applicable requirements of the Code or Standard. Use of ASME’s name or logos or of the ASME Single Certification Mark requires formal ASME certification; if no certification program is available, such ASME markings may not be used. (For Certification and Accreditation Programs, see https://www.asme.org/shop/certification-accreditation.)

Items produced by parties not formally possessing an ASME Certificate may not be described, either explicitly or implicitly, as ASME certified or approved in any code forms or other document.

Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

AN INTERNATIONAL CODE

2019 ASME Boiler & Pressure Vessel Code

2019 Edition July 1, 2019

VIII

RULES FOR CONSTRUCTION OF PRESSURE VESSELS

Division 3

Alternative Rules for Construction of High Pressure Vessels

ASME Boiler and Pressure Vessel Committee
on Pressure Vessels



The American Society of Mechanical Engineers

Two Park Avenue • New York, NY • 10016 USA

Documents
Document Sharing Hub

--`,```,,,,,````,,`,`,,`,,`,`,,`-`-`,,`,,`,`,,`---

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition

Copyright ASME International (BPVC)

Date of Issuance: July 1, 2019

This international code or standard was developed under procedures accredited as meeting the criteria for American National Standards and it is an American National Standard. The Standards Committee that approved the code or standard was balanced to assure that individuals from competent and concerned interests have had an opportunity to participate. The proposed code or standard was made available for public review and comment that provides an opportunity for additional public input from industry, academia, regulatory agencies, and the public-at-large.

ASME does not “approve," "certify," “rate,” or “endorse” any item, construction, proprietary device, or activity.

ASME does not take any position with respect to the validity of any patent rights asserted in connection with any items mentioned in this document, and does not undertake to insure anyone utilizing a standard against liability for infringement of any applicable letters patent, nor assume any such liability. Users of a code or standard are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, is entirely their own responsibility.

Participation by federal agency representative(s) or person(s) affiliated with industry is not to be interpreted as government or industry endorsement of this code or standard.

ASME accepts responsibility for only those interpretations of this document issued in accordance with the established ASME procedures and policies, which precludes the issuance of interpretations by individuals.

The endnotes and preamble in this document (if any) are part of this American National Standard.

ASME Collective Membership Mark

ASME Single Certification Mark

"ASME" and the above ASME symbols are registered trademarks of The American Society of Mechanical Engineers.

No part of this document may be reproduced in any form, in an electronic retrieval system or otherwise, without the prior written permission of the publisher.

Library of Congress Catalog Card Number: 56-3934
Printed in the United States of America

Adopted by the Council of The American Society of Mechanical Engineers, 1914; latest edition 2019.

The American Society of Mechanical Engineers
Two Park Avenue, New York, NY 10016-5990

Copyright © 2019 by
THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS
All rights reserved

Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

TABLE OF CONTENTS

List of Sections xvi
Foreword xviii
Statement of Policy on the Use of the ASME Single Certification Mark and Code Authorization in Advertising xx
Statement of Policy on the Use of ASME Marking to Identify Manufactured Items xx
Submittal of Technical Inquiries to the Boiler and Pressure Vessel Standards Committees xxi
Personnel xxiv
Summary of Changes xlvi
List of Changes in Record Number Order lii
Cross-Referencing and Stylistic Changes in the Boiler and Pressure Vessel Code lv

Part KG **General Requirements** 1

Article KG-1 **Scope and Jurisdiction** 1
KG-100 Scope 1
KG-110 Geometric Scope of This Division 1
KG-120 Classifications Outside the Scope of This Division 2
KG-130 Assembly and Testing of Vessels at Field or Intermediate Sites 2
KG-140 Standards Referenced by This Division 3
KG-150 Units of Measurement 3
KG-160 Tolerances 4

Article KG-2 **Organization of This Division** 6
KG-200 Organization 6

Article KG-3 **Responsibilities and Duties** 7
KG-300 General 7
KG-310 User's Responsibility 7
KG-320 Manufacturer's Responsibility 10
KG-330 Designer 12

Article KG-4 **General Rules for Inspection** 13
KG-400 General Requirements for Inspection and Examination 13
KG-410 Manufacturer's Responsibilities 13
KG-420 Certification of Subcontracted Services 14
KG-430 The Inspector 14
KG-440 Inspector's Duties 14

Article KG-5 **Additional General Requirements for Composite Reinforced Pressure Vessels (CRPV)** 16
KG-500 General Requirements 16
KG-510 Scope 16
KG-520 Supplemental General Requirements for CRPV 17

Article KG-6 **Additional General Requirements for Impulsively Loaded Vessels** 18
KG-600 General Requirements 18
KG-610 Scope 18

Part KM **Material Requirements** 19

Article KM-1 **General Requirements** 19
KM-100 Materials Permitted 19

AVA Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

Article KM-2	**Mechanical Property Test Requirements for Metals**	23
KM-200	General Requirements	23
KM-210	Procedure for Obtaining Test Specimens and Coupons	23
KM-220	Procedure for Heat Treating Separate Test Specimens	25
KM-230	Mechanical Testing Requirements	25
KM-240	Heat Treatment Certification/Verification Tests for Fabricated Components	28
KM-250	Supplementary Toughness Requirements for Pressure-Retaining Component Materials	29
KM-260	Retests	30
KM-270	Notch Tensile Testing Procedure and Acceptance Criterion	30
Article KM-3	**Supplementary Requirements for Bolting**	31
KM-300	Requirements for All Bolting Materials	31
Article KM-4	**Material Design Data**	32
KM-400	Contents of Tables of Material Design Data	32
Article KM-5	**Requirements for Laminate Materials**	55
Article KM-6	**Analytical Material Models**	56
KM-600	Scope	56
KM-610	Ideally Elastic–Plastic (Non-Strain Hardening) Material Model	56
KM-620	Elastic–Plastic Stress–Strain Curve Model	56
KM-630	Cyclic Stress–Strain Curve	57
Article KM-7	**Rules for Covers on Impulsively Loaded Vessels**	62
KM-700	General	62
Part KD	**Design Requirements**	63
Article KD-1	**General**	63
KD-100	Scope	63
KD-110	Loadings	63
KD-120	Design Basis	64
KD-130	Design Criteria	65
KD-140	Fatigue Evaluation	65
Article KD-2	**Basic Design Requirements**	66
KD-200	Scope	66
KD-210	Terms Relating to Stress Analysis	66
KD-220	Equations for Cylindrical and Spherical Shells	68
KD-230	Elastic–Plastic Analysis	70
Article KD-3	**Fatigue Evaluation**	78
KD-300	Scope	78
KD-310	Stress Analysis for Fatigue Evaluation	78
KD-320	Calculated Number of Design Cycles	81
KD-330	Calculated Cumulative Effect Number of Design Cycles	83
KD-340	Fatigue Assessment of Welds — Elastic Analysis and Structural Stress	84
KD-350	Histogram Development and Cycle Counting for Fatigue Analysis	87
KD-360	Cyclic Stress–Strain Curve	89
KD-370	Welded Joint Design Fatigue Curves	89
Article KD-4	**Fracture Mechanics Evaluation**	113
KD-400	Scope	113
KD-410	Crack Size Criteria	113
KD-420	Stress Intensity Factor K_I Calculation	114
KD-430	Calculation of Crack Growth Rates	114
KD-440	Calculated Number of Design Cycles	115

AVA Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

Article KD-5	**Design Using Autofrettage**	116
KD-500	Scope	116
KD-510	Limits on Autofrettage Pressure	117
KD-520	Calculation of Residual Stresses	117
KD-530	Design Calculations	119
Article KD-6	**Design Requirements for Closures, Integral Heads, Threaded Fasteners, and Seals**	120
KD-600	Scope	120
KD-620	Threaded Fasteners and Components	120
KD-630	Load-Carrying Shell With Single Threaded End Closures	121
KD-640	Integral Heads	122
KD-650	Quick-Actuating Closures	122
KD-660	Requirements for Closures and Seals	123
Article KD-7	**Design Requirements for Attachments, Supports, and External Heating and Cooling Jackets**	124
KD-700	General Requirements	124
KD-710	Materials for Attachments	124
KD-720	Welds Attaching Nonpressure Parts to Pressure Parts	124
KD-730	Design of Attachments	126
KD-740	Design of Supports	126
KD-750	Jacketed Vessels	126
Article KD-8	**Special Design Requirements for Layered Vessels**	127
KD-800	General	127
KD-810	Rules for Shrink-Fit Layered Vessels	128
KD-820	Rules for Concentrically Wrapped and Welded Layered Vessels	129
KD-830	Design of Welded Joints	131
KD-840	Openings and Their Reinforcement	131
KD-850	Supports	131
Article KD-9	**Special Design Requirements for Wire-Wound Vessels and Wire-Wound Frames**	138
KD-900	Scope	138
KD-910	Stress Analysis	138
KD-920	Stress Limits	140
KD-930	Fatigue Evaluation	140
Article KD-10	**Special Requirements for Vessels in Hydrogen Service**	143
KD-1000	Scope	143
KD-1010	Fatigue Life Evaluation Using Fracture Mechanics	144
KD-1020	Fracture Mechanics Properties	144
KD-1030	Fatigue Life Calculation	145
KD-1040	Test Method for K_{IH} Determination	145
KD-1050	Fatigue Crack Growth Rate Tests	146
Article KD-11	**Design Requirements for Welded Vessels**	148
KD-1100	Scope	148
KD-1110	Types of Joints Permitted	148
KD-1120	Transition Joints Between Sections of Unequal Thickness	148
KD-1130	Nozzle Attachments	149
Article KD-12	**Experimental Design Verification**	154
KD-1200	General Requirements	154
KD-1210	Types of Tests	154
KD-1220	Strain Measurement Test Procedure	154
KD-1230	Photoelastic Test Procedure	155
KD-1240	Test Procedures	155

AVA Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

KD-1250	Interpretation of Results	155
KD-1260	Experimental Determination of Allowable Number of Operating Cycles	156
KD-1270	Determination of Fatigue Strength Reduction Factors	160
Article KD-13	**Additional Design Requirements for Composite Reinforced Pressure Vessels (CRPV)**	161
KD-1300	Scope	161
KD-1310	General	161
Part KF	**Fabrication Requirements**	163
Article KF-1	**General Fabrication Requirements**	163
KF-100	General	163
KF-110	Material	163
KF-120	Material Forming	164
KF-130	Tolerances for Cylindrical and Spherical Shells and Heads	165
Article KF-2	**Supplemental Welding Fabrication Requirements**	166
KF-200	General Requirements for All Welds	166
KF-210	Welding Qualifications and Records	166
KF-220	Weld Joints Permitted and Their Examination	167
KF-230	Requirements During Welding	168
KF-240	Repair of Weld Defects	170
Article KF-3	**Fabrication Requirements for Materials With Protective Linings**	171
KF-300	Scope	171
KF-310	Qualification of Welding Procedures	171
KF-320	Integrally Clad Materials	172
KF-330	Postweld Heat Treatment of Linings	172
KF-340	Examination Requirements	172
KF-350	Inspection and Tests	172
KF-360	Stamping and Reports	173
Article KF-4	**Heat Treatment of Weldments**	174
KF-400	Heat Treatment of Weldments	174
KF-410	Heating Procedures for Postweld Heat Treatment	177
KF-420	Postweld Heat Treatment After Repairs	178
Article KF-5	**Additional Fabrication Requirements for Autofrettaged Vessels**	179
KF-500	General	179
KF-510	Examination and Repair	179
KF-520	Autofrettage Procedures	179
KF-530	Examination After Autofrettage	179
KF-540	Repair of Defects After Autofrettage	179
KF-550	Stamping and Reports	179
Article KF-6	**Additional Fabrication Requirements for Quenched and Tempered Steels**	180
KF-600	General	180
KF-610	Welding Requirements	180
KF-620	Temporary Welds Where Not Prohibited	181
KF-630	Postweld Heat Treatment	181
KF-640	Examination and Testing	182
KF-650	Stamping and Reports	182
Article KF-7	**Supplementary Requirements for Materials With Welding Restrictions**	183
KF-700	Scope	183
KF-710	Repair of Defects	183
KF-720	Methods of Forming Forged Heads	183

AVA Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

Article KF-8	**Specific Fabrication Requirements for Layered Vessels**	184
KF-800	Scope	184
KF-810	Rules for Shrink-Fit Vessels	184
KF-820	Rules for Concentrically Wrapped Welded Layered Vessels	184
KF-830	Heat Treatment of Weldments	191
Article KF-9	**Special Fabrication Requirements for Wire-Wound Vessels and Frames**	192
KF-900	Scope	192
KF-910	Fabrication Requirements	192
Article KF-10	**Additional Fabrication Requirements for Aluminum Alloys**	193
Article KF-11	**Additional Fabrication Requirements for Welding Age-Hardening Stainless Steels**	194
KF-1100	Scope	194
KF-1110	Welding Requirements	194
KF-1120	Base Metal Heat Treatment Condition	194
KF-1130	Temporary Welds Where Not Prohibited	194
KF-1140	Postweld Heat Treatment	194
KF-1150	Production Weld Testing	194
KF-1160	Examination and Testing	195
KF-1170	Repair Welding	195
KF-1180	Postweld Heat Treatment After Weld Repairs	195
Article KF-12	**Additional Fabrication Requirements for Composite Reinforced Pressure Vessels (CRPV)**	196
KF-1200	Scope	196
KF-1210	Welding	196
Part KR	**Pressure Relief Devices**	198
Article KR-1	**General Requirements**	198
KR-100	Protection Against Overpressure	198
KR-110	Definitions	198
KR-120	Types of Overpressure Protection	199
KR-130	Size of Openings and Nozzles	200
KR-140	Intervening Stop Valves	200
KR-150	Permissible Overpressures	200
KR-160	Set Pressures	200
Article KR-2	**Requirements for Rupture Disk Devices**	202
KR-200	General Requirements	202
KR-210	Capacity Requirements	202
KR-220	Rupture Disk Devices Used in Combination With Flow Capacity Certified Pressure Relief Valves	202
KR-230	Mechanical Requirements	203
KR-240	Material Requirements	203
KR-250	Inspection of Manufacturing of Rupture Disk Devices	203
KR-260	Production Testing by Manufacturers	204
KR-270	Design Requirements	204
Article KR-3	**Requirements for Pressure Relief Valves**	205
KR-300	General Requirements	205
KR-310	Design Requirements	205
KR-320	Material Selection	206
KR-330	Inspection of Manufacturing and/or Assembly of Pressure Relief Valves	206
KR-340	Production Testing by Manufacturers and Assemblers	206

AVA Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

Article KR-4	**Certification Mark**	208
KR-400	Marking	208
KR-410	Use of Certification Mark	209
Article KR-5	**Certification of Flow Capacity of Pressure Relief Valves**	210
KR-500	Flow Capacity Certification Tests	210
KR-510	Recertification Testing	210
KR-520	Procedures for Flow Capacity Certification Tests	210
KR-530	Flow Capacity Conversions	212
KR-540	Flow Capacity Certification Testing Requirements for Test Facilities	214
KR-550	Test Data Reports	214
KR-560	Certification of Flow Capacity of Pressure Relief Valves in Combination With Rupture Disk Devices	214
KR-570	Optional Testing of Rupture Disk Devices and Pressure Relief Valves	214
Article KR-6	**Requirements for Power-Actuated Pressure Relief Systems**	215
KR-600	General Requirements	215
KR-610	System Requirements	215
KR-620	Flow Capacity Testing	215
Article KR-7	**Overpressure Protection for Impulsively Loaded Vessels**	217
KR-700	General	217
Part KE	**Examination Requirements**	218
Article KE-1	**Requirements for Examination Procedures and Personnel Qualification**	218
KE-100	General	218
KE-110	Qualification and Certification of Nondestructive Examination Personnel	218
Article KE-2	**Requirements for Examination and Repair of Material**	221
KE-200	General Requirements	221
KE-210	General Requirements for Repair of Defects	221
KE-220	Examination and Repair of Plate	222
KE-230	Examination and Repair of Forgings and Bars	222
KE-240	Examination and Repair of Seamless and Welded (Without Filler Metal) Tubular Products and Fittings	224
KE-250	Examination and Repair of Tubular Products and Fittings Welded With Filler Metal	225
KE-260	Examination of Bolts, Studs, and Nuts	226
Article KE-3	**Examination of Welds and Acceptance Criteria**	227
KE-300	Examination of Welds and Weld Overlay	227
KE-310	Examination of Weld Edge Preparation Surfaces	229
KE-320	Types of Welds and Their Examination	240
KE-330	Acceptance Standards	241
Article KE-4	**Final Examination of Vessels**	243
KE-400	Surface Examination After Hydrotest	243
KE-410	Inspection of Lined Vessel Interior After Hydrotest	243
Article KE-5	**Additional Examination Requirements for Composite Reinforced Pressure Vessels (CRPV)**	244
KE-500	Scope	244
Part KT	**Testing Requirements**	245
Article KT-1	**Testing Requirements**	245
KT-100	Scope	245
KT-110	Requirements for Sample Test Coupons	245

AVA Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

Article KT-2	**Impact Testing for Welded Vessels**	246
KT-200	Impact Tests	246
KT-210	Location and Orientation of Specimens	246
KT-220	Impact Tests for Welding Procedure Qualifications	246
KT-230	Impact Test of Production Test Plates	246
KT-240	Basis for Rejection	247
Article KT-3	**Hydrostatic Tests**	248
KT-300	Scope	248
KT-310	Limits of Hydrostatic Test Pressure	248
KT-320	Fluid Media for Hydrostatic Tests	249
KT-330	Test Procedure	249
KT-340	Exemption for Autofrettaged Vessels	249
KT-350	Additional Requirements for Impulsively Loaded Vessels	249
Article KT-4	**Pressure Test Gages and Transducers**	250
KT-400	Type and Number of Gages or Transducers	250
KT-410	Pressure Range of Test Gages and Transducers	250
KT-420	Calibration of Test Gages and Transducers	250
Article KT-5	**Additional Testing Requirements for Composite Reinforced Pressure Vessels (CRPV)**	251
KT-500	Responsibility	251
KT-510	Testing Requirements	251
Part KS	**Marking, Stamping, Reports, and Records**	252
Article KS-1	**Contents and Method of Stamping**	252
KS-100	Required Marking for Vessels	252
KS-110	Application of Certification Mark	253
KS-120	Part Marking	253
KS-130	Application of Markings	253
KS-140	Attachment of Nameplate or Tag	254
KS-150	Special Stamping Requirements for Composite Reinforced Pressure Vessels (CRPV)	254
Article KS-2	**Obtaining and Using Certification Marks**	255
KS-200	Certification Mark Bearing Official Symbol	255
KS-210	Application for Certificate of Authorization	255
KS-220	Issuance of Authorization	255
KS-230	Designated Oversight	255
KS-240	Quality Control System	255
KS-250	Evaluation of the Quality Control System	255
KS-260	Code Construction Before Receipt of Certificate of Authorization	255
KS-270	Special Requirements Regarding Manufacturer's Certificates for Manufacture of Composite Reinforced Pressure Vessels (CRPV)	255
Article KS-3	**Report Forms and Maintenance of Records**	256
KS-300	Manufacturer's Data Reports	256
KS-310	Maintenance of Radiographs	257
KS-320	Maintenance of Records	257
Mandatory Appendix 1	**Nomenclature**	258
1-100	Nomenclature	258
Mandatory Appendix 2	**Quality Control System**	266
2-100	General	266
2-110	Outline of Features to Be Included in the Written Description of the Quality Control System	266
2-111	Authority and Responsibility	266

Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

2-112	Organization	266
2-113	Drawings, Design Calculations, and Specification Control	267
2-114	Material Control	267
2-115	Examination and Inspection Program	267
2-116	Correction of Nonconformities	267
2-117	Welding	267
2-118	Nondestructive Examination	267
2-119	Heat Treatment	267
2-120	Calibration of Measurement and Test Equipment	267
2-121	Records Retention	267
2-122	Sample Forms	267
2-123	Inspection of Vessels and Vessel Parts	267
2-124	Inspection of Pressure Relief Devices	268
2-125	Certifications	268
Mandatory Appendix 5	**Adhesive Attachment of Nameplates**	269
5-100	Scope	269
5-200	Nameplate Application Procedure Qualification	269
Mandatory Appendix 6	**Rounded Indications Charts Acceptance Standard for Radiographically Determined Rounded Indications in Welds**	270
6-100	Applicability of These Standards	270
6-110	Terminology	270
6-120	Acceptance Criteria	270
Mandatory Appendix 7	**Standard Units for Use in Equations**	279
Mandatory Appendix 8	**Establishing Governing Code Editions and Cases for Pressure Vessels and Parts**	280
8-100	General	280
8-200	Construction	280
8-300	Materials	280
Mandatory Appendix 9	**Linear Elastic Analysis**	281
9-100	General	281
9-200	Derivation of Stress Intensities	281
9-210	Stress Limits	281
9-220	Primary Membrane and Bending Stresses	281
9-230	Pure Shear Stress	283
9-240	Bearing Stress	283
9-250	Secondary Stresses	283
9-260	Simplified Elastic–Plastic Analysis	283
9-270	Thermal Stress Ratcheting Assessment	283
9-280	Triaxial Stresses	283
9-290	Upper Limit for Hydrostatic Test Pressure	284
9-300	Principal Stresses in Monobloc Vessels	284
Nonmandatory Appendix A	**Guide for Preparing Manufacturer's Data Reports**	285
A-100	Introduction	285
Nonmandatory Appendix B	**Suggested Practice Regarding Extending Life Beyond the Cyclic Design Life**	303
B-100	Extending Allowed Cyclic Limits While in Operation	303
Nonmandatory Appendix C	**Guide to Information Appearing on Certificate of Authorization**	304
Nonmandatory Appendix D	**Fracture Mechanics Calculations**	305
D-100	Scope	305
D-200	Crack Location and Stressing	305
D-300	Crack Orientation and Shape	305
D-400	Methods for Determining Stress Intensity Factor	307

AVA Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

D-500	Calculation of Fatigue Crack Growth Rates	315
D-600	Fracture Toughness Correlations	315
D-700	References	315
Nonmandatory Appendix E	**Construction Details**	317
E-100	Integral Heads (Blind Ends)	317
E-110	Thick Wall Proportions	317
E-120	Thin Wall Proportions	318
E-200	Threaded End Closures	318
E-210	Nomenclature (See Figures E-210.1, E-210.2, and E-210.3)	318
E-220	Thread Load Distribution	319
Nonmandatory Appendix G	**Design Rules for Clamp Connections**	324
G-100	Scope	324
G-200	Materials	324
G-300	Nomenclature	324
G-400	Bolt Loads	330
G-500	Longitudinal Loads	333
G-600	Hub Moments	333
G-700	Calculation of Hub Stresses	333
G-800	Calculation of Clamp Stresses	333
G-900	Allowable Design Stresses for Clamp Connections	333
Nonmandatory Appendix H	**Openings and Their Reinforcement**	335
H-100	Scope	335
H-110	Circular Openings Not Requiring Reinforcement	335
H-120	Reinforcement for Openings in Shells and Formed Heads	335
H-130	Reinforcement for Openings in Flat Heads	337
H-140	Limits of Reinforcement	337
H-150	Metal Available for Reinforcement	338
Nonmandatory Appendix I	**Guidance for the Use of U.S. Customary and SI Units in the ASME Boiler and Pressure Vessel Code**	340
I-100	Use of Units in Equations	340
I-200	Guidelines Used to Develop SI Equivalents	340
I-300	Soft Conversion Factors	342
Nonmandatory Appendix J	**Stress Concentration Factors for Cross-Bores in Closed-End Cylinders and Square Blocks**	343
J-100	Scope	343
J-110	Methodology	343
Nonmandatory Appendix K	**Fatigue and Fracture Assessment of Impulsively Loaded Vessels**	346
K-100	Scope	346
K-110	Nomenclature	346
K-200	Analysis	346
Nonmandatory Appendix L	**Linearization of Stress Results for Stress Classification**	348
L-100	Scope	348
L-110	General	348
L-200	Selection of Stress Classification Lines	348
L-300	Stress Integration Method	352
L-310	Continuum Elements	352
L-320	Shell Elements	352
L-400	Structural Stress Method Based on Nodal Forces	352
L-410	Continuum Elements	354
L-500	Structural Stress Method Based on Stress Integration	354

Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

FIGURES

KM-212	Examples of Acceptable Impact Test Specimens	26
KD-320.1	Design Fatigue Curves $S_a = f(N_f)$ for Nonwelded Machined Parts Made of Forged Carbon or Low Alloy Steels for Temperatures Not Exceeding 700°F	91
KD-320.1M	Design Fatigue Curves $S_a = f(N_f)$ for Nonwelded Machined Parts Made of Forged Carbon or Low Alloy Steels for Temperatures Not Exceeding 371°C	94
KD-320.2	Design Fatigue Curve $S_a = f(N_f)$ for Nonwelded Parts Made of Carbon or Low Alloy Steels for Temperatures Not Exceeding 700°F	97
KD-320.2M	Design Fatigue Curve $S_a = f(N_f)$ for Nonwelded Parts Made of Carbon or Low Alloy Steels for Temperatures Not Exceeding 371°C	98
KD-320.3	Design Fatigue Curve for Nonwelded Austenitic Stainless Steels for Temperatures Not Exceeding 800°F	99
KD-320.3M	Design Fatigue Curve for Nonwelded Austenitic Stainless Steels for Temperatures Not Exceeding 427°C	100
KD-320.4	Design Fatigue Curve $S_a = f(N_f)$ for Nonwelded Machined Parts Made of 17-4PH/15-5PH Stainless Steel Bar or Forgings, for Temperatures Not Exceeding 550°F	101
KD-320.4M	Design Fatigue Curve $S_a = f(N_f)$ for Nonwelded Machined Parts Made of 17-4PH/15-5PH Stainless Steel Bar or Forgings, for Temperatures Not Exceeding 290°C	102
KD-320.5	Design Fatigue Curve for High-Strength Steel Bolting for Temperatures Not Exceeding 700°F	103
KD-320.5M	Design Fatigue Curve for High-Strength Steel Bolting for Temperatures Not Exceeding 371°C	104
KD-320.6(a)	Roughness Factor K_r Versus Average Surface Roughness R_a (µin.) AA	105
KD-320.6M(a)	Roughness Factor K_r Versus Average Surface Roughness R_a (µm) AA	106
KD-320.6(b)	Roughness Factor K_r Versus Maximum Surface Roughness R_{max} (µin.)	107
KD-320.6M(b)	Roughness Factor K_r Versus Maximum Surface Roughness R_{max} (µm)	108
KD-320.7	Design Fatigue Curve for Nonwelded 6061-T6 and 6061-T651 Aluminum for Temperatures Not Exceeding 225°F	110
KD-320.7M	Design Fatigue Curve for Nonwelded 6061-T6 and 6061-T651 Aluminum for Temperatures Not Exceeding 107°C	111
KD-372.1	Burr Grinding of Weld Toe	112
KD-700	Some Illustrative Weld Attachment Details	125
KD-812	Diameters and Layer Numbers for Concentric Shrink-Fit Layered Cylinder	129
KD-830.1	Acceptable Layered Shell Types	131
KD-830.2	Some Acceptable Solid-to-Layered Attachments	132
KD-830.3	Some Acceptable Flat Heads With Hubs Joining Layered Shell Sections	133
KD-830.4	Some Acceptable Flanges for Layered Shells	134
KD-830.5	Some Acceptable Welded Joints of Layered-to-Layered and Layered-to-Solid Sections	135
KD-830.6	Some Acceptable Nozzle Attachments in Layered Shell Sections	136
KD-850	Some Acceptable Supports for Layered Vessels	137
KD-900	Wire-Wound Vessel and Frame Construction	139
KD-911	Nomenclature for Wire-Wound Cylinders	140
KD-932	Derivation of Design Fatigue Curve From Wire Fatigue Curve	142
KD-1112	Typical Pressure Parts With Butt-Welded Hubs	149
KD-1121	Joints Between Formed Heads and Shells	150
KD-1122	Nozzle Necks Attached to Piping of Lesser Wall Thickness	151
KD-1130	Some Acceptable Welded Nozzle Attachments	152
KD-1131	An Acceptable Full-Penetration Welded Nozzle Attachment Not Readily Radiographable	153
KD-1260.1	Construction of Testing Parameter Ratio Diagram	158
KD-1260.2	Construction of Testing Parameter Ratio Diagram for Accelerated Tests	159
KF-131	Examples of Differences Between Maximum and Minimum Diameters in Cylindrical Shells	165
KF-822(a)	Solid-to-Layered and Layered-to-Layered Test Plates	186
KF-822(b)	Test Specimens for Weld Procedure Qualification	187
KF-825.4(a)	Indications of Layer Wash	188
KF-825.4(b)	Angled Radiographic Technique for Detecting Layer Wash	189

AVA Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

KF-826	Gap Area Between Layers	190
KR-401	Official New Certification Mark to Denote the American Society of Mechanical Engineers' Standard	208
KR-523.3	Constant C for Gas Versus Specific Heat Ratio (U.S. Customary Units)	212
KR-523.3M	Constant C for Gas Versus Specific Heat Ratio (SI Units)	213
KE-242.1	Axial Propagation of Sound in Tube Wall	224
KE-301-1	Flaw Classification of Single Indication	231
KE-301-2	Surface Flaw Acceptance Criteria	232
KE-301-3	Subsurface Flaw Acceptance Criteria	234
KE-301-4	Multiple Planar Flaws Oriented in Plane Normal to Pressure-Retaining Surface	236
KE-301-5	Parallel Planar Flaws	237
KE-301-6	Nonaligned Coplanar Flaws in Plane Normal to Pressure-Retaining Surface (Illustrative Flaw Configurations)	238
KE-301-7	Multiple Aligned Planar Flaws	239
KE-321	Illustration of Welded Joint Locations Typical of Categories A, B, C, and D	240
KS-100	Official New Certification Mark to Denote the American Society of Mechanical Engineers' Standard	252
KS-132	Form of Stamping	254
6-1	Aligned Rounded Indications	271
6-2	Groups of Aligned Rounded Indications	272
6-3.1	Charts for t $\frac{1}{8}$ in. (3 mm) to $\frac{1}{4}$ in. (6 mm), Inclusive	273
6-3.2	Charts for t Over $\frac{1}{4}$ in. (6 mm) to $\frac{3}{8}$ in. (10 mm), Inclusive	274
6-3.3	Charts for t Over $\frac{3}{8}$ in. (10 mm) to $\frac{3}{4}$ in. (19 mm), Inclusive	275
6-3.4	Charts for t Over $\frac{3}{4}$ in. (19 mm) to 2 in. (50 mm), Inclusive	276
6-3.5	Charts for t Over 2 in. (50 mm) to 4 in. (100 mm), Inclusive	277
6-3.6	Charts for t Over 4 in. (100 mm)	278
9-200-1	Stress Categories and Limits of Stress Intensity	282
D-200	Typical Crack Types	306
D-300	Idealizations of a Crack Propagating From a Cross-Bore Corner	307
D-403.1	Magnification Factors for Circumferential Crack	312
D-403.2	Polynomial Representation of Stress Distribution	313
D-403.3	Method of Correcting K_I at Discontinuities Between Regions	314
E-110	Thick Wall Blind End Proportions Not Requiring Detailed Analysis	317
E-120	Thin Wall Blind End Proportions Not Requiring Detailed Analysis	318
E-210.1	Typical Threaded End Closure	320
E-210.2	Thread Loading Distribution	321
E-210.3	Detail of First Thread	321
G-100.1	Clamp Nomenclature	325
G-100.2	Typical Clamp Lug Configurations	326
G-100.3	Typical Hub Design With the Bolts Contained Within the Body of the Clamp	327
G-300	Typical Self-Energizing Gaskets Used in This Division, Showing Diameter at Location of Gasket Load Reaction G	331
G-300.1	Values of f	332
H-101	Straight Drill Connections for Thick-Walled Cylinders	336
H-120.1	Chart for Determining Value of F	337
H-142	Nozzle Nomenclature and Dimensions	339
J-110-1	Geometries of Square Blocks and Cylinders With Cross-Bores	344
J-110-2	Tangential Stress Concentration Factors for Openings in Cylinders	344
J-110-3	Tangential Stress Concentration Factors for Openings in Square Cross-Section Blocks	345
K-200-1	Stress History	347
K-200-2	Toughness Temperature Curve	347
L-110.1	Stress Classification Line (SCL) and Stress Classification Plane (SCP)	349
L-110.2	Stress Classification Lines (SCLs)	350
L-200.1	Stress Classification Line Orientation and Validity Guidelines	351
L-311.1	Computation of Membrane and Bending Equivalent Stress Integration Method Using the Results From a Finite Element Model With Continuum Elements	353

AVA Documents Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

L-400.1 Continuum Finite Element Model Stress Classification Line for the Structural Stress Method 355
L-410.1 Computation of Membrane and Bending Equivalent Stresses by the Structural Stress Method Using Nodal Force Results From a Finite Element Model With Continuum Elements ... 357
L-410.2 Processing Nodal Force Results With the Structural Stress Method Using the Results From a Finite Element Model With Three-Dimensional Second Order Continuum Elements 358
L-410.3 Processing Structural Stress Method Results for a Symmetric Structural Stress Range 359
L-411.1 Computation of Membrane and Bending Equivalent Stresses by the Structural Stress Method Using the Results From a Finite Element Model With Shell Elements 361
L-411.2 Processing Nodal Force Results With the Structural Stress Method Using the Results From a Finite Element Model With Three-Dimensional Second Order Shell Elements 362
L-500.1 Element Sets for Processing Finite Element Nodal Stress Results With the Structural Stress Method Based on Stress Integration 363

TABLES

KG-141 Referenced Standards in This Division and Year of Acceptable Edition 4
KG-150 Standard Units for Use in Equations 5
KM-212 Charpy Impact Test Temperature Reduction Below Minimum Design Metal Temperature . 24
KM-234.2(a) Minimum Required Charpy V-Notch Impact Values for Pressure-Retaining Component Materials 28
KM-234.2(b) Minimum Required Charpy V-Notch Impact Values for Bolting Materials 28
KM-400-1 Carbon and Low Alloy Steels 33
KM-400-1M Carbon and Low Alloy Steels (Metric) 39
KM-400-2 High Alloy Steels 46
KM-400-2M High Alloy Steels (Metric) 49
KM-400-3 Nickel and Nickel Alloys 52
KM-400-3M Nickel and Nickel Alloys (Metric) 53
KM-400-4 Aluminum Alloys 54
KM-400-4M Aluminum Alloys (Metric) 54
KM-620 Tabular Values for Coefficients 57
KM-630 Cyclic Stress–Strain Curve Data 57
KM-630M Cyclic Stress–Strain Curve Data 59
KM-630.1 Coefficients for the Welded Joint Fatigue Curves 60
KM-630.1M Coefficients for the Welded Joint Fatigue Curves 61
KD-230.1 Loads and Load Cases to Be Considered in Design 71
KD-230.2 Load Descriptions 72
KD-230.3 Combination for Analysis Exemption of Hydrostatic Test Criterion 72
KD-230.4 Load Combinations and Load Factors for an Elastic–Plastic Analysis 73
KD-230.5 Tabular Values for Coefficients 74
KD-320.1 Tabulated Values of S_a, ksi, From Figures Indicated 92
KD-320.1M Tabulated Values of S_a, MPa, From Figures Indicated 95
KD-320.7 Tabulated Values of S_a Alternating Stress Intensity From Figures KD-320.7 and KD-320.7M 109
KD-322.1 Fatigue Penalty Parameters 111
KD-430 Crack Growth Rate Factors (U.S. Customary Units) 115
KD-430M Crack Growth Rate Factors (SI Units) 115
KF-234 Maximum Allowable Offset in Welded Joints 170
KF-402.1 Requirements for Postweld Heat Treatment of Pressure Parts and Attachments (U.S. Customary Units) 175
KF-402.1M Requirements for Postweld Heat Treatment of Pressure Parts and Attachments (SI Units) . 176
KF-630 Postweld Heat Treatment Requirements for Quenched and Tempered Materials in Table KM-400-1 (U.S. Customary Units) 181
KF-630M Postweld Heat Treatment Requirements for Quenched and Tempered Materials in Table KM-400-1M (SI Units) 182
KF-1211 Permitted Weld Reinforcement 196
KE-101 Thickness, Image Quality Indicator Designations, Essential Holes, and Wire Diameters (U.S. Customary Units) 219

AVA Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

KE-101M Thickness, Image Quality Indicator Designations, Essential Holes, and Wire Diameters (SI Units) 220
KE-301-1 Flaw Acceptance Criteria for 1 in. (25 mm) to 12 in. (300 mm) Thick Weld 229
KE-301-2 Flaw Acceptance Criteria for 16 in. (400 mm) Thick Weld 230
KE-332 Radiographic Acceptance Standards for Rounded Indications (Examples Only) 241
A-100.1 Instructions for the Preparation of Manufacturer's Data Reports 291
A-100.2 Supplementary Instructions for the Preparation of Manufacturer's or Assembler's Certificate of Conformance Form K-4 294
A-100.3 Supplementary Instructions for the Preparation of Manufacturer's Certificate of Conformance Form K-5 296
A-100.4 Instructions for the Preparation of Manufacturer's Data Reports Form CRPV-1A 299
D-401.1 Coefficients G_0 Through G_3 for Surface Crack at Deepest Point 309
D-401.2 Coefficients G_0 Through G_3 for Surface Crack at Free Surface 310
D-500 Crack Growth Rate Factors 315
E-222.1 Continuous Thread Example 322
E-222.2 Interrupted Thread Example 323
G-900 Allowable Design Stress for Clamp Connections 334
J-110-2 Tangential Stress Concentration Factors for Openings in Cylinders (Tabulated Values From Figure J-110-2) 345
J-110-3 Tangential Stress Concentration Factors for Openings in Square Cross-Section Blocks (Tabulated Values From Figure J-110-3) 345
L-410.1 Structural Stress Definitions for Continuum Finite Elements 356
L-411.1 Structural Stress Definitions for Shell or Plate Finite Elements 360

FORMS

KG-311.15 Typical Certification of Compliance of the User's Design Specification 10
KG-324.1 Typical Certification of Compliance of the Manufacturer's Design Report 12
K-1 Manufacturer's Data Report for High Pressure Vessels 286
K-2 Manufacturer's Partial Data Report for High Pressure Vessels 288
K-3 Manufacturer's Data Report Supplementary Sheet 290
K-4 Manufacturer's or Assembler's Certificate of Conformance for Pressure Relief Valves 293
K-5 Manufacturer's Certificate of Conformance for Rupture Disk Devices 295
CRPV-1A Manufacturer's Data Report for Composite Reinforced Pressure Vessels 297
CRPV-2A Recommended Form for Qualifying the Laminate Design and the Laminate Procedure Specification Used in Manufacturing Composite Reinforced Pressure Vessels 301

ENDNOTES 365

Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

(19)

LIST OF SECTIONS

SECTIONS

I Rules for Construction of Power Boilers

II Materials
- Part A — Ferrous Material Specifications
- Part B — Nonferrous Material Specifications
- Part C — Specifications for Welding Rods, Electrodes, and Filler Metals
- Part D — Properties (Customary)
- Part D — Properties (Metric)

III Rules for Construction of Nuclear Facility Components
- Subsection NCA — General Requirements for Division 1 and Division 2
- Appendices
- Division 1
  - Subsection NB — Class 1 Components
  - Subsection NC — Class 2 Components
  - Subsection ND — Class 3 Components
  - Subsection NE — Class MC Components
  - Subsection NF — Supports
  - Subsection NG — Core Support Structures
- Division 2 — Code for Concrete Containments
- Division 3 — Containment Systems for Transportation and Storage of Spent Nuclear Fuel and High-Level Radioactive Material
- Division 5 — High Temperature Reactors

IV Rules for Construction of Heating Boilers

V Nondestructive Examination

VI Recommended Rules for the Care and Operation of Heating Boilers

VII Recommended Guidelines for the Care of Power Boilers

VIII Rules for Construction of Pressure Vessels
- Division 1
- Division 2 — Alternative Rules
- Division 3 — Alternative Rules for Construction of High Pressure Vessels

IX Welding, Brazing, and Fusing Qualifications

X Fiber-Reinforced Plastic Pressure Vessels

XI Rules for Inservice Inspection of Nuclear Power Plant Components
- Division 1 — Rules for Inspection and Testing of Components of Light-Water-Cooled Plants
- Division 2 — Requirements for Reliability and Integrity Management (RIM) Programs for Nuclear Power Plants

XII Rules for Construction and Continued Service of Transport Tanks

AVA Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

INTERPRETATIONS

Interpretations are issued in real time in ASME's Interpretations Database at http://go.asme.org/Interpretations. Historical BPVC interpretations may also be found in the Database.

CODE CASES

The Boiler and Pressure Vessel Code committees meet regularly to consider proposed additions and revisions to the Code and to formulate Cases to clarify the intent of existing requirements or provide, when the need is urgent, rules for materials or constructions not covered by existing Code rules. Those Cases that have been adopted will appear in the appropriate 2019 Code Cases book: "Boilers and Pressure Vessels" or "Nuclear Components." Each Code Cases book is updated with seven Supplements. Supplements will be sent or made available automatically to the purchasers of the Code Cases books up to the publication of the 2021 Code. Code Case users can check the current status of any Code Case at http://go.asme.org/BPVCCDatabase. Code Case users can also view an index of the complete list of Boiler and Pressure Vessel Code Cases and Nuclear Code Cases at http://go.asme.org/BPVCC.

AVA Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

(19)

FOREWORD*

In 1911, The American Society of Mechanical Engineers established the Boiler and Pressure Vessel Committee to formulate standard rules for the construction of steam boilers and other pressure vessels. In 2009, the Boiler and Pressure Vessel Committee was superseded by the following committees:

(a) Committee on Power Boilers (I)

(b) Committee on Materials (II)

(c) Committee on Construction of Nuclear Facility Components (III)

(d) Committee on Heating Boilers (IV)

(e) Committee on Nondestructive Examination (V)

(f) Committee on Pressure Vessels (VIII)

(g) Committee on Welding, Brazing, and Fusing (IX)

(h) Committee on Fiber-Reinforced Plastic Pressure Vessels (X)

(i) Committee on Nuclear Inservice Inspection (XI)

(j) Committee on Transport Tanks (XII)

(k) Technical Oversight Management Committee (TOMC)

Where reference is made to "the Committee" in this Foreword, each of these committees is included individually and collectively.

The Committee's function is to establish rules of safety relating only to pressure integrity, which govern the construction** of boilers, pressure vessels, transport tanks, and nuclear components, and the inservice inspection of nuclear components and transport tanks. The Committee also interprets these rules when questions arise regarding their intent. The technical consistency of the Sections of the Code and coordination of standards development activities of the Committees is supported and guided by the Technical Oversight Management Committee. This Code does not address other safety issues relating to the construction of boilers, pressure vessels, transport tanks, or nuclear components, or the inservice inspection of nuclear components or transport tanks. Users of the Code should refer to the pertinent codes, standards, laws, regulations, or other relevant documents for safety issues other than those relating to pressure integrity. Except for Sections XI and XII, and with a few other exceptions, the rules do not, of practical necessity, reflect the likelihood and consequences of deterioration in service related to specific service fluids or external operating environments. In formulating the rules, the Committee considers the needs of users, manufacturers, and inspectors of pressure vessels. The objective of the rules is to afford reasonably certain protection of life and property, and to provide a margin for deterioration in service to give a reasonably long, safe period of usefulness. Advancements in design and materials and evidence of experience have been recognized.

This Code contains mandatory requirements, specific prohibitions, and nonmandatory guidance for construction activities and inservice inspection and testing activities. The Code does not address all aspects of these activities and those aspects that are not specifically addressed should not be considered prohibited. The Code is not a handbook and cannot replace education, experience, and the use of engineering judgment. The phrase *engineering judgment* refers to technical judgments made by knowledgeable engineers experienced in the application of the Code. Engineering judgments must be consistent with Code philosophy, and such judgments must never be used to overrule mandatory requirements or specific prohibitions of the Code.

The Committee recognizes that tools and techniques used for design and analysis change as technology progresses and expects engineers to use good judgment in the application of these tools. The designer is responsible for complying with Code rules and demonstrating compliance with Code equations when such equations are mandatory. The Code neither requires nor prohibits the use of computers for the design or analysis of components constructed to the

* The information contained in this Foreword is not part of this American National Standard (ANS) and has not been processed in accordance with ANSI's requirements for an ANS. Therefore, this Foreword may contain material that has not been subjected to public review or a consensus process. In addition, it does not contain requirements necessary for conformance to the Code.

** *Construction*, as used in this Foreword, is an all-inclusive term comprising materials, design, fabrication, examination, inspection, testing, certification, and pressure relief.

Documents
Document Sharing Hub

--`,```,,,,,,````,`,`,``,,`,`,`,`-`-`,,`,,`,`,,`---
Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

requirements of the Code. However, designers and engineers using computer programs for design or analysis are cautioned that they are responsible for all technical assumptions inherent in the programs they use and the application of these programs to their design.

The rules established by the Committee are not to be interpreted as approving, recommending, or endorsing any proprietary or specific design, or as limiting in any way the manufacturer's freedom to choose any method of design or any form of construction that conforms to the Code rules.

The Committee meets regularly to consider revisions of the rules, new rules as dictated by technological development, Code Cases, and requests for interpretations. Only the Committee has the authority to provide official interpretations of this Code. Requests for revisions, new rules, Code Cases, or interpretations shall be addressed to the Secretary in writing and shall give full particulars in order to receive consideration and action (see Submittal of Technical Inquiries to the Boiler and Pressure Vessel Standards Committees). Proposed revisions to the Code resulting from inquiries will be presented to the Committee for appropriate action. The action of the Committee becomes effective only after confirmation by ballot of the Committee and approval by ASME. Proposed revisions to the Code approved by the Committee are submitted to the American National Standards Institute (ANSI) and published at http://go.asme.org/BPVCPublicReview to invite comments from all interested persons. After public review and final approval by ASME, revisions are published at regular intervals in Editions of the Code.

The Committee does not rule on whether a component shall or shall not be constructed to the provisions of the Code. The scope of each Section has been established to identify the components and parameters considered by the Committee in formulating the Code rules.

Questions or issues regarding compliance of a specific component with the Code rules are to be directed to the ASME Certificate Holder (Manufacturer). Inquiries concerning the interpretation of the Code are to be directed to the Committee. ASME is to be notified should questions arise concerning improper use of the ASME Single Certification Mark.

When required by context in this Section, the singular shall be interpreted as the plural, and vice versa, and the feminine, masculine, or neuter gender shall be treated as such other gender as appropriate.

AVA Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

(19)

STATEMENT OF POLICY ON THE USE OF THE ASME SINGLE CERTIFICATION MARK AND CODE AUTHORIZATION IN ADVERTISING

ASME has established procedures to authorize qualified organizations to perform various activities in accordance with the requirements of the ASME Boiler and Pressure Vessel Code. It is the aim of the Society to provide recognition of organizations so authorized. An organization holding authorization to perform various activities in accordance with the requirements of the Code may state this capability in its advertising literature.

Organizations that are authorized to use the ASME Single Certification Mark for marking items or constructions that have been constructed and inspected in compliance with the ASME Boiler and Pressure Vessel Code are issued Certificates of Authorization. It is the aim of the Society to maintain the standing of the ASME Single Certification Mark for the benefit of the users, the enforcement jurisdictions, and the holders of the ASME Single Certification Mark who comply with all requirements.

Based on these objectives, the following policy has been established on the usage in advertising of facsimiles of the ASME Single Certification Mark, Certificates of Authorization, and reference to Code construction. The American Society of Mechanical Engineers does not "approve," "certify," "rate," or "endorse" any item, construction, or activity and there shall be no statements or implications that might so indicate. An organization holding the ASME Single Certification Mark and/or a Certificate of Authorization may state in advertising literature that items, constructions, or activities "are built (produced or performed) or activities conducted in accordance with the requirements of the ASME Boiler and Pressure Vessel Code," or "meet the requirements of the ASME Boiler and Pressure Vessel Code." An ASME corporate logo shall not be used by any organization other than ASME.

The ASME Single Certification Mark shall be used only for stamping and nameplates as specifically provided in the Code. However, facsimiles may be used for the purpose of fostering the use of such construction. Such usage may be by an association or a society, or by a holder of the ASME Single Certification Mark who may also use the facsimile in advertising to show that clearly specified items will carry the ASME Single Certification Mark.

(19)

STATEMENT OF POLICY ON THE USE OF ASME MARKING TO IDENTIFY MANUFACTURED ITEMS

The ASME Boiler and Pressure Vessel Code provides rules for the construction of boilers, pressure vessels, and nuclear components. This includes requirements for materials, design, fabrication, examination, inspection, and stamping. Items constructed in accordance with all of the applicable rules of the Code are identified with the ASME Single Certification Mark described in the governing Section of the Code.

Markings such as "ASME," "ASME Standard," or any other marking including "ASME" or the ASME Single Certification Mark shall not be used on any item that is not constructed in accordance with all of the applicable requirements of the Code.

Items shall not be described on ASME Data Report Forms nor on similar forms referring to ASME that tend to imply that all Code requirements have been met when, in fact, they have not been. Data Report Forms covering items not fully complying with ASME requirements should not refer to ASME or they should clearly identify all exceptions to the ASME requirements.

AVA Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

SUBMITTAL OF TECHNICAL INQUIRIES TO THE BOILER AND PRESSURE VESSEL STANDARDS COMMITTEES (19)

1 INTRODUCTION

(a) The following information provides guidance to Code users for submitting technical inquiries to the applicable Boiler and Pressure Vessel (BPV) Standards Committee (hereinafter referred to as the Committee). See the guidelines on approval of new materials under the ASME Boiler and Pressure Vessel Code in Section II, Part D for requirements for requests that involve adding new materials to the Code. See the guidelines on approval of new welding and brazing materials in Section II, Part C for requirements for requests that involve adding new welding and brazing materials ("consumables") to the Code.

Technical inquiries can include requests for revisions or additions to the Code requirements, requests for Code Cases, or requests for Code Interpretations, as described below:

(1) Code Revisions. Code revisions are considered to accommodate technological developments, to address administrative requirements, to incorporate Code Cases, or to clarify Code intent.

(2) Code Cases. Code Cases represent alternatives or additions to existing Code requirements. Code Cases are written as a Question and Reply, and are usually intended to be incorporated into the Code at a later date. When used, Code Cases prescribe mandatory requirements in the same sense as the text of the Code. However, users are cautioned that not all regulators, jurisdictions, or Owners automatically accept Code Cases. The most common applications for Code Cases are as follows:

(-a) to permit early implementation of an approved Code revision based on an urgent need

(-b) to permit use of a new material for Code construction

(-c) to gain experience with new materials or alternative requirements prior to incorporation directly into the Code

(3) Code Interpretations

(-a) Code Interpretations provide clarification of the meaning of existing requirements in the Code and are presented in Inquiry and Reply format. Interpretations do not introduce new requirements.

(-b) If existing Code text does not fully convey the meaning that was intended, or conveys conflicting requirements, and revision of the requirements is required to support the Interpretation, an Intent Interpretation will be issued in parallel with a revision to the Code.

(b) Code requirements, Code Cases, and Code Interpretations established by the Committee are not to be considered as approving, recommending, certifying, or endorsing any proprietary or specific design, or as limiting in any way the freedom of manufacturers, constructors, or Owners to choose any method of design or any form of construction that conforms to the Code requirements.

(c) Inquiries that do not comply with the following guidance or that do not provide sufficient information for the Committee's full understanding may result in the request being returned to the Inquirer with no action.

2 INQUIRY FORMAT

Submittals to the Committee should include the following information:

(a) Purpose. Specify one of the following:

(1) request for revision of present Code requirements

(2) request for new or additional Code requirements

(3) request for Code Case

(4) request for Code Interpretation

(b) Background. The Inquirer should provide the information needed for the Committee's understanding of the Inquiry, being sure to include reference to the applicable Code Section, Division, Edition, Addenda (if applicable), paragraphs, figures, and tables. Preferably, the Inquirer should provide a copy of, or relevant extracts from, the specific referenced portions of the Code.

AVA Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

(c) Presentations. The Inquirer may desire to attend or be asked to attend a meeting of the Committee to make a formal presentation or to answer questions from the Committee members with regard to the Inquiry. Attendance at a BPV Standards Committee meeting shall be at the expense of the Inquirer. The Inquirer's attendance or lack of attendance at a meeting will not be used by the Committee as a basis for acceptance or rejection of the Inquiry by the Committee. However, if the Inquirer's request is unclear, attendance by the Inquirer or a representative may be necessary for the Committee to understand the request sufficiently to be able to provide an Interpretation. If the Inquirer desires to make a presentation at a Committee meeting, the Inquirer should provide advance notice to the Committee Secretary, to ensure time will be allotted for the presentation in the meeting agenda. The Inquirer should consider the need for additional audiovisual equipment that might not otherwise be provided by the Committee. With sufficient advance notice to the Committee Secretary, such equipment may be made available.

3 CODE REVISIONS OR ADDITIONS

Requests for Code revisions or additions should include the following information:

(a) Requested Revisions or Additions. For requested revisions, the Inquirer should identify those requirements of the Code that they believe should be revised, and should submit a copy of, or relevant extracts from, the appropriate requirements as they appear in the Code, marked up with the requested revision. For requested additions to the Code, the Inquirer should provide the recommended wording and should clearly indicate where they believe the additions should be located in the Code requirements.

(b) Statement of Need. The Inquirer should provide a brief explanation of the need for the revision or addition.

(c) Background Information. The Inquirer should provide background information to support the revision or addition, including any data or changes in technology that form the basis for the request, that will allow the Committee to adequately evaluate the requested revision or addition. Sketches, tables, figures, and graphs should be submitted, as appropriate. The Inquirer should identify any pertinent portions of the Code that would be affected by the revision or addition and any portions of the Code that reference the requested revised or added paragraphs.

4 CODE CASES

Requests for Code Cases should be accompanied by a statement of need and background information similar to that described in 3(b) and 3(c), respectively, for Code revisions or additions. The urgency of the Code Case (e.g., project underway or imminent, new procedure) should be described. In addition, it is important that the request is in connection with equipment that will bear the ASME Single Certification Mark, with the exception of Section XI applications. The proposed Code Case should identify the Code Section and Division, and should be written as a Question and a Reply, in the same format as existing Code Cases. Requests for Code Cases should also indicate the applicable Code Editions and Addenda (if applicable) to which the requested Code Case applies.

5 CODE INTERPRETATIONS

(a) Requests for Code Interpretations should be accompanied by the following information:

(1) Inquiry. The Inquirer should propose a condensed and precise Inquiry, omitting superfluous background information and, when possible, composing the Inquiry in such a way that a "yes" or a "no" Reply, with brief limitations or conditions, if needed, can be provided by the Committee. The proposed question should be technically and editorially correct.

(2) Reply. The Inquirer should propose a Reply that clearly and concisely answers the proposed Inquiry question. Preferably, the Reply should be "yes" or "no," with brief limitations or conditions, if needed.

(3) Background Information. The Inquirer should provide any need or background information, such as described in 3(b) and 3(c), respectively, for Code revisions or additions, that will assist the Committee in understanding the proposed Inquiry and Reply.

If the Inquirer believes a revision of the Code requirements would be helpful to support the Interpretation, the Inquirer may propose such a revision for consideration by the Committee. In most cases, such a proposal is not necessary.

(b) Requests for Code Interpretations should be limited to an Interpretation of a particular requirement in the Code or in a Code Case. Except with regard to interpreting a specific Code requirement, the Committee is not permitted to consider consulting-type requests such as the following:

(1) a review of calculations, design drawings, welding qualifications, or descriptions of equipment or parts to determine compliance with Code requirements

AVA Documents Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

(2) a request for assistance in performing any Code-prescribed functions relating to, but not limited to, material selection, designs, calculations, fabrication, inspection, pressure testing, or installation

(3) a request seeking the rationale for Code requirements

6 SUBMITTALS

(a) Submittal. Requests for Code Interpretation should preferably be submitted through the online Interpretation Submittal Form. The form is accessible at http://go.asme.org/InterpretationRequest. Upon submittal of the form, the Inquirer will receive an automatic e-mail confirming receipt. If the Inquirer is unable to use the online form, the Inquirer may mail the request to the following address:

Secretary
ASME Boiler and Pressure Vessel Committee
Two Park Avenue
New York, NY 10016-5990

All other Inquiries should be mailed to the Secretary of the BPV Committee at the address above. Inquiries are unlikely to receive a response if they are not written in clear, legible English. They must also include the name of the Inquirer and the company they represent or are employed by, if applicable, and the Inquirer's address, telephone number, fax number, and e-mail address, if available.

(b) Response. The Secretary of the appropriate Committee will provide a written response, via letter or e-mail, as appropriate, to the Inquirer, upon completion of the requested action by the Committee. Inquirers may track the status of their Interpretation Request at http://go.asme.org/Interpretations.

Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

(19)

PERSONNEL
ASME Boiler and Pressure Vessel Standards Committees, Subgroups, and Working Groups

January 1, 2019

TECHNICAL OVERSIGHT MANAGEMENT COMMITTEE (TOMC)

T. P. Pastor, *Chair*
S. C. Roberts, *Vice Chair*
S. J. Rossi, *Staff Secretary*
R. W. Barnes
R. J. Basile
T. L. Bedeaux
D. L. Berger
D. A. Bowers
J. Cameron
A. Chaudouet
D. B. DeMichael
R. P. Deubler
P. D. Edwards
J. G. Feldstein
N. A. Finney
J. A. Hall
T. E. Hansen
G. W. Hembree
J. F. Henry
R. S. Hill III
W. M. Lundy
R. E. McLaughlin
G. C. Park
M. D. Rana
R. F. Reedy, Sr.
F. J. Schaaf, Jr.
G. Scribner
B. F. Shelley
W. J. Sperko
D. Srnic
R. W. Swayne
J. E. Batey, *Contributing Member*

Subgroup on Research and Development (TOMC)

R. W. Barnes, *Chair*
S. J. Rossi, *Staff Secretary*
D. A. Canonico
J. F. Henry
R. S. Hill III
W. Hoffelner
B. Hrubala
T. P. Pastor
S. C. Roberts
D. Andrei, *Contributing Member*

Subgroup on Strategic Initiatives (TOMC)

S. C. Roberts, *Chair*
S. J. Rossi, *Staff Secretary*
R. W. Barnes
T. L. Bedeaux
G. W. Hembree
J. F. Henry
R. S. Hill III
B. Hrubala
M. H. Jawad
R. E. McLaughlin
G. C. Park
T. P. Pastor
R. F. Reedy, Sr.

Special Working Group on High Temperature Technology (TOMC)

D. Dewees, *Chair*
F. W. Brust
T. D. Burchell
P. R. Donavin
B. F. Hantz
J. F. Henry
R. I. Jetter
P. Smith

HONORARY MEMBERS (MAIN COMMITTEE)

F. P. Barton
T. M. Cullen
G. E. Feigel
O. F. Hedden
M. H. Jawad
A. J. Justin
W. G. Knecht
J. LeCoff
T. G. McCarty
G. C. Millman
R. A. Moen
R. F. Reedy, Sr.

ADMINISTRATIVE COMMITTEE

T. P. Pastor, *Chair*
S. C. Roberts, *Vice Chair*
S. J. Rossi, *Staff Secretary*
R. J. Basile
D. A. Bowers
J. Cameron
D. B. DeMichael
J. A. Hall
G. W. Hembree
R. S. Hill III
R. E. McLaughlin
M. D. Rana
B. F. Shelley
R. R. Stevenson
R. W. Swayne

MARINE CONFERENCE GROUP

H. N. Patel, *Chair*
S. J. Rossi, *Staff Secretary*
J. G. Hungerbuhler, Jr.
G. Nair
N. Prokopuk
J. D. Reynolds

Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

CONFERENCE COMMITTEE

C. B. Cantrell — Nebraska, *Chair*
J. T. Amato — Minnesota, *Vice Chair*
D. A. Douin — Ohio, *Secretary*
M. J. Adams — Ontario, Canada
W. Anderson — Mississippi
R. Becker — Colorado
R. J. Brockman — Missouri
R. J. Bunte — Iowa
J. H. Burpee — Maine
M. J. Byrum — Alabama
S. Chapman — Tennessee
D. C. Cook — California
B. J. Crawford — Georgia
E. L. Creaser — New Brunswick, Canada
J. J. Dacanay — Hawaii
C. Dautrich — North Carolina
R. DeLury — Manitoba, Canada
D. Eastman — Newfoundland and Labrador, Canada
D. A. Ehler — Nova Scotia, Canada
J. J. Esch — Delaware
T. J. Granneman II — Oklahoma
E. G. Hilton — Virginia
C. Jackson — City of Detroit, Michigan
M. L. Jordan — Kentucky
E. Kawa, Jr. — Massachusetts
A. Khssassi — Quebec, Canada
J. Klug — City of Milwaukee, Wisconsin
K. J. Kraft — Maryland
K. S. Lane — Alaska
L. C. Leet — City of Seattle, Washington
J. LeSage, Jr. — Louisiana
A. M. Lorimor — South Dakota
M. Mailman — Northwest Territories, Canada
D. E. Mallory — New Hampshire
W. McGivney — City of New York, New York
A. K. Oda — Washington
L. E. Parkey — Indiana
M. Poehlmann — Alberta, Canada
J. F. Porcella — West Virginia
C. F. Reyes — California
M. J. Ryan — City of Chicago, Illinois
D. A. Sandfoss — Nevada
M. H. Sansone — New York
A. S. Scholl — British Columbia, Canada
T. S. Seime — North Dakota
C. S. Selinger — Saskatchewan, Canada
J. E. Sharier — Ohio
N. Smith — Pennsylvania
R. Spiker — North Carolina
D. J. Stenrose — Michigan
R. J. Stimson II — Kansas
R. K. Sturm — Utah
D. K. Sullivan — Arkansas
R. Tomka — Oregon
S. R. Townsend — Prince Edward Island, Canada
R. D. Troutt — Texas
M. C. Vogel — Illinois
T. J. Waldbillig — Wisconsin
D. M. Warburton — Florida
M. Washington — New Jersey

INTERNATIONAL INTEREST REVIEW GROUP

V. Felix
Y.-G. Kim
S. H. Leong
W. Lin
O. F. Manafa
C. Minu
Y.-W. Park
A. R. R. Nogales
P. Williamson

COMMITTEE ON POWER BOILERS (BPV I)

R. E. McLaughlin, *Chair*
E. M. Ortman, *Vice Chair*
U. D'Urso, *Staff Secretary*
D. I. Anderson
J. L. Arnold
D. L. Berger
K. K. Coleman
P. D. Edwards
J. G. Feldstein
G. W. Galanes
T. E. Hansen
J. F. Henry
J. S. Hunter
G. B. Komora
F. Massi
L. Moedinger
P. A. Molvie
Y. Oishi
J. T. Pillow
M. Slater
J. M. Tanzosh
D. E. Tompkins
D. E. Tuttle
J. Vattappilly
M. Wadkinson
R. V. Wielgoszinski
F. Zeller
H. Michael, *Delegate*
D. A. Canonico, *Honorary Member*
D. N. French, *Honorary Member*
J. Hainsworth, *Honorary Member*
C. Jeerings, *Honorary Member*
W. L. Lowry, *Honorary Member*
J. R. MacKay, *Honorary Member*
T. C. McGough, *Honorary Member*
B. W. Roberts, *Honorary Member*
R. D. Schueler, Jr., *Honorary Member*
R. L. Williams, *Honorary Member*
L. W. Yoder, *Honorary Member*

Subgroup on Design (BPV I)

J. Vattappilly, *Chair*
G. B. Komora, *Vice Chair*
D. I. Anderson, *Secretary*
D. Dewees
H. A. Fonzi, Jr.
J. P. Glaspie
L. Krupp
P. A. Molvie
L. S. Tsai
M. Wadkinson
C. F. Jeerings, *Contributing Member*

Subgroup on Fabrication and Examination (BPV I)

J. L. Arnold, *Chair*
P. F. Gilston, *Vice Chair*
P. Becker, *Secretary*
D. L. Berger
S. Fincher
G. W. Galanes
J. Hainsworth
T. E. Hansen
P. Jennings
C. T. McDaris
R. E. McLaughlin
R. J. Newell
Y. Oishi
J. T. Pillow
R. V. Wielgoszinski

Subgroup on General Requirements and Piping (BPV I)

E. M. Ortman, *Chair*
D. E. Tompkins, *Vice Chair*
F. Massi, *Secretary*
P. Becker
D. L. Berger
P. D. Edwards
T. E. Hansen
M. Ishikawa
M. Lemmons
R. E. McLaughlin
B. J. Mollitor
J. T. Pillow
D. E. Tuttle
M. Wadkinson
R. V. Wielgoszinski
C. F. Jeerings, *Contributing Member*
W. L. Lowry, *Contributing Member*

Subgroup on Locomotive Boilers (BPV I)

P. Boschan, *Chair*
J. R. Braun, *Vice Chair*
S. M. Butler, *Secretary*
A. Biesecker
C. Cross
R. C. Franzen, Jr.
G. W. Galanes
D. W. Griner
S. D. Jackson
M. A. Janssen
S. A. Lee
L. Moedinger
G. M. Ray
R. B. Stone
M. W. Westland

Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

Subgroup on Materials (BPV I)

K. K. Coleman, *Chair*
K. Hayes, *Vice Chair*
M. Lewis, *Secretary*
S. H. Bowes
D. A. Canonico
G. W. Galanes
P. F. Gilston
J. F. Henry
J. S. Hunter
E. Liebl
F. Masuyama
M. Ortolani
D. W. Rahoi
J. M. Tanzosh
J. Vattappilly
F. Zeller
M. Gold, *Contributing Member*
B. W. Roberts, *Contributing Member*

Subgroup on Solar Boilers (BPV I)

P. Jennings, *Chair*
R. E. Hearne, *Secretary*
H. A. Fonzi, Jr.
J. S. Hunter
F. Massi
E. M. Ortman

Task Group on Modernization (BPV I)

D. I. Anderson, *Chair*
U. D'Urso, *Staff Secretary*
J. L. Arnold
D. Dewees
G. W. Galanes
J. P. Glaspie
T. E. Hansen
J. F. Henry
R. E. McLaughlin
P. A. Molvie
E. M. Ortman
D. E. Tuttle
J. Vattappilly

Germany International Working Group (BPV I)

A. Spangenberg, *Chair*
M. Bremicker
P. Chavdarov
B. Daume
J. Fleischfresser
R. Helmholdt
R. Kauer
D. Koelbl
S. Krebs
T. Ludwig
R. A. Meyers
H. Michael
F. Miunske
B. Müller
H. Schroeder
M. Sykora
J. Henrichsmeyer, *Contributing Member*
P. Paluszkiewicz, *Contributing Member*
R. Uebel, *Contributing Member*

India International Working Group (BPV I)

H. Dalal, *Chair*
A. R. Patil, *Vice Chair*
T. Dhanraj, *Secretary*
P. Brahma
M. R. Kalahasthi
S. A. Kumar
A. J. Patil
S. Purkait
S. Radhakrishnan
G. V. S. Rao
M. G. Rao
U. Revisankaran
G. U. Shanker
D. K. Shrivastava
K. Singha
S. Venkataramana

COMMITTEE ON MATERIALS (BPV II)

J. Cameron, *Chair*
J. F. Grubb, *Vice Chair*
C. E. O'Brien, *Staff Secretary*
A. Appleton
A. Chaudouet
J. R. Foulds
D. W. Gandy
J. A. Hall
J. F. Henry
K. M. Hottle
M. Ishikawa
F. Masuyama
K. E. Orie
D. W. Rahoi
E. Shapiro
M. J. Slater
R. C. Sutherlin
J. M. Tanzosh
R. G. Young
F. Zeller
O. Oldani, *Delegate*
F. Abe, *Contributing Member*
H. D. Bushfield, *Contributing Member*
D. A. Canonico, *Contributing Member*
D. B. Denis, *Contributing Member*
J. D. Fritz, *Contributing Member*
M. Gold, *Contributing Member*
W. Hoffelner, *Contributing Member*
M. Katcher, *Contributing Member*
R. K. Nanstad, *Contributing Member*
M. L. Nayyar, *Contributing Member*
D. T. Peters, *Contributing Member*
B. W. Roberts, *Contributing Member*
J. J. Sanchez-Hanton, *Contributing Member*
R. W. Swindeman, *Contributing Member*
E. Upitis, *Contributing Member*
T. M. Cullen, *Honorary Member*
W. D. Edsall, *Honorary Member*
G. C. Hsu, *Honorary Member*
R. A. Moen, *Honorary Member*
C. E. Spaeder, Jr., *Honorary Member*
A. W. Zeuthen, *Honorary Member*

Executive Committee (BPV II)

J. Cameron, *Chair*
C. E. O'Brien, *Staff Secretary*
A. Appleton
A. Chaudouet
M. Gold
J. F. Grubb
J. F. Henry
M. Ishikawa
D. L. Kurle
R. W. Mikitka
E. Shapiro
M. J. Slater
R. C. Sutherlin
R. W. Swindeman

Subgroup on External Pressure (BPV II)

D. L. Kurle, *Chair*
S. Guzey, *Vice Chair*
J. A. A. Morrow, *Secretary*
L. F. Campbell
H. Chen
D. S. Griffin
J. F. Grubb
M. H. Jawad
S. Krishnamurthy
R. W. Mikitka
C. R. Thomas
M. Wadkinson
M. Katcher, *Contributing Member*

Subgroup on Ferrous Specifications (BPV II)

A. Appleton, *Chair*
K. M. Hottle, *Vice Chair*
C. Hyde, *Secretary*
H. Chen
B. M. Dingman
M. J. Dosdourian
O. Elkadim
D. Fialkowski
M. Gold
T. Graham
J. M. Grocki
J. F. Grubb
J. Gundlach
D. S. Janikowski
L. J. Lavezzi
S. G. Lee
W. C. Mack
A. S. Melilli
K. E. Orie
D. Poweleit
J. Shick
E. Upitis
R. Zawierucha
J. D. Fritz, *Contributing Member*

AVA Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

Subgroup on International Material Specifications (BPV II)

M. Ishikawa, *Chair*
A. R. Nywening, *Vice Chair*
B. Mruk, *Secretary*
A. Chaudouet
P. Chavdarov
H. Chen
A. F. Garbolevsky
D. O. Henry
W. M. Lundy
E. Upitis
F. Zeller
O. Oldani, *Delegate*
D. A. Canonico, *Contributing Member*
H. Lorenz, *Contributing Member*
T. F. Miskell, *Contributing Member*

Subgroup on Nonferrous Alloys (BPV II)

E. Shapiro, *Chair*
S. Yem, *Vice Chair*
J. Robertson, *Secretary*
R. Beldyk
J. Calland
J. M. Downs
J. F. Grubb
D. Maitra
J. A. McMaster
D. W. Rahoi
W. Ren
R. C. Sutherlin
J. Weritz
R. Wright
D. B. Denis, *Contributing Member*
M. Katcher, *Contributing Member*
D. T. Peters, *Contributing Member*

Subgroup on Physical Properties (BPV II)

J. F. Grubb, *Chair*
G. Aurioles, Sr.
D. Chandiramani
P. Chavdarov
H. Eshraghi
B. F. Hantz
R. D. Jones
P. K. Lam
S. Neilsen
D. W. Rahoi
P. K. Rai
E. Shapiro
M. S. Shelton
D. K. Verma
S. Yem
H. D. Bushfield, *Contributing Member*
D. B. Denis, *Contributing Member*

Subgroup on Strength, Ferrous Alloys (BPV II)

M. J. Slater, *Chair*
S. W. Knowles, *Vice Chair*
D. A. Canonico
A. Di Rienzo
J. R. Foulds
J. A. Hall
J. F. Henry
F. Masuyama
T. Ono
M. Ortolani
D. W. Rahoi
M. S. Shelton
J. M. Tanzosh
R. G. Young
F. Zeller
F. Abe, *Contributing Member*
M. Gold, *Contributing Member*
M. Nair, *Contributing Member*
B. W. Roberts, *Contributing Member*

Subgroup on Strength of Weldments (BPV II & BPV IX)

G. W. Galanes, *Chair*
K. L. Hayes, *Vice Chair*
S. H. Bowes
K. K. Coleman
M. Denault
P. D. Flenner
J. R. Foulds
D. W. Gandy
M. Ghahremani
J. F. Henry
E. Liebl
W. F. Newell, Jr.
J. Penso
D. W. Rahoi
B. W. Roberts
W. J. Sperko
J. P. Swezy, Jr.
J. M. Tanzosh
M. Gold, *Contributing Member*
J. J. Sanchez-Hanton, *Contributing Member*

Working Group on Materials Database (BPV II)

J. F. Henry, *Chair*
C. E. O'Brien, *Staff Secretary*
F. Abe
J. R. Foulds
M. J. Slater
R. C. Sutherlin
D. Andrei, *Contributing Member*
J. L. Arnold, *Contributing Member*
J. Grimes, *Contributing Member*
W. Hoffelner, *Contributing Member*
D. T. Peters, *Contributing Member*
W. Ren, *Contributing Member*
B. W. Roberts, *Contributing Member*
R. W. Swindeman, *Contributing Member*

Working Group on Creep Strength Enhanced Ferritic Steels (BPV II)

J. F. Henry, *Chair*
M. Ortolani, *Vice Chair*
J. A. Siefert, *Secretary*
S. H. Bowes
D. A. Canonico
K. K. Coleman
P. D. Flenner
J. R. Foulds
G. W. Galanes
M. Lang
F. Masuyama
T. Melfi
W. F. Newell, Jr.
J. Parker
J. J. Sanchez-Hanton
W. J. Sperko
J. M. Tanzosh
R. H. Worthington
R. G. Young
F. Zeller
F. Abe, *Contributing Member*
G. Cumino, *Contributing Member*
B. W. Roberts, *Contributing Member*
R. W. Swindeman, *Contributing Member*

Working Group on Data Analysis (BPV II)

J. F. Grubb, *Chair*
J. R. Foulds
J. F. Henry
F. Masuyama
M. Ortolani
W. Ren
M. Subanovic
M. J. Swindeman
F. Abe, *Contributing Member*
M. Gold, *Contributing Member*
W. Hoffelner, *Contributing Member*
M. Katcher, *Contributing Member*
D. T. Peters, *Contributing Member*
B. W. Roberts, *Contributing Member*
R. W. Swindeman, *Contributing Member*

China International Working Group (BPV II)

A. T. Xu, *Secretary*
W. Fang
Q. C. Feng
S. Huo
F. Kong
H. Li
J. Li
S. Li
Z. Rongcan
S. Tan
C. Wang
J. Wang
Q.-J. Wang
X. Wang
F. Yang
G. Yang
H.-C. Yang
J. Yang
R. Ye
L. Yin
D. Zhang
H. Zhang
X.-H. Zhang
Yingkai Zhang
Yong Zhang
Q. Zhao
S. Zhao

Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

COMMITTEE ON CONSTRUCTION OF NUCLEAR FACILITY COMPONENTS (BPV III)

R. S. Hill III, *Chair*
R. B. Keating, *Vice Chair*
J. C. Minichiello, *Vice Chair*
A. Byk, *Staff Secretary*
T. M. Adams
A. Appleton
R. W. Barnes
W. H. Borter
C. W. Bruny
T. D. Burchell
R. P. Deubler
P. R. Donavin
A. C. Eberhardt
J. V. Gardiner
J. Grimm
S. Hunter
R. M. Jessee
R. I. Jetter
C. C. Kim
G. H. Koo
V. Kostarev
M. A. Lockwood
K. A. Manoly
D. E. Matthews
M. N. Mitchell
M. Morishita
D. K. Morton
T. Nagata
J. E. Nestell
E. L. Pleins
R. F. Reedy, Sr.
I. Saito
S. Sham
G. J. Solovey
W. K. Sowder, Jr.
W. J. Sperko
J. P. Tucker
C. S. Withers
H.-T. Wang, *Delegate*
C. T. Smith, *Contributing Member*
M. Zhou, *Contributing Member*
E. B. Branch, *Honorary Member*
G. D. Cooper, *Honorary Member*
D. F. Landers, *Honorary Member*
R. A. Moen, *Honorary Member*
C. J. Pieper, *Honorary Member*
K. R. Wichman, *Honorary Member*

Executive Committee (BPV III)

R. S. Hill III, *Chair*
A. Byk, *Staff Secretary*
T. M. Adams
C. W. Bruny
P. R. Donavin
J. V. Gardiner
J. Grimm
R. B. Keating
J. C. Minichiello
J. A. Munshi
J. E. Nestell
S. Sham
G. J. Solovey
W. K. Sowder, Jr.

Subcommittee on Design (BPV III)

P. R. Donavin, *Chair*
T. M. Adams, *Vice Chair*
R. L. Bratton
C. W. Bruny
R. P. Deubler
M. A. Gray
S. Horowitz
R. I. Jetter
R. B. Keating
K. A. Manoly
R. J. Masterson
D. E. Matthews
S. McKillop
M. N. Mitchell
W. J. O'Donnell, Sr.
S. Sham
J. P. Tucker
W. F. Weitze
T. Yamazaki
J. Yang
R. S. Hill III, *Contributing Member*
G. L. Hollinger, *Contributing Member*
M. H. Jawad, *Contributing Member*
K. Wright, *Contributing Member*

Subgroup on Component Design (SC-D) (BPV III)

T. M. Adams, *Chair*
R. B. Keating, *Vice Chair*
S. Pellet, *Secretary*
D. J. Ammerman
G. A. Antaki
S. Asada
J. F. Ball
C. Basavaraju
D. Chowdhury
R. P. Deubler
P. Hirschberg
M. Kassar
O.-S. Kim
H. Kobayashi
K. A. Manoly
R. J. Masterson
D. E. Matthews
J. C. Minichiello
D. K. Morton
T. M. Musto
T. Nagata
I. Saito
G. C. Slagis
J. R. Stinson
G. Z. Tokarski
J. P. Tucker
P. Vock
C. Wilson
J. Yang
C. W. Bruny, *Contributing Member*
A. A. Dermenjian, *Contributing Member*
K. R. Wichman, *Honorary Member*

Working Group on Core Support Structures (SG-CD) (BPV III)

J. Yang, *Chair*
D. Keck, *Secretary*
L. C. Hartless
J. F. Kielb
T. Liszkai
H. S. Mehta
M. Nakajima
M. D. Snyder
R. Vollmer
T. M. Wiger
Y. Wong
R. Z. Ziegler

Working Group on Design of Division 3 Containment Systems (SG-CD) (BPV III)

D. J. Ammerman, *Chair*
G. Bjorkman
V. Broz
S. Horowitz
S. Klein
D. W. Lewis
J. C. Minichiello
D. K. Morton
X. Zhai
X. Zhang
D. Dunn, *Alternate*
I. D. McInnes, *Contributing Member*
H. P. Shrivastava, *Contributing Member*

Working Group on HDPE Design of Components (SG-CD) (BPV III)

T. M. Musto, *Chair*
J. Ossmann, *Secretary*
T. M. Adams
T. A. Bacon
M. Brandes
S. Choi
J. R. Hebeisen
P. Krishnaswamy
K. A. Manoly
M. Martin
J. C. Minichiello
D. P. Munson
F. J. Schaaf, Jr.
R. Stakenborghs
J. Wright
M. T. Audrain, *Alternate*
D. Burwell, *Contributing Member*

AVA Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

Working Group on Piping (SG-CD) (BPV III)

G. A. Antaki, *Chair*
G. Z. Tokarski, *Secretary*
T. M. Adams
T. A. Bacon
C. Basavaraju
J. Catalano
F. Claeys
C. M. Faidy
R. G. Gilada
N. M. Graham
M. A. Gray
R. J. Gurdal
R. W. Haupt
A. Hirano
P. Hirschberg
M. Kassar
J. Kawahata
R. B. Keating
V. Kostarev
D. Lieb
T. B. Littleton
J. F. McCabe
J. C. Minichiello
I.-K. Nam
G. C. Slagis
N. C. Sutherland
C.-I. Wu
Y. Liu, *Contributing Member*
A. N. Nguyen, *Contributing Member*
M. S. Sills, *Contributing Member*
E. A. Wais, *Contributing Member*

Working Group on Pressure Relief (SG-CD) (BPV III)

J. F. Ball, *Chair*
J. W. Dickson
S. Jones
R. Krithivasan
R. Lack
K. R. May
D. Miller
T. Patel
K. Shores
I. H. Tseng
J. Yu
N. J. Hansing, *Alternate*
B. J. Yonsky, *Alternate*
S. T. French, *Contributing Member*
D. B. Ross, *Contributing Member*

Working Group on Pumps (SG-CD) (BPV III)

D. Chowdhury, *Chair*
J. V. Gregg, Jr., *Secretary*
X. Di
M. D. Eftychiou
C. Gabhart
J. Kikushima
R. Klein
R. Ladefian
W. Lienau
K. J. Noel
R. A. Patrick
J. Sulley
A. G. Washburn
Y. Wong

Working Group on Supports (SG-CD) (BPV III)

J. R. Stinson, *Chair*
U. S. Bandyopadhyay, *Secretary*
K. Avrithi
T. H. Baker
F. J. Birch
R. P. Deubler
N. M. Graham
R. J. Masterson
S. Pellet
I. Saito
C. Stirzel
G. Z. Tokarski
A. Tsirigotis
L. Vandership
P. Wiseman
J. Huang, *Alternate*

Working Group on Valves (SG-CD) (BPV III)

P. Vock, *Chair*
S. Jones, *Secretary*
M. C. Buckley
R. Farrell
G. A. Jolly
J. Lambin
T. Lippucci
C. A. Mizer
H. O'Brien
J. O'Callaghan
K. E. Reid II
J. Sulley
I. H. Tseng
J. P. Tucker
N. J. Hansing, *Alternate*

Working Group on Vessels (SG-CD) (BPV III)

D. E. Matthews, *Chair*
S. Willoughby, *Secretary*
J. Arthur
C. Basavaraju
M. Kassar
R. B. Keating
D. Keck
J. I. Kim
O.-S. Kim
T. Mitsuhashi
D. Murphy
T. J. Schriefer
M. C. Scott
P. K. Shah
J. Shupert
C. Turylo
D. Vlaicu
C. Wilson
T. Yamazaki
R. Z. Ziegler
B. Basu, *Contributing Member*
A. Kalnins, *Contributing Member*
W. F. Weitze, *Contributing Member*

Subgroup on Design Methods (SC-D) (BPV III)

C. W. Bruny, *Chair*
P. R. Donavin, *Vice Chair*
S. McKillop, *Secretary*
K. Avrithi
L. Davies
S. R. Gosselin
M. A. Gray
J. V. Gregg, Jr.
H. T. Harrison III
K. Hsu
D. Keck
J. I. Kim
M. N. Mitchell
W. J. O'Donnell, Sr.
W. D. Reinhardt
P. Smith
S. D. Snow
R. Vollmer
W. F. Weitze
K. Wright
T. M. Adams, *Contributing Member*

Working Group on Design Methodology (SG-DM) (BPV III)

S. McKillop, *Chair*
R. Vollmer, *Secretary*
K. Avrithi
C. Basavaraju
D. L. Caldwell
C. M. Faidy
R. Farrell
H. T. Harrison III
C. F. Heberling II
P. Hirschberg
M. Kassar
R. B. Keating
J. I. Kim
H. Kobayashi
T. Liszkai
J. F. McCabe
S. Ranganath
W. D. Reinhardt
P. K. Shah
S. D. Snow
S. Wang
W. F. Weitze
J. Wen
T. M. Wiger
K. Wright
J. Yang
R. D. Blevins, *Contributing Member*
M. R. Breach, *Contributing Member*

Working Group on Environmental Effects (SG-DM) (BPV III)

L. Davies, *Chair*
B. D. Frew, *Secretary*
P. J. Dobson
J. I. Kim
J. E. Nestell
M. Osterfoss
T. J. Schriefer
I. H. Tseng

Working Group on Environmental Fatigue Evaluation Methods (SG-DM) (BPV III)

M. A. Gray, *Chair*
W. F. Weitze, *Secretary*
T. M. Adams
S. Asada
K. Avrithi
R. C. Cipolla
T. M. Damiani
C. M. Faidy
T. D. Gilman
S. R. Gosselin
Y. He
P. Hirschberg
H. S. Mehta
T. Metais
J.-S. Park
B. Pellereau
I. Saito
D. Vlaicu
K. Wang
K. Wright
R. Z. Ziegler

Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

Working Group on Fatigue Strength (SG-DM) (BPV III)

P. R. Donavin, *Chair*
M. S. Shelton, *Secretary*
T. M. Damiani
C. M. Faidy
P. Gill
S. R. Gosselin
R. J. Gurdal
C. F. Heberling II
C. E. Hinnant
P. Hirschberg
K. Hsu
S. H. Kleinsmith
S. Majumdar
S. N. Malik
H. S. Mehta
S. Mohanty
S. Ranganath
A. Tsirigotis
D. Dewees, *Contributing Member*
W. J. O'Donnell, Sr., *Contributing Member*
K. Wright, *Contributing Member*

Working Group on Graphite and Composite Design (SG-DM) (BPV III)

M. N. Mitchell, *Chair*
T. D. Burchell, *Secretary*
A. Appleton
S.-H. Chi
W. J. Geringer
S. T. Gonczy
M. G. Jenkins
Y. Katoh
J. Ossmann
W. Windes
A. Yeshnik
S. Yu
G. L. Zeng
N. McMurray, *Alternate*

Working Group on Probabilistic Methods in Design (SG-DM) (BPV III)

M. Golliet, *Chair*
T. Asayama
K. Avrithi
G. Brouette
J. Hakii
D. O. Henry
R. S. Hill III
M. Morishita
P. J. O'Regan
I. Saito

Special Working Group on Computational Modeling for Explicit Dynamics (SG-DM) (BPV III)

G. Bjorkman, *Chair*
D. J. Ammerman, *Vice Chair*
V. Broz, *Secretary*
M. R. Breach
J. M. Jordan
S. Kuehner
D. Molitoris
W. D. Reinhardt
P. Y.-K. Shih
S. D. Snow
C.-F. Tso
M. C. Yaksh
U. Zencker
A. Rigato, *Alternate*

Subgroup on Elevated Temperature Design (SC-D) (BPV III)

S. Sham, *Chair*
T. Asayama
C. Becht IV
F. W. Brust
P. Carter
M. E. Cohen
B. F. Hantz
M. H. Jawad
R. I. Jetter
K. Kimura
G. H. Koo
T. Le
J. E. Nestell
R. Wright
A. B. Hull, *Alternate*
D. S. Griffin, *Contributing Member*
S. Majumdar, *Contributing Member*
D. L. Marriott, *Contributing Member*
W. J. O'Donnell, Sr., *Contributing Member*
R. W. Swindeman, *Contributing Member*

Working Group on Allowable Stress Criteria (SG-ETD) (BPV III)

R. Wright, *Chair*
M. J. Swindeman, *Secretary*
C. J. Johns
K. Kimura
T. Le
D. Maitra
M. McMurtrey
J. E. Nestell
W. Ren
S. Sham
X. Wei
S. N. Malik, *Alternate*
J. R. Foulds, *Contributing Member*
R. W. Swindeman, *Contributing Member*

Working Group on Analysis Methods (SG-ETD) (BPV III)

P. Carter, *Chair*
M. J. Swindeman, *Secretary*
M. E. Cohen
R. I. Jetter
T. Le
M. C. Messner
S. Sham
X. Wei
A. Tsirigotis, *Alternate*
S. Krishnamurthy, *Contributing Member*

Working Group on Creep-Fatigue and Negligible Creep (SG-ETD) (BPV III)

T. Asayama, *Chair*
F. W. Brust
P. Carter
M. E. Cohen
R. I. Jetter
G. H. Koo
T. Le
B.-L. Lyow
M. McMurtrey
M. C. Messner
H. Qian
S. Sham
Y. Wang
X. Wei
N. McMurray, *Alternate*

Working Group on Elevated Temperature Construction (SG-ETD) (BPV III)

A. Mann, *Chair*
C. Nadarajah, *Secretary*
D. I. Anderson
D. Dewees
B. F. Hantz
M. H. Jawad
R. I. Jetter
S. Krishnamurthy
T. Le
M. N. Mitchell
P. Prueter
M. J. Swindeman
N. McMurray, *Alternate*
J. P. Glaspie, *Contributing Member*
D. L. Marriott, *Contributing Member*
B. J. Mollitor, *Contributing Member*

Working Group on High Temperature Flaw Evaluation (SG-ETD) (BPV III)

F. W. Brust, *Chair*
P. Carter
S. Kalyanam
T. Le
M. C. Messner
H. Qian
P. J. Rush
D.-J. Shim
X. Wei
S. X. Xu
N. McMurray, *Alternate*

Special Working Group on Inelastic Analysis Methods (SG-ETD) (BPV III)

M. C. Messner, *Chair*
S. X. Xu, *Secretary*
R. W. Barnes
J. A. Blanco
T. Hassan
G. H. Koo
B.-L. Lyow
S. Sham
M. J. Swindeman
X. Wei
G. L. Zeng

AVA Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

Subgroup on General Requirements (BPV III)

J. V. Gardiner, *Chair*
J. Rogers, *Secretary*
V. Apostolescu
A. Appleton
S. Bell
J. R. Berry
G. Brouette
J. W. Highlands
E. V. Imbro
K. A. Kavanagh
Y.-S. Kim
B. McGlone
E. C. Renaud
T. N. Rezk
D. J. Roszman
W. K. Sowder, Jr.
R. Spuhl
G. E. Szabatura
D. M. Vickery
C. S. Withers
J. DeKleine, *Contributing Member*
H. Michael, *Contributing Member*
C. T. Smith, *Contributing Member*

Working Group on Duties and Responsibilities (SG-GR) (BPV III)

S. Bell, *Chair*
N. DeSantis, *Secretary*
J. R. Berry
P. J. Coco
Y. Diaz-Castillo
J. V. Gardiner
E. V. Imbro
K. A. Kavanagh
D. J. Roszman
B. S. Sandhu
J. L. Williams
J. DeKleine, *Contributing Member*

Working Group on Quality Assurance, Certification, and Stamping (SG-GR) (BPV III)

B. McGlone, *Chair*
J. Grimm, *Secretary*
V. Apostolescu
A. Appleton
G. Brouette
O. Elkadim
S. M. Goodwin
J. Harris
J. W. Highlands
K. A. Kavanagh
Y.-S. Kim
D. T. Meisch
R. B. Patel
E. C. Renaud
T. N. Rezk
J. Rogers
W. K. Sowder, Jr.
R. Spuhl
J. F. Strunk
G. E. Szabatura
D. M. Vickery
C. S. Withers
C. A. Spletter, *Contributing Member*

Special Working Group on General Requirements Consolidation (SG-GR) (BPV III)

J. V. Gardiner, *Chair*
C. T. Smith, *Vice Chair*
S. Bell
M. B. Cusick
Y. Diaz-Castillo
J. Grimm
J. M. Lyons
B. McGlone
R. B. Patel
E. C. Renaud
T. N. Rezk
J. Rogers
D. J. Roszman
B. S. Sandhu
G. J. Solovey
R. Spuhl
G. E. Szabatura
J. L. Williams
C. S. Withers
S. F. Harrison, Jr., *Contributing Member*

Working Group on General Requirements for Graphite and Ceramic Composite Core Components and Assemblies (SG-GR) (BPV III)

A. Appleton, *Chair*
W. J. Geringer, *Secretary*
J. R. Berry
T. D. Burchell
M. N. Mitchell
E. C. Renaud
W. Windes
A. Yeshnik
N. McMurray, *Alternate*

Subgroup on Materials, Fabrication, and Examination (BPV III)

J. Grimm, *Chair*
B. D. Frew, *Vice Chair*
S. Hunter, *Secretary*
W. H. Borter
T. D. Burchell
S. Cho
P. J. Coco
R. H. Davis
G. B. Georgiev
S. E. Gingrich
M. Golliet
L. S. Harbison
R. M. Jessee
J. Johnston, Jr.
C. C. Kim
M. Lashley
T. Melfi
I.-K. Nam
J. Ossmann
J. E. O'Sullivan
M. C. Scott
W. J. Sperko
J. R. Stinson
J. F. Strunk
W. Windes
R. Wright
S. Yee
H. Michael, *Delegate*
R. W. Barnes, *Contributing Member*
G. R. Cannell, *Contributing Member*
D. B. Denis, *Contributing Member*

Working Group on Graphite and Composite Materials (SG-MFE) (BPV III)

T. D. Burchell, *Chair*
M. N. Mitchell, *Secretary*
A. Appleton
R. L. Bratton
S. R. Cadell
S.-H. Chi
A. Covac
S. W. Doms
S. F. Duffy
W. J. Geringer
S. T. Gonzcy
M. G. Jenkins
Y. Katoh
J. Ossmann
M. Roemmler
N. Salstrom
T. Shibata
W. Windes
A. Yeshnik
S. Yu
G. L. Zeng
N. McMurray, *Alternate*

Working Group on HDPE Materials (SG-MFE) (BPV III)

G. Brouette, *Chair*
M. A. Martin, *Secretary*
W. H. Borter
M. C. Buckley
M. Golliet
J. Hakii
J. Johnston, Jr.
P. Krishnaswamy
D. P. Munson
T. M. Musto
S. Patterson
S. Schuessler
R. Stakenborghs
M. Troughton
J. Wright
B. Hauger, *Contributing Member*

Joint ACI-ASME Committee on Concrete Components for Nuclear Service (BPV III)

J. A. Munshi, *Chair*
J. McLean, *Vice Chair*
J. Cassamassino, *Staff Secretary*
C. J. Bang
L. J. Colarusso
A. C. Eberhardt
F. Farzam
P. S. Ghosal
B. D. Hovis
T. C. Inman
C. Jones
O. Jovall
T. Kang
N.-H. Lee
T. Muraki
N. Orbovic
J. F. Strunk
G. Thomas
T. Tonyan
S. Wang
J. F. Artuso, *Contributing Member*
S. Bae, *Contributing Member*
J.-B. Domage, *Contributing Member*
B. B. Scott, *Contributing Member*
M. R. Senecal, *Contributing Member*
Z. Shang, *Contributing Member*
M. Sircar, *Contributing Member*
C. T. Smith, *Contributing Member*

AVA Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

Working Group on Design (BPV III-2)

N.-H. Lee, *Chair*
S. Wang, *Vice Chair*
M. Allam
S. Bae
L. J. Colarusso
A. C. Eberhardt
F. Farzam
P. S. Ghosal
B. D. Hovis
T. C. Inman
C. Jones
O. Jovall
J. A. Munshi
T. Muraki
G. Thomas
M. Diaz, *Contributing Member*
A. Istar, *Contributing Member*
S.-Y. Kim, *Contributing Member*
J. Kwon, *Contributing Member*
B. R. Laskewitz, *Contributing Member*
B. B. Scott, *Contributing Member*
Z. Shang, *Contributing Member*
M. Shin, *Contributing Member*
M. Sircar, *Contributing Member*

Working Group on Materials, Fabrication, and Examination (BPV III-2)

T. Tonyan, *Chair*
A. Eberhardt, *Vice Chair*
M. Allam
C. J. Bang
B. Birch
J.-B. Domage
P. S. Ghosal
C. Jones
T. Kang
N.-H. Lee
Z. Shang
J. F. Strunk
I. Zivanovic
J. F. Artuso, *Contributing Member*
B. B. Scott, *Contributing Member*

Special Working Group on Modernization (BPV III-2)

N. Orbovic, *Chair*
J. McLean, *Vice Chair*
A. Adediran
O. Jovall
N. Stoeva
S. Wang
I. Zivanovic
J.-B. Domage, *Contributing Member*
F. Lin, *Contributing Member*
M. A. Ugalde, *Contributing Member*

Subgroup on Containment Systems for Spent Nuclear Fuel and High-Level Radioactive Material (BPV III)

G. J. Solovey, *Chair*
D. J. Ammerman, *Vice Chair*
G. Bjorkman
V. Broz
S. Horowitz
S. Klein
D. W. Lewis
D. K. Morton
E. L. Pleins
J. Wellwood
X. J. Zhai
D. Dunn, *Alternate*
W. H. Borter, *Contributing Member*
P. E. McConnell, *Contributing Member*
N. M. Simpson, *Contributing Member*
R. H. Smith, *Contributing Member*

Subgroup on Fusion Energy Devices (BPV III)

W. K. Sowder, Jr., *Chair*
D. Andrei, *Staff Secretary*
D. J. Roszman, *Secretary*
M. Bashir
L. C. Cadwallader
B. R. Doshi
G. Holtmeier
K. A. Kavanagh
K. Kim
I. Kimihiro
S. Lee
G. Li
X. Li
P. Mokaria
T. R. Muldoon
M. Porton
F. J. Schaaf, Jr.
P. Smith
Y. Song
M. Trosen
C. Waldon
I. J. Zatz
R. W. Barnes, *Contributing Member*

Working Group on General Requirements (BPV III-4)

D. J. Roszman, *Chair*
W. K. Sowder, Jr.

Working Group on In-Vessel Components (BPV III-4)

M. Bashir, *Chair*
Y. Carin
M. Kalsey

Working Group on Magnets (BPV III-4)

S. Lee, *Chair*
K. Kim, *Vice Chair*

Working Group on Materials (BPV III-4)

M. Porton, *Chair*
P. Mummery

Working Group on Vacuum Vessels (BPV III-4)

I. Kimihiro, *Chair*
L. C. Cadwallader
B. R. Doshi
Q. Shijun
Y. Song

Subgroup on High Temperature Reactors (BPV III)

J. E. Nestell, *Chair*
N. Broom
T. D. Burchell
M. E. Cohen
R. I. Jetter
G. H. Koo
D. K. Morton
S. Sham
W. Windes
A. Yeshnik
G. L. Zeng
N. McMurray, *Alternate*
X. Li, *Contributing Member*
M. Morishita, *Contributing Member*
L. Shi, *Contributing Member*

Working Group on High Temperature Gas-Cooled Reactors (BPV III-5)

J. E. Nestell, *Chair*
N. Broom
T. D. Burchell
R. I. Jetter
Y. W. Kim
T. Le
D. K. Morton
S. Sham
G. L. Zeng
S. N. Malik, *Alternate*
X. Li, *Contributing Member*
L. Shi, *Contributing Member*

Working Group on High Temperature Liquid-Cooled Reactors (BPV III-5)

S. Sham, *Chair*
M. Arcaro
T. Asayama
R. W. Barnes
P. Carter
M. E. Cohen
A. B. Hull
R. I. Jetter
G. H. Koo
T. Le
J. E. Nestell
X. Wei
C. Moyer, *Alternate*
S. Majumdar, *Contributing Member*
M. Morishita, *Contributing Member*
G. Wu, *Contributing Member*

AVA Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

Argentina International Working Group (BPV III)

J. Fernández, *Chair*
A. Politi, *Vice Chair*
O. Martinez, *Staff Secretary*
A. Gomez, *Secretary*
A. Acrogliano
W. Agrelo
G. O. Anteri
M. Anticoli
C. A. Araya
J. P. Balbiani
A. A. Betervide
D. O. Bordato
G. Bourguigne
M. L. Cappella
A. Claus
R. G. Cocco
A. Coleff
A. J. Dall'Osto
L. M. De Barberis
D. P. Delfino
D. N. Dell'Erba
F. G. Diez
A. Dominguez
S. A. Echeverria
E. P. Fresquet
M. M. Gamizo
I. M. Guerreiro
R. S. Hill III
I. A. Knorr
M. F. Liendo
L. R. Miño
J. Monte
R. L. Morard
A. E. Pastor
E. Pizzichini
J. L. Racamato
H. C. Sanzi
G. J. Scian
G. G. Sebastian
M. E. Szarko
P. N. Torano
A. Turrin
O. A. Verastegui
M. D. Vigliano
P. Yamamoto
M. Zunino

China International Working Group (BPV III)

J. Yan, *Chair*
W. Tang, *Vice Chair*
Y. He, *Secretary*
L. Guo
Y. Jing
D. Kang
Y. Li
B. Liang
H. Lin
S. Liu
W. Liu
J. Ma
K. Mao
D. E. Matthews
W. Pei
G. Sun
Z. Sun
G. Tang
L. Ting
Y. Tu
Y. Wang
H. Wu
X. Wu
S. Xue
Z. Yin
G. Zhang
W. Zhang
W. Zhao
Y. Zhong
Z. Zhong

German International Working Group (BPV III)

J. Wendt, *Chair*
D. Koelbl, *Vice Chair*
R. Gersinska, *Secretary*
H.-R. Bath
P. R. Donavin
R. Döring
A. Huber
R. E. Hueggenberg
C. Huttner
E. Iacopetta
M. H. Koeppen
C. Kuschke
H.-W. Lange
T. Ludwig
X. Pitoiset
M. Reichert
G. Roos
J. Rudolph
H. Schau
L. Sybert
R. Trieglaff
F. Wille
S. Zickler

India International Working Group (BPV III)

R. N. Sen, *Chair*
S. B. Parkash, *Vice Chair*
A. D. Bagdare, *Secretary*
S. Aithal
H. Dalal
S. Kovalai
D. Kulkarni
R. Kumar
E. I. Pleins
M. Ponnusamy
K. R. Shah
B. K. Sreedhar

Korea International Working Group (BPV III)

G. H. Koo, *Chair*
S. S. Hwang, *Vice Chair*
O.-S. Kim, *Secretary*
H. S. Byun
S. Cho
G.-S. Choi
S. Choi
J. Y. Hong
N.-S. Huh
J.-K. Hwang
C. Jang
I. I. Jeong
H. J. Kim
J.-I. Kim
J.-S. Kim
K. Kim
M.-W. Kim
S.-S. Kim
Y.-B. Kim
Y.-S. Kim
D. Kwon
B. Lee
D. Lee
Sanghoon Lee
Sangil Lee
S.-G. Lee
H. Lim
I.-K. Nam
B. Noh
C.-K. Oh
C. Park
H. Park
J.-S. Park
Y. S. Pyun
T. Shin
S. Song
W. J. Sperko
J. S. Yang
O. Yoo

Special Working Group on Editing and Review (BPV III)

D. E. Matthews, *Chair*
R. L. Bratton
R. P. Deubler
A. C. Eberhardt
S. Horowitz
J. C. Minichiello
R. F. Reedy, Sr.
C. Wilson

Special Working Group on HDPE Stakeholders (BPV III)

M. Brandes, *Chair*
S. Patterson, *Secretary*
T. M. Adams
S. Choi
C. M. Faidy
M. Golliet
R. M. Jessee
J. Johnston, Jr.
M. Lashley
K. A. Manoly
D. P. Munson
T. M. Musto
J. E. O'Sullivan
V. Rohatgi
F. J. Schaaf, Jr.
R. Stakenborghs
M. Troughton
J. Wright
D. Burwell, *Contributing Member*

Special Working Group on Honors and Awards (BPV III)

R. M. Jessee, *Chair*
A. Appleton
R. W. Barnes
D. E. Matthews
J. C. Minichiello

Special Working Group on Industry Experience for New Plants (BPV III & BPV XI)

J. T. Lindberg, *Chair*
J. Ossmann, *Chair*
M. C. Buckley, *Secretary*
A. Cardillo
T. L. Chan
P. J. Hennessey
D. O. Henry
J. Honcharik
C. G. Kim
O.-S. Kim
K. Matsunaga
D. E. Matthews
R. E. McLaughlin
D. W. Sandusky
T. Tsuruta
R. M. Wilson
S. M. Yee
A. Tsirigotis, *Alternate*

Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

Special Working Group on International Meetings (BPV III)

D. E. Matthews, *Chair*
A. Byk, *Staff Secretary*
R. W. Barnes
T. D. Burchell
R. L. Crane
P. R. Donavin
R. S. Hill III
M. N. Mitchell
E. L. Pleins
R. F. Reedy, Sr.
C. A. Sanna
W. J. Sperko

Special Working Group on New Plant Construction Issues (BPV III)

E. L. Pleins, *Chair*
M. C. Scott, *Secretary*
A. Cardillo
P. J. Coco
J. Honcharik
E. V. Imbro
O.-S. Kim
M. Kris
J. C. Minichiello
D. W. Sandusky
R. R. Stevenson
M. L. Wilson
H. Xu
J. Yan
N. J. Hansing, *Alternate*
A. Byk, *Contributing Member*

Special Working Group on Regulatory Interface (BPV III)

E. V. Imbro, *Chair*
P. Malouines, *Secretary*
S. Bell
A. Cardillo
P. J. Coco
J. Grimm
J. Honcharik
K. Matsunaga
D. E. Matthews
B. McGlone
A. T. Roberts III
R. R. Stevenson
M. L. Wilson
N. J. Hansing, *Alternate*

COMMITTEE ON HEATING BOILERS (BPV IV)

J. A. Hall, *Chair*
T. L. Bedeaux, *Vice Chair*
C. R. Ramcharran, *Staff Secretary*
B. Calderon
J. Calland
J. P. Chicoine
J. M. Downs
J. L. Kleiss
J. Klug
P. A. Molvie
R. D. Troutt
M. Wadkinson
R. V. Wielgoszinski
H. Michael, *Delegate*
D. Picart, *Delegate*
B. J. Iske, *Alternate*
A. Heino, *Contributing Member*
S. V. Voorhees, *Contributing Member*

Subgroup on Care and Operation of Heating Boilers (BPV IV)

R. D. Troutt, *Chair*
C. R. Ramcharran, *Staff Secretary*
B. Ahee
T. L. Bedeaux
J. Calland
J. M. Downs
J. A. Hall
J. L. Kleiss
P. A. Molvie
M. Wadkinson
C. Lasarte, *Contributing Member*

Subgroup on Cast Boilers (BPV IV)

J. P. Chicoine, *Chair*
C. R. Ramcharran, *Staff Secretary*
T. L. Bedeaux
J. M. Downs
J. A. Hall
J. L. Kleiss
M. Mengon

Subgroup on Materials (BPV IV)

M. Wadkinson, *Chair*
C. R. Ramcharran, *Staff Secretary*
L. Badziagowski
T. L. Bedeaux
J. Calland
J. M. Downs
J. A. Hall
B. J. Iske

Subgroup on Water Heaters (BPV IV)

J. Calland, *Chair*
C. R. Ramcharran, *Staff Secretary*
B. Ahee
L. Badziagowski
J. P. Chicoine
C. Dinic
B. J. Iske
J. L. Kleiss
P. A. Molvie
M. A. Taylor
T. E. Trant
R. D. Troutt

Subgroup on Welded Boilers (BPV IV)

P. A. Molvie, *Chair*
C. R. Ramcharran, *Staff Secretary*
B. Ahee
L. Badziagowski
T. L. Bedeaux
B. Calderon
J. Calland
C. Dinic
J. L. Kleiss
M. Mengon
R. D. Troutt
M. Wadkinson
R. V. Wielgoszinski

COMMITTEE ON NONDESTRUCTIVE EXAMINATION (BPV V)

G. W. Hembree, *Chair*
N. A. Finney, *Vice Chair*
C. R. Ramcharran, *Staff Secretary*
J. Bennett
P. L. Brown
M. A. Burns
N. Carter
C. Emslander
A. F. Garbolevsky
J. F. Halley
P. T. Hayes
S. A. Johnson
F. B. Kovacs
B. D. Laite
C. May
L. E. Mullins
A. B. Nagel
T. L. Plasek
F. J. Sattler
P. B. Shaw
C. Vorwald
G. M. Gatti, *Delegate*
X. Guiping, *Delegate*
S. J. Akrin, *Contributing Member*
J. E. Batey, *Contributing Member*
A. S. Birks, *Contributing Member*
N. Y. Faransso, *Contributing Member*
R. W. Kruzic, *Contributing Member*
H. C. Graber, *Honorary Member*
O. F. Hedden, *Honorary Member*
J. R. MacKay, *Honorary Member*
T. G. McCarty, *Honorary Member*

Executive Committee (BPV V)

N. A. Finney, *Chair*
G. W. Hembree, *Vice Chair*
C. R. Ramcharran, *Staff Secretary*
C. Emslander
S. A. Johnson
F. B. Kovacs
A. B. Nagel
C. Vorwald

Subgroup on General Requirements/Personnel Qualifications and Inquiries (BPV V)

C. Emslander, *Chair*
N. Carter, *Vice Chair*
J. Bennett
T. Clausing
N. A. Finney
G. W. Hembree
S. A. Johnson
F. B. Kovacs
K. Krueger
C. May
D. I. Morris
A. B. Nagel
S. J. Akrin, *Contributing Member*
J. E. Batey, *Contributing Member*
A. S. Birks, *Contributing Member*
N. Y. Faransso, *Contributing Member*
J. P. Swezy, Jr., *Contributing Member*

AVA Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

Subgroup on Surface Examination Methods (BPV V)

S. A. Johnson, *Chair*
C. May, *Vice Chair*
P. L. Brown
N. Carter
T. Clausing
N. Farenbaugh
N. A. Finney
J. F. Halley
K. Hayes
G. W. Hembree
B. D. Laite
L. E. Mullins
A. B. Nagel
F. J. Sattler
P. B. Shaw
M. Wolf
D. Woodward
G. M. Gatti, *Delegate*
S. J. Akrin, *Contributing Member*
J. E. Batey, *Contributing Member*
A. S. Birks, *Contributing Member*
N. Y. Faransso, *Contributing Member*
R. W. Kruzic, *Contributing Member*

Subgroup on Volumetric Methods (BPV V)

A. B. Nagel, *Chair*
C. May, *Vice Chair*
P. L. Brown
J. M. Davis
N. A. Finney
A. F. Garbolevsky
J. F. Halley
R. W. Hardy
P. T. Hayes
G. W. Hembree
S. A. Johnson
F. B. Kovacs
C. Magruder
L. E. Mullins
T. L. Plasek
F. J. Sattler
C. Vorwald
G. M. Gatti, *Delegate*
S. J. Akrin, *Contributing Member*
J. E. Batey, *Contributing Member*
N. Y. Faransso, *Contributing Member*
R. W. Kruzic, *Contributing Member*

Special Working Group on Advanced Ultrasonic Testing Technique (BPV V)

L. E. Mullins, *Chair*
K. Krueger, *Vice Chair*
D. Adkins
D. Bajula
N. A. Finney
J. L. Garner
J. F. Haley
P. T. Hayes
M. Lozev
C. Magruder
M. Sens

Special Working Group on Full Matrix Capture (FMC) Ultrasonic Testing (BPV V)

P. T. Hayes, *Chair*
K. Hayes, *Vice Chair*
D. Adkins
D. Bajula
D. Braconnier
J. Catty
B. Erne
S. Falter
N. A. Finney
J. L. Garner
R. T. Grotenhuis
J. F. Halley
G. W. Hembree
B. D. Laite
F. Laprise
M. Lozev
C. Magruder
F. Morrow
L. E. Mullins
A. B. Nagel
E. Peloquin
D. Richard
M. Sens
D. Tompkins
J. Vinyard
O. Volf
C. Wassink

Special Working Group on the Use of Unmanned Aerial Vehicles/ Systems for Inspection (BPV V)

G. W. Hembree, *Chair*
P. J. Coco, *Vice Chair*
L. Pulgarin, *Staff Secretary*
A. Bloye
T. Cinson
J. DiPalma
M. Ellis
S. Flash
R. T. Grotenhuis
K. Hayes
P. T. Hayes
R. Janowiak
C. May
L. E. Mullins
M. Orihuela
L. Petrosky
P. C. Prahl
J. Schroeter
K. Schupp
M. Sens
A. T. Taggart
R. Vayda
K. H. Kim, *Delegate*
R. J. Winn, *Delegate*
L. Zhang, *Delegate*
Q. Chen, *Contributing Member*
A. Cook, *Contributing Member*
A. E. Krauser, *Contributing Member*
X. Wen, *Contributing Member*
F. Wu, *Contributing Member*
Y. Yang, *Contributing Member*

Working Group on Acoustic Emissions (SG-VM) (BPV V)

N. Y. Faransso, *Chair*
S. R. Doctor, *Vice Chair*
J. Catty
V. F. Godinez-Azcuaga
R. K. Miller
M. A. Gonzalez, *Alternate*
J. E. Batey, *Contributing Member*

Working Group on Radiography (SG-VM) (BPV V)

C. Vorwald, *Chair*
F. B. Kovacs, *Vice Chair*
J. Anderson
P. L. Brown
C. Emslander
A. F. Garbolevsky
R. W. Hardy
G. W. Hembree
C. Johnson
S. A. Johnson
B. D. Laite
C. May
R. J. Mills
A. B. Nagel
T. L. Plasek
T. Vidimos
B. White
D. Woodward
S. J. Akrin, *Contributing Member*
J. E. Batey, *Contributing Member*
N. Y. Faransso, *Contributing Member*
R. W. Kruzic, *Contributing Member*

Working Group on Ultrasonics (SG-VM) (BPV V)

N. A. Finney, *Chair*
J. F. Halley, *Vice Chair*
D. Adkins
C. Brown
J. M. Davis
C. Emslander
P. T. Hayes
S. A. Johnson
K. Krueger
B. D. Laite
C. Magruder
C. May
L. E. Mullins
A. B. Nagel
K. Page
F. J. Sattler
D. Tompkins
D. Van Allen
J. Vinyard
C. Vorwald
N. Y. Faransso, *Contributing Member*
R. W. Kruzic, *Contributing Member*

Working Group on Guided Wave Ultrasonic Testing (SG-VM) (BPV V)

N. Y. Faransso, *Chair*
S. A. Johnson, *Vice Chair*
D. Alleyne
J. F. Halley
G. M. Light
P. Mudge
M. J. Quarry
J. Vanvelsor
J. E. Batey, *Contributing Member*

AVA Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

Italy International Working Group (BPV V)

P. L. Dinelli, *Chair*
A. Veroni, *Secretary*
T. Aldo
R. Bertolotti
F. Bresciani
G. Campos
N. Caputo
M. Colombo
F. Ferrarese
E. Ferrari
M. A. Grimoldi
G. Luoni
O. Oldani
U. Papponetti
P. Pedersoli
M. Zambon
G. Gobbi, *Contributing Member*
G. Pontiggia, *Contributing Member*

COMMITTEE ON PRESSURE VESSELS (BPV VIII)

R. J. Basile, *Chair*
S. C. Roberts, *Vice Chair*
E. Lawson, *Staff Secretary*
S. J. Rossi, *Staff Secretary*
G. Aurioles, Sr.
J. Cameron
A. Chaudouet
D. B. DeMichael
J. P. Glaspie
J. F. Grubb
B. F. Hantz
L. E. Hayden, Jr.
M. Kowalczyk
D. L. Kurle
M. D. Lower
R. Mahadeen
S. A. Marks
R. W. Mikitka
G. M. Mital
B. R. Morelock
T. P. Pastor
D. T. Peters
M. J. Pischke
M. D. Rana
G. B. Rawls, Jr.
F. L. Richter
C. D. Rodery
J. C. Sowinski
D. Srnic
D. B. Stewart
P. L. Sturgill
D. A. Swanson
J. P. Swezy, Jr.
S. Terada
E. Upitis
A. Viet
K. Xu
P. A. McGowan, *Delegate*
H. Michael, *Delegate*
K. Oyamada, *Delegate*
M. E. Papponetti, *Delegate*
X. Tang, *Delegate*
W. S. Jacobs, *Contributing Member*
G. G. Karcher, *Contributing Member*
K. T. Lau, *Contributing Member*
U. R. Miller, *Contributing Member*
K. Mokhtarian, *Contributing Member*
K. K. Tam, *Honorary Member*

Executive Committee (BPV VIII)

S. C. Roberts, *Chair*
S. J. Rossi, *Staff Secretary*
G. Aurioles, Sr.
R. J. Basile
M. Kowalczyk
D. L. Kurle
M. D. Lower
R. Mahadeen
S. A. Marks
G. M. Mital
D. A. Swanson
A. Viet

Subgroup on Design (BPV VIII)

D. A. Swanson, *Chair*
J. C. Sowinski, *Vice Chair*
M. Faulkner, *Secretary*
G. Aurioles, Sr.
S. R. Babka
O. A. Barsky
R. J. Basile
M. R. Breach
F. L. Brown
D. Chandiramani
B. F. Hantz
C. E. Hinnant
C. S. Hinson
M. H. Jawad
S. Krishnamurthy
D. L. Kurle
M. D. Lower
R. W. Mikitka
B. Millet
T. P. Pastor
M. D. Rana
G. B. Rawls, Jr.
S. C. Roberts
C. D. Rodery
T. G. Seipp
D. Srnic
S. Terada
J. Vattappilly
R. A. Whipple
K. Xu
K. Oyamada, *Delegate*
M. E. Papponetti, *Delegate*
W. S. Jacobs, *Contributing Member*
P. K. Lam, *Contributing Member*
K. Mokhtarian, *Contributing Member*
S. C. Shah, *Contributing Member*
K. K. Tam, *Contributing Member*
E. Upitis, *Contributing Member*
Z. Wang, *Contributing Member*

Working Group on Design-By-Analysis (BPV VIII)

B. F. Hantz, *Chair*
T. W. Norton, *Secretary*
D. A. Arnett
R. G. Brown
D. Dewees
C. F. Heberling II
C. E. Hinnant
M. H. Jawad
S. Kataoka
S. Kilambi
K. D. Kirkpatrick
S. Krishnamurthy
A. Mann
N. McKie
G. A. Miller
C. Nadarajah
P. Prueter
M. D. Rana
T. G. Seipp
M. A. Shah
S. Terada
K. Saboda, *Contributing Member*

Subgroup on Fabrication and Examination (BPV VIII)

S. A. Marks, *Chair*
E. A. Whittle, *Vice Chair*
T. Halligan, *Secretary*
B. R. Morelock, *Secretary*
N. Carter
D. I. Morris
O. Mulet
M. J. Pischke
M. J. Rice
C. D. Rodery
B. F. Shelley
P. L. Sturgill
J. P. Swezy, Jr.
E. Upitis
K. Oyamada, *Delegate*
W. J. Bees, *Contributing Member*
L. F. Campbell, *Contributing Member*
W. S. Jacobs, *Contributing Member*
J. Lee, *Contributing Member*
J. Si, *Contributing Member*
R. Uebel, *Contributing Member*
X. Xue, *Contributing Member*
B. Yang, *Contributing Member*

Subgroup on General Requirements (BPV VIII)

M. D. Lower, *Chair*
J. P. Glaspie, *Vice Chair*
F. L. Richter, *Secretary*
R. J. Basile
T. P. Beirne
D. T. Davis
D. B. DeMichael
M. Faulkner
F. Hamtak
L. E. Hayden, Jr.
J. Hoskinson
T. P. Pastor
D. K. Peetz
G. B. Rawls, Jr.
S. C. Roberts
J. C. Sowinski
P. Speranza
D. Srnic
D. B. Stewart
D. A. Swanson
R. Uebel
Z. Wang, *Contributing Member*
Y. Yang, *Contributing Member*

AVA Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

Task Group on Fired Heater Pressure Vessels (BPV VIII)

F. Hamtak, *Chair*
J. Hoskinson
W. Kim
S. Kirk
T. P. Pastor
J. Rust
E. Smith
D. Srnic
J. P. Swezy, Jr.

Task Group on Subsea Applications (BPV VIII)

K. Karpanan, *Chair*
M. Sarzynski, *Vice Chair*
L. P. Antalffy
R. C. Biel
P. Bunch
J. Ellens
A. J. Grohmann
S. Harbert
X. Kaculi
F. Kirkemo
C. Lan
N. McKie
S. K. Parimi
J. R. Sims
Y. Wada
R. Cordes, *Contributing Member*
D. T. Peters, *Contributing Member*

Task Group on UG-20(f) (BPV VIII)

S. Krishnamurthy, *Chair*
T. L. Anderson
K. E. Bagnoli
R. P. Deubler
B. F. Hantz
B. R. Macejko
J. Penso
M. Prager
M. D. Rana

Task Group on U-2(g) (BPV VIII)

D. A. Swanson, *Chair*
G. Aurioles, Sr.
S. R. Babka
R. J. Basile
D. K. Chandiramani
R. Mahadeen
T. W. Norton
T. P. Pastor
R. F. Reedy, Sr.
S. C. Roberts
D. Srnic
J. P. Swezy, Jr.
R. Uebel
K. K. Tam, *Contributing Member*

Subgroup on Heat Transfer Equipment (BPV VIII)

G. Aurioles, Sr., *Chair*
P. Matkovics, *Vice Chair*
M. D. Clark, *Secretary*
D. Angstadt
S. R. Babka
J. H. Barbee
O. A. Barsky
L. Bower
T. Bunyarattaphantu
A. Chaudouet
D. L. Kurle
R. Mahadeen
S. Mayeux
S. Neilsen
E. Smith
A. M. Voytko
R. P. Wiberg
I. G. Campbell, *Contributing Member*
G. G. Karcher, *Contributing Member*
T. W. Norton, *Contributing Member*
J. Pasek, *Contributing Member*
D. Srnic, *Contributing Member*
Z. Tong, *Contributing Member*

Working Group on Plate Heat Exchangers (BPV VIII)

P. Matkovics, *Chair*
S. R. Babka
K. Devlin
J. F. Grubb
V. Gudge
F. Hamtak
R. Mahadeen
S. A. Marks
D. I. Morris
M. J. Pischke
D. Srnic
S. Sullivan

Subgroup on High Pressure Vessels (BPV VIII)

G. M. Mital, *Chair*
K. Subramanian, *Vice Chair*
A. P. Maslowski, *Staff Secretary*
L. P. Antalffy
R. C. Biel
P. N. Chaku
L. Fridlund
R. T. Hallman
J. A. Kapp
K. Karpanan
A. K. Khare
S. C. Mordre
G. T. Nelson
D. T. Peters
E. A. Rodriguez
E. D. Roll
K. C. Simpson, Jr.
J. R. Sims
E. Smith
F. W. Tatar
S. Terada
C. Tipple
J. L. Traud
R. Wink
Y. Xu
R. Cordes, *Contributing Member*
R. D. Dixon, *Contributing Member*
R. M. Hoshman, *Contributing Member*
Y. Huang, *Contributing Member*
J. Keltjens, *Contributing Member*
F. Kirkemo, *Contributing Member*
K.-J. Young, *Contributing Member*
D. J. Burns, *Honorary Member*
D. M. Fryer, *Honorary Member*
G. J. Mraz, *Honorary Member*
E. H. Perez, *Honorary Member*

Subgroup on Materials (BPV VIII)

M. Kowalczyk, *Chair*
J. Cameron, *Vice Chair*
K. Xu, *Secretary*
P. Chavdarov
A. Di Rienzo
J. F. Grubb
S. Kilambi
D. Maitra
J. Penso
D. W. Rahoi
J. Robertson
R. C. Sutherlin
E. Upitis
J. D. Fritz, *Contributing Member*
M. Katcher, *Contributing Member*
W. M. Lundy, *Contributing Member*
J. A. McMaster, *Contributing Member*
B. Pletcher, *Contributing Member*
R. Schiavi, Jr., *Contributing Member*
P. G. Wittenbach, *Contributing Member*
X. Wu, *Contributing Member*

Subgroup on Toughness (BPV VIII)

D. L. Kurle, *Chair*
K. Xu, *Vice Chair*
N. Carter
T. Halligan
W. S. Jacobs
S. Krishnamurthy
K. E. Orie
M. D. Rana
F. L. Richter
K. Subramanian
D. A. Swanson
J. P. Swezy, Jr.
S. Terada
E. Upitis
J. Vattappilly
K. Oyamada, *Delegate*
K. Mokhtarian, *Contributing Member*

Subgroup on Graphite Pressure Equipment (BPV VIII)

A. Viet, *Chair*
C. W. Cary, *Vice Chair*
G. C. Becherer
F. L. Brown
J. D. Clements
R. W. Dickerson
E. Soltow
A. A. Stupica

AVA Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

China International Working Group (BPV VIII)

X. Chen, *Chair*
B. Shou, *Vice Chair*
Z. Fan, *Secretary*
Y. Chen
Z. Chen
J. Cui
R. Duan
W. Guo
B. Han
J. Hu
Q. Hu
H. Hui
D. Luo
Y. Luo
C. Miao
X. Qian
L. Sun
B. Wang
C. Wu
F. Xu
F. Xuan
Y. Yang
K. Zhang
Yanfeng Zhang
Yijun Zhang
S. Zhao
J. Zheng
G. Zhu

Germany International Working Group (BPV VIII)

P. Chavdarov, *Chair*
A. Spangenberg, *Vice Chair*
H. P. Schmitz, *Secretary*
B. Daume
A. Emrich
J. Fleischfresser
R. Helmholdt
R. Kauer
D. Koelbl
S. Krebs
T. Ludwig
R. A. Meyers
H. Michael
G. Naumann
S. Reich
M. Sykora
P. Paluszkiewicz, *Contributing Member*
R. Uebel, *Contributing Member*

India International Working Group (BPV VIII)

D. Chandiramani, *Chair*
D. Kulkarni, *Vice Chair*
A. D. Dalal, *Secretary*
P. Arulkumar
B. Basu
P. U. Gandhi
V. Jayabalan
P. C. Pathak
S. B. Patil
V. V. P. Kumar
M. P. Shah
P. G. Shah
V. T. Valavan
M. Sharma, *Contributing Member*

Italy International Working Group (BPV VIII)

A. Teli, *Chair*
A. Veroni, *Secretary*
B. G. Alborali
P. Aliprandi
A. Avogadri
R. Boatti
A. Camanni
M. Colombo
P. Conti
P. L. Dinelli
F. Finco
M. Guglielmetti
A. F. Magri
P. Mantovani
M. Massobrio
M. Millefanti
L. Moracchioli
P. Pacor
G. Pontiggia
C. Sangaletti
S. Sarti
G. Gobbi, *Contributing Member*

Special Working Group on Bolted Flanged Joints (BPV VIII)

R. W. Mikitka, *Chair*
G. Aurioles, Sr.
D. Bankston, Jr.
W. Brown
H. Chen
A. Mann
W. McDaniel
M. Osterfoss
J. R. Payne
G. B. Rawls, Jr.
R. Wacker

Task Group on Impulsively Loaded Vessels (BPV VIII)

A. M. Clayton, *Chair*
G. A. Antaki
D. D. Barker
J. E. Didlake, Jr.
T. A. Duffey
K. Hayashi
K. W. King
R. Kitamura
R. A. Leishear
P. O. Leslie
F. Ohlson
E. A. Rodriguez
C. Romero
N. Rushton
J. H. Stofleth
Q. Dong, *Contributing Member*
H.-P. Schildberg, *Contributing Member*
J. E. Shepherd, *Contributing Member*
M. Yip, *Contributing Member*

Subgroup on Interpretations (BPV VIII)

R. Mahadeen, *Chair*
E. Lawson, *Staff Secretary*
G. Aurioles, Sr.
S. R. Babka
R. J. Basile
J. Cameron
N. Carter
C. W. Cary
D. B. DeMichael
R. D. Dixon
M. Kowalczyk
D. L. Kurle
M. D. Lower
A. Mann
P. Matkovics
G. M. Mital
D. I. Morris
D. T. Peters
S. C. Roberts
C. D. Rodery
T. G. Seipp
D. B. Stewart
P. L. Sturgill
D. A. Swanson
J. P. Swezy, Jr.
J. Vattappilly
A. Viet
P. G. Wittenbach
K. Xu
T. P. Pastor, *Contributing Member*

COMMITTEE ON WELDING, BRAZING, AND FUSING (BPV IX)

D. A. Bowers, *Chair*
M. J. Pischke, *Vice Chair*
E. Lawson, *Staff Secretary*
M. Bernasek
M. A. Boring
J. G. Feldstein
P. D. Flenner
S. E. Gingrich
K. L. Hayes
R. M. Jessee
J. S. Lee
W. M. Lundy
T. Melfi
W. F. Newell, Jr.
D. K. Peetz
J. Pillow
E. G. Reichelt
M. J. Rice
M. B. Sims
W. J. Sperko
P. L. Sturgill
J. P. Swezy, Jr.
E. W. Woelfel
A. Roza, *Delegate*
M. Consonni, *Contributing Member*
S. A. Jones, *Contributing Member*
A. S. Olivares, *Contributing Member*
S. Raghunathan, *Contributing Member*
M. J. Stanko, *Contributing Member*
P. L. Van Fosson, *Contributing Member*
R. K. Brown, Jr., *Honorary Member*
M. L. Carpenter, *Honorary Member*
B. R. Newmark, *Honorary Member*
S. D. Reynolds, Jr., *Honorary Member*

Subgroup on Brazing (BPV IX)

M. J. Pischke, *Chair*
E. W. Beckman
A. F. Garbolevsky
S. A. Marks
N. Mohr
A. R. Nywening
J. P. Swezy, Jr.

AVA Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

Subgroup on General Requirements (BPV IX)

P. L. Sturgill, *Chair*
S. A. Marks, *Secretary*
E. W. Beckman
J. P. Bell
D. A. Bowers
P. Gilston
F. Hamtak
A. Howard
R. M. Jessee
D. K. Peetz
J. Pillow
H. B. Porter
J. P. Swezy, Jr.
E. W. Woelfel
E. Molina, *Delegate*
B. R. Newmark, *Honorary Member*

Subgroup on Materials (BPV IX)

M. Bernasek, *Chair*
T. Anderson
J. L. Arnold
E. Cutlip
S. E. Gingrich
L. S. Harbison
R. M. Jessee
T. Melfi
S. D. Nelson
M. J. Pischke
A. Roza
C. E. Sainz
W. J. Sperko
P. L. Sturgill
J. Warren
C. Zanfir
V. G. V. Giunto, *Delegate*
B. Krueger, *Contributing Member*
M. J. Stanko, *Contributing Member*

Subgroup on Plastic Fusing (BPV IX)

E. W. Woelfel, *Chair*
D. Burwell
K. L. Hayes
R. M. Jessee
J. Johnston, Jr.
J. E. O'Sullivan
E. G. Reichelt
M. J. Rice
S. Schuessler
M. Troughton
J. Wright

Subgroup on Welding Qualifications (BPV IX)

M. J. Rice, *Chair*
J. S. Lee, *Vice Chair*
K. L. Hayes, *Secretary*
M. Bernasek
M. A. Boring
D. A. Bowers
R. B. Corbit
P. D. Flenner
L. S. Harbison
M. Heinrichs
W. M. Lundy
T. Melfi
W. F. Newell, Jr.
B. R. Newton
S. Raghunathan
E. G. Reichelt
M. B. Sims
W. J. Sperko
S. A. Sprague
P. L. Sturgill
J. P. Swezy, Jr.
T. C. Wiesner
A. D. Wilson
D. Chandiramani, *Contributing Member*
M. Consonni, *Contributing Member*
M. Dehghan, *Contributing Member*

Germany International Working Group (BPV IX)

P. Chavdarov, *Chair*
A. Spangenberg, *Vice Chair*
E. Lawson, *Staff Secretary*
P. Thiebo, *Secretary*
J. Daldrup
B. Daume
E. Floer
R. Helmholdt
S. Krebs
T. Ludwig
G. Naumann
A. Roza
K.-G. Toelle
F. Wodke

Italy International Working Group (BPV IX)

A. Camanni, *Chair*
A. Veroni, *Secretary*
P. Angelini
M. Bernasek
R. Boatti
P. L. Dinelli
F. Ferrarese
E. Lazzari
M. Mandina
M. Massobrio
A. S. Monastra
L. Moracchioli
P. Pacor
G. Pontiggia
S. Verderame
A. Volpi
G. Gobbi, *Contributing Member*

COMMITTEE ON FIBER-REINFORCED PLASTIC PRESSURE VESSELS (BPV X)

B. Linnemann, *Chair*
B. F. Shelley, *Vice Chair*
P. D. Stumpf, *Staff Secretary*
A. L. Beckwith
F. L. Brown
J. L. Bustillos
B. R. Colley
T. W. Cowley
I. L. Dinovo
D. Eisberg
M. R. Gorman
B. Hebb
L. E. Hunt
D. L. Keeler
D. H. McCauley
N. L. Newhouse
G. Ramirez
J. R. Richter
D. O. Yancey, Jr.
P. H. Ziehl
D. H. Hodgkinson, *Contributing Member*

COMMITTEE ON NUCLEAR INSERVICE INSPECTION (BPV XI)

R. W. Swayne, *Chair*
S. D. Kulat, *Vice Chair*
D. W. Lamond, *Vice Chair*
K. Verderber, *Staff Secretary*
V. L. Armentrout
J. F. Ball
W. H. Bamford
M. L. Benson
J. M. Boughman
S. B. Brown
T. L. Chan
R. C. Cipolla
D. R. Cordes
D. D. Davis
H. Do
R. L. Dyle
E. V. Farrell, Jr.
M. J. Ferlisi
P. D. Fisher
E. B. Gerlach
T. J. Griesbach
J. Hakii
M. L. Hall
D. O. Henry
D. R. Lee
J. T. Lindberg
G. A. Lofthus
H. Malikowski
G. Navratil
S. A. Norman
J. E. O'Sullivan
N. A. Palm
G. C. Park
A. T. Roberts III
D. A. Scarth
F. J. Schaaf, Jr.
J. C. Spanner, Jr.
D. J. Tilly
D. E. Waskey
J. G. Weicks
H. D. Chung, *Delegate*
C. Ye, *Delegate*
W. C. Holston, *Alternate*
R. O. McGill, *Alternate*
T. Nuoffer, *Alternate*
B. R. Newton, *Contributing Member*
C. D. Cowfer, *Honorary Member*
R. E. Gimple, *Honorary Member*
F. E. Gregor, *Honorary Member*
O. F. Hedden, *Honorary Member*
R. D. Kerr, *Honorary Member*
P. C. Riccardella, *Honorary Member*
R. A. West, *Honorary Member*
C. J. Wirtz, *Honorary Member*
R. A. Yonekawa, *Honorary Member*

Executive Committee (BPV XI)

S. D. Kulat, *Chair*
R. W. Swayne, *Vice Chair*
K. Verderber, *Staff Secretary*
W. H. Bamford
M. L. Benson
R. L. Dyle
M. J. Ferlisi
E. B. Gerlach
D. W. Lamond
J. T. Lindberg
G. Navratil
T. Nuoffer
G. C. Park
J. C. Spanner, Jr.
W. C. Holston, *Alternate*

AVA Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

Argentina International Working Group (BPV XI)

F. M. Schroeter, *Chair*
M. F. Liendo, *Vice Chair*
O. Martinez, *Staff Secretary*
D. A. Cipolla
A. Claus
D. Costa
D. P. Delfino
D. N. Dell'Erba
A. Dominguez
S. A. Echeverria
E. P. Fresquet
M. M. Gamizo
I. M. Guerreiro
F. Llorente
R. J. Lopez
M. Magliocchi
L. R. Miño
J. Monte
M. D. Pereda
A. Politi
C. G. Real
G. J. Scian
M. J. Solari
P. N. Torano
P. Yamamoto

China International Working Group (BPV XI)

J. H. Liu, *Chair*
Y. Nie, *Vice Chair*
C. Ye, *Vice Chair*
M. W. Zhou, *Secretary*
J. F. Cai
H. Chen
H. D. Chen
Y. Cheng
Y. B. Guo
Y. Hongqi
D. R. Horn
Y. Hou
D. M. Kang
S. X. Lin
Y. Liu
W. N. Pei
L. Shiwei
Y. X. Sun
G. X. Tang
Q. Wang
Q. W. Wang
Z. S. Wang
L. Xing
F. Xu
Q. Yin
K. Zhang
Y. Zhang
Y. Zhe
Z. M. Zhong

German International Working Group (BPV XI)

R. Döring, *Chair*
R. Trieglaff, *Vice Chair*
R. Piel, *Secretary*
H.-R. Bath
A. Casse
S. Dugan
M. Hagenbruch
E. Iacopetta
H.-W. Lange
N. Legl
T. Ludwig
X. Pitoiset
M. Reichert
H. Schau
L. Sybertz
J. Wendt
S. Zickler

Special Working Group on Editing and Review (BPV XI)

R. W. Swayne, *Chair*
M. Orihuela
K. R. Rao
D. J. Tilly

Task Group on Inspectability (BPV XI)

J. T. Lindberg, *Chair*
M. J. Ferlisi, *Secretary*
W. H. Bamford
A. Cardillo
D. R. Cordes
P. Gionta
D. O. Henry
E. Henry
J. Honcharik
J. Howard
R. Klein
C. Latiolais
D. Lieb
G. A. Lofthus
D. E. Matthews
P. J. O'Regan
J. Ossmann
S. A. Sabo
P. Sullivan
C. Thomas
J. Tucker

Task Group on ISI of Spent Nuclear Fuel Storage and Transportation Containment Systems (BPV XI)

K. Hunter, *Chair*
M. Orihuela, *Secretary*
D. J. Ammerman
W. H. Borter
J. Broussard
S. Brown
C. R. Bryan
T. Carraher
D. Dunn
N. Fales
R. C. Folley
G. Grant
B. Gutherman
S. Horowitz
M. W. Joseph
M. Keene
M. Liu
K. Mauskar
R. M. Meyer
B. L. Montgomery
T. Nuoffer
R. M. Pace
E. L. Pleins
M. A. Richter
B. Sarno
R. Sindelar
J. C. Spanner, Jr.
M. Staley
J. Wellwood
X. J. Zhai
P.-S. Lam, *Alternate*
G. White, *Alternate*
J. Wise, *Alternate*
H. Smith, *Contributing Member*

Subgroup on Evaluation Standards (SG-ES) (BPV XI)

W. H. Bamford, *Chair*
N. A. Palm, *Secretary*
M. Brumovsky
H. D. Chung
R. C. Cipolla
C. M. Faidy
B. R. Ganta
T. J. Griesbach
K. Hasegawa
K. Hojo
D. N. Hopkins
D. R. Lee
Y. S. Li
R. O. McGill
H. S. Mehta
K. Miyazaki
R. M. Pace
J. C. Poehler
S. Ranganath
D. A. Scarth
D.-J. Shim
G. L. Stevens
A. Udyawar
T. V. Vo
G. M. Wilkowski
S. X. Xu
M. L. Benson, *Alternate*

Task Group on Evaluation of Beyond Design Basis Events (SG-ES) (BPV XI)

R. M. Pace, *Chair*
S. X. Xu, *Secretary*
G. A. Antaki
P. R. Donavin
R. G. Gilada
T. J. Griesbach
M. Hayashi
K. Hojo
S. A. Kleinsmith
H. S. Mehta
D. V. Sommerville
T. V. Vo
K. R. Wichman
G. M. Wilkowski
T. Weaver, *Contributing Member*

AVA Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

Working Group on Flaw Evaluation (SG-ES) (BPV XI)

R. C. Cipolla, *Chair*
S. X. Xu, *Secretary*
W. H. Bamford
M. L. Benson
B. Bezensek
M. Brumovsky
H. D. Chung
T. E. Demers
M. A. Erickson
C. M. Faidy
M. M. Farooq
B. R. Ganta
R. G. Gilada
F. D. Hayes
P. H. Hoang
K. Hojo
D. N. Hopkins
Y. Kim
V. Lacroix
D. R. Lee
Y. S. Li
M. Liu
H. S. Mehta
G. A. A. Miessi
K. Miyazaki
S. Noronha
R. K. Qashu
S. Ranganath
P. J. Rush
D. A. Scarth
W. L. Server
D.-J. Shim
S. Smith
M. Uddin
A. Udyawar
T. V. Vo
B. Wasiluk
K. R. Wichman
G. M. Wilkowski

Working Group on Flaw Evaluation Reference Curves (BPV XI)

G. L. Stevens, *Chair*
A. Udyawar, *Secretary*
W. H. Bamford
M. L. Benson
F. W. Brust
R. C. Cipolla
M. M. Farooq
A. E. Freed
K. Hasegawa
D. N. Hopkins
R. Janowiak
K. Kashima
K. Koyama
D. R. Lee
H. S. Mehta
K. Miyazaki
B. Pellereau
S. Ranganath
D. A. Scarth
D.-J. Shim
S. Smith
T. V. Vo
S. X. Xu

Working Group on Operating Plant Criteria (SG-ES) (BPV XI)

N. A. Palm, *Chair*
A. E. Freed, *Secretary*
K. R. Baker
W. H. Bamford
M. Brumovsky
T. L. Dickson
R. L. Dyle
M. A. Erickson
T. J. Griesbach
M. Hayashi
R. Janowiak
S. A. Kleinsmith
H. Kobayashi
H. S. Mehta
A. D. Odell
R. M. Pace
J. C. Poehler
S. Ranganath
W. L. Server
C. A. Tomes
A. Udyawar
T. V. Vo
D. P. Weakland
H. Q. Xu
T. Hardin, *Alternate*

Working Group on Pipe Flaw Evaluation (SG-ES) (BPV XI)

D. A. Scarth, *Chair*
G. M. Wilkowski, *Secretary*
K. Azuma
M. L. Benson
M. Brumovsky
F. W. Brust
H. D. Chung
R. C. Cipolla
N. G. Cofie
T. E. Demers
C. M. Faidy
M. M. Farooq
B. R. Ganta
S. R. Gosselin
C. E. Guzman-Leong
K. Hasegawa
P. H. Hoang
K. Hojo
D. N. Hopkins
E. J. Houston
R. Janowiak
S. Kalyanam
K. Kashima
V. Lacroix
Y. S. Li
R. O. McGill
H. S. Mehta
G. A. A. Miessi
K. Miyazaki
S. H. Pellet
P. J. Rush
W. L. Server
D.-J. Shim
S. Smith
A. Udyawar
T. V. Vo
B. Wasiluk
S. X. Xu
A. Alleshwaram, *Alternate*

Task Group on Evaluation Procedures for Degraded Buried Pipe (WG-PFE) (BPV XI)

R. O. McGill, *Chair*
S. X. Xu, *Secretary*
F. G. Abatt
G. A. Antaki
R. C. Cipolla
R. G. Gilada
K. Hasegawa
K. M. Hoffman
R. Janowiak
M. Kassar
M. Moenssens
D. P. Munson
R. M. Pace
P. J. Rush
D. A. Scarth

Subgroup on Nondestructive Examination (SG-NDE) (BPV XI)

J. C. Spanner, Jr., *Chair*
D. R. Cordes, *Secretary*
M. Briley
C. Brown
T. L. Chan
S. E. Cumblidge
K. J. Hacker
J. Harrison
D. O. Henry
J. T. Lindberg
G. A. Lofthus
S. A. Sabo
F. J. Schaaf, Jr.
R. V. Swain
C. A. Nove, *Alternate*

Working Group on Personnel Qualification and Surface Visual and Eddy Current Examination (SG-NDE) (BPV XI)

J. T. Lindberg, *Chair*
C. Brown, *Secretary*
J. E. Aycock
J. Bennett
S. E. Cumblidge
A. Diaz
N. Farenbaugh
D. O. Henry
C. Shinsky
J. C. Spanner, Jr.
T. Thulien
J. T. Timm

Working Group on Procedure Qualification and Volumetric Examination (SG-NDE) (BPV XI)

G. A. Lofthus, *Chair*
J. Harrison, *Secretary*
M. Briley
A. Bushmire
D. R. Cordes
S. R. Doctor
K. J. Hacker
W. A. Jensen
D. A. Kull
C. A. Nove
S. A. Sabo
R. V. Swain
S. J. Todd
D. K. Zimmerman
B. Lin, *Alternate*

AVA Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

Subgroup on Repair/Replacement Activities (SG-RRA) (BPV XI)

E. B. Gerlach, *Chair*
E. V. Farrell, Jr., *Secretary*
J. F. Ball
M. Brandes
S. B. Brown
R. Clow
P. D. Fisher
M. L. Hall
S. L. McCracken
A. B. Meichler
B. R. Newton
J. E. O'Sullivan
G. C. Park
P. Raynaud
R. R. Stevenson
R. W. Swayne
D. J. Tilly
D. E. Waskey
J. G. Weicks
W. C. Holston, *Alternate*

Working Group on Welding and Special Repair Processes (SG-RRA) (BPV XI)

D. E. Waskey, *Chair*
D. J. Tilly, *Secretary*
D. Barborak
S. J. Findlan
P. D. Fisher
R. C. Folley
M. L. Hall
W. C. Holston
C. C. Kim
M. Kris
S. E. Marlette
S. L. McCracken
D. B. Meredith
B. R. Newton
J. E. O'Sullivan
D. Segletes
J. G. Weicks

Task Group on Temper Bead Welding (BPV XI)

S. J. Findlan, *Chair*
D. Barborak
M. L. Hall
S. L. McCracken
D. B. Meredith
N. Mohr
B. R. Newton
J. E. O'Sullivan
D. Segletes
J. Tatman
D. J. Tilly
D. E. Waskey
J. G. Weicks

Task Group on Weld Overlay (BPV XI)

S. L. McCracken, *Chair*
S. J. Findlan
M. L. Hall
S. Hunter
S. E. Marlette
D. B. Meredith
P. Raynaud
D. Segletes
D. E. Waskey
J. G. Weicks

Working Group on Non-Metals Repair/Replacement Activities (SG-RRA) (BPV XI)

J. E. O'Sullivan, *Chair*
S. Schuessler, *Secretary*
M. Brandes
J. Johnston, Jr.
M. Lashley
M. P. Marohl
T. M. Musto
S. Patterson
A. Pridmore
P. Raynaud
F. J. Schaaf, Jr.
R. Stakenborghs

Task Group on Repair by Carbon Fiber Composites (WGN-MRR) (BPV XI)

J. E. O'Sullivan, *Chair*
S. F. Arnold
S. W. Choi
D. R. Dechene
M. Golliet
L. S. Gordon
M. Kuntz
M. P. Marohl
C. A. Nove
R. P. Ojdrovic
A. Pridmore
P. Raynaud
S. Rios
V. Roy
J. Sealey
N. Stoeva
M. F. Uddin
J. Wen
B. Davenport, *Alternate*
C. W. Rowley, *Alternate*

Working Group on Design and Programs (SG-RRA) (BPV XI)

S. B. Brown, *Chair*
A. B. Meichler, *Secretary*
O. Bhatty
R. Clow
R. R. Croft
E. V. Farrell, Jr.
E. B. Gerlach
H. Malikowski
G. C. Park
M. A. Pyne
P. Raynaud
R. R. Stevenson
R. W. Swayne

Task Group on Risk-Informed Categorization and Treatment (BPV XI)

S. L. McCracken, *Chair*
T. Anselmi
H. Do
M. J. Ferlisi
E. B. Gerlach
K. W. Hall
A. E. Keyser
S. D. Kulat
D. W. Lamond
A. B. Meichler
G. Navratil
S. A. Norman
P. J. O'Regan
J. E. O'Sullivan
M. Ralstin
T. V. Vo
J. G. Weicks

Subgroup on Water-Cooled Systems (SG-WCS) (BPV XI)

G. Navratil, *Chair*
J. Nygaard, *Secretary*
J. M. Agold
V. L. Armentrout
J. M. Boughman
S. B. Brown
S. T. Chesworth
D. D. Davis
H. Q. Do
R. L. Dyle
M. J. Ferlisi
K. W. Hall
P. J. Hennessey
K. M. Hoffman
S. D. Kulat
D. W. Lamond
T. Nomura
T. Nuoffer
H. M. Stephens, Jr.
M. Weis
M. J. Homiack, *Alternate*

Task Group on High Strength Nickel Alloys Issues (SG-WCS) (BPV XI)

H. Malikowski, *Chair*
W. H. Bamford
K. Dietrich
P. R. Donavin
R. L. Dyle
K. M. Hoffman
C. Lohse
S. E. Marlette
B. L. Montgomery
G. C. Park
W. Sims
J. C. Spanner, Jr.
D. E. Waskey

Working Group on Containment (SG-WCS) (BPV XI)

H. M. Stephens, Jr., *Chair*
S. G. Brown, *Secretary*
P. S. Ghosal
H. T. Hill
B. Lehman
J. A. Munshi
M. Sircar
P. C. Smith
F. Syed
R. Thames
S. Walden

AVA Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

Working Group on Inspection of Systems and Components (SG-WCS) (BPV XI)

M. J. Ferlisi, *Chair*
M. Weis, *Secretary*
J. M. Agold
R. W. Blyde
K. Caver
C. Cueto-Felgueroso
H. Q. Do
K. W. Hall
M. L. G. Heras
K. M. Hoffman
J. Howard
S. D. Kulat
E. Lantz
G. J. Navratil
T. Nomura
J. C. Nygaard
J. C. Younger

Working Group on Pressure Testing (SG-WCS) (BPV XI)

J. M. Boughman, *Chair*
S. A. Norman, *Secretary*
T. Anselmi
B. Casey
Y.-K. Chung
M. J. Homiack
A. E. Keyser
D. W. Lamond
J. K. McClanahan
T. P. McClure
B. L. Montgomery
C. Thomas

Task Group on Buried Components Inspection and Testing (WG-PT) (BPV XI)

D. W. Lamond, *Chair*
J. M. Boughman, *Secretary*
M. Moenssens, *Secretary*
T. Anselmi
V. L. Armentrout
B. Davenport
A. Hiser
J. Ossmann
S. Rios

Working Group on Risk-Informed Activities (SG-WCS) (BPV XI)

M. A. Pyne, *Chair*
S. T. Chesworth, *Secretary*
J. M. Agold
C. Cueto-Felgueroso
A. E. Freed
J. Hakii
K. W. Hall
M. J. Homiack
S. D. Kulat
D. W. Lamond
E. Lantz
G. J. Navratil
P. J. O'Regan
N. A. Palm
D. Vetter
J. C. Younger

Working Group on General Requirements (BPV XI)

T. Nuoffer, *Chair*
J. Mayo, *Secretary*
J. F. Ball
T. L. Chan
P. J. Hennessey
A. T. Roberts III

Subgroup on Reliability and Integrity Management Program (SG-RIM) (BPV XI)

F. J. Schaaf, Jr., *Chair*
A. T. Roberts III, *Secretary*
T. Anselmi
N. Broom
S. R. Doctor
J. D. Fletcher
J. T. Fong
T. Graham
J. Grimm
B. Heald
D. M. Jones
D. R. Lee
B. Lin
R. K. Miller
R. W. Swayne
S. Takaya
R. Vayda

Working Group on MANDE (BPV XI)

H. M. Stephens, Jr., *Chair*
S. R. Doctor
N. A. Finney
J. T. Fong
D. O. Henry
L. E. Mullins
M. Turnbow

JSME/ASME Joint Task Group for System-Based Code (SWG-RIM) (BPV XI)

T. Asayama, *Chair*
S. R. Doctor
K. Dozaki
M. Hayashi
D. M. Jones
Y. Kamishima
D. R. Lee
H. Machida
A. T. Roberts III
F. J. Schaaf, Jr.
S. Takaya
D. Watanabe

COMMITTEE ON TRANSPORT TANKS (BPV XII)

N. J. Paulick, *Chair*
M. D. Rana, *Vice Chair*
J. Oh, *Staff Secretary*
A. N. Antoniou
P. Chilukuri
W. L. Garfield
M. Pitts
T. A. Rogers
S. Staniszewski
A. P. Varghese
Y. Doron, *Contributing Member*
R. Meyers, *Contributing Member*
M. R. Ward, *Contributing Member*

Executive Committee (BPV XII)

M. D. Rana, *Chair*
N. J. Paulick, *Vice Chair*
J. Oh, *Staff Secretary*
M. Pitts
S. Staniszewski
A. P. Varghese

Subgroup on Design and Materials (BPV XII)

A. P. Varghese, *Chair*
R. C. Sallash, *Secretary*
D. K. Chandiramani
P. Chilukuri
Y. Doron
R. D. Hayworth
S. L. McWilliams
N. J. Paulick
M. D. Rana
T. A. Rogers
M. Shah
S. Staniszewski
K. Xu
A. T. Duggleby, *Contributing Member*
G. G. Karcher, *Contributing Member*
M. R. Ward, *Contributing Member*
J. Zheng, *Contributing Member*

Subgroup on Fabrication, Inspection, and Continued Service (BPV XII)

M. Pitts, *Chair*
P. Chilukuri
Y. Doron
W. Garfield
R. D. Hayworth
O. Mulet
J. Roberts
T. A. Rogers
M. Rudek
R. C. Sallash
L. Selensky
S. Staniszewski
S. E. Benet, *Contributing Member*
G. McRae, *Contributing Member*
A. S. Olivares, *Contributing Member*

AVA Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

Subgroup on General Requirements (BPV XII)

S. Staniszewski, *Chair*
A. N. Antoniou
Y. Doron
J. L. Freiler
W. L. Garfield
O. Mulet
B. F. Pittel
M. Pitts
T. Rummel
R. C. Sallash
L. Selensky
P. Chilukuri, *Contributing Member*
T. J. Hitchcock, *Contributing Member*
G. McRae, *Contributing Member*
S. L. McWilliams, *Contributing Member*
T. A. Rogers, *Contributing Member*
D. G. Shelton, *Contributing Member*
M. R. Ward, *Contributing Member*

Subgroup on Nonmandatory Appendices (BPV XII)

N. J. Paulick, *Chair*
S. Staniszewski, *Secretary*
P. Chilukuri
M. Pitts
T. A. Rogers
D. G. Shelton
S. E. Benet, *Contributing Member*
D. D. Brusewitz, *Contributing Member*
Y. Doron, *Contributing Member*
T. J. Hitchcock, *Contributing Member*

COMMITTEE ON OVERPRESSURE PROTECTION (BPV XIII)

D. B. DeMichael, *Chair*
J. P. Glaspie, *Vice Chair*
C. E. O'Brien, *Staff Secretary*
J. F. Ball
J. Burgess
J. W. Dickson
A. Donaldson
S. F. Harrison, Jr.
D. Miller
B. K. Nutter
T. Patel
M. Poehlmann
D. E. Tompkins
Z. Wang
J. A. West
A. Wilson
B. Calderon, *Alternate*
H. Aguilar, *Contributing Member*
R. W. Barnes, *Contributing Member*
R. D. Danzy, *Contributing Member*
M. Elias, *Contributing Member*
D. Felix, *Contributing Member*
A. Frigerio, *Contributing Member*
A. Hassan, *Contributing Member*
P. K. Lam, *Contributing Member*
J. M. Levy, *Contributing Member*
M. Mengon, *Contributing Member*
J. Mize, *Contributing Member*
M. Mullavey, *Contributing Member*
S. K. Parimi, *Contributing Member*
J. Phillips, *Contributing Member*
R. Raman, *Contributing Member*
M. Reddy, *Contributing Member*
K. Shores, *Contributing Member*
D. E. Tezzo, *Contributing Member*

Executive Committee (BPV XIII)

J. P. Glaspie, *Chair*
C. E. O'Brien, *Staff Secretary*
J. F. Ball
D. B. DeMichael
A. Donaldson
D. Miller
B. K. Nutter
J. A. West

Subgroup on Design and Materials (BPV XIII)

D. Miller, *Chair*
C. E. Beair
A. Biesecker
W. E. Chapin
J. L. Freiler
B. Joergensen
V. Kalyanasundaram
B. J. Mollitor
B. Mruk
T. Patel
A. C. Ramirez
G. Ramirez
J. A. West
A. Williams
D. J. Azukas, *Contributing Member*
R. D. Danzy, *Contributing Member*
A. Hassan, *Contributing Member*
R. Miyata, *Contributing Member*
M. Mullavey, *Contributing Member*
S. K. Parimi, *Contributing Member*
K. Shores, *Contributing Member*

Subgroup on General Requirements (BPV XIII)

A. Donaldson, *Chair*
D. J. Azukas
J. F. Ball
M. Z. Brown
J. Burgess
D. B. DeMichael
M. Elias
T. M. Fabiani
S. T. French
J. Gillham
J. P. Glaspie
R. Klimas, Jr.
Z. E. Kumana
P. K. Lam
J. M. Levy
K. R. May
J. Mize
L. Moedinger
M. Mullavey
J. Phillips
B. F. Pittel
M. Poehlmann
K. Shores
D. E. Tezzo
D. E. Tompkins
J. F. White
B. Calderon, *Contributing Member*
P. Chavdarov, *Contributing Member*
J. L. Freiler, *Contributing Member*
G. D. Goodson, *Contributing Member*
C. Haldiman, *Contributing Member*
B. Joergensen, *Contributing Member*
C. Lasarte, *Contributing Member*
M. Mengon, *Contributing Member*
D. E. Miller, *Contributing Member*
R. Miyata, *Contributing Member*
B. Mruk, *Contributing Member*
R. Raman, *Contributing Member*
M. Reddy, *Contributing Member*

Subgroup on Nuclear (BPV XIII)

J. F. Ball, *Chair*
J. W. Dickson
S. Jones
R. Krithivasan
K. R. May
D. Miller
T. Patel
K. Shores
I. H. Tseng
J. Yu
N. J. Hansing, *Alternate*
B. J. Yonsky, *Alternate*
S. T. French, *Contributing Member*
D. B. Ross, *Contributing Member*

Subgroup on Testing (BPV XIII)

B. K. Nutter, *Chair*
T. P. Beirne
B. Calderon
V. Chicola
J. W. Dickson
B. Engman
R. J. Garnett
R. Houk
D. T. Kelley
R. Lack
M. Mengon
C. Sharpe
J. R. Thomas
Z. Wang
A. Wilson
S. Alessandro, *Contributing Member*
J. Britt, *Contributing Member*
W. E. Chapin, *Contributing Member*
J. Cockerham, *Contributing Member*
R. Miyata, *Contributing Member*
J. Mize, *Contributing Member*
M. Mullavey, *Contributing Member*
R. Raman, *Contributing Member*
A. C. Ramirez, *Contributing Member*
G. Ramirez, *Contributing Member*
K. Shores, *Contributing Member*

Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

COMMITTEE ON BOILER AND PRESSURE VESSEL CONFORMITY ASSESSMENT (CBPVCA)

R. V. Wielgoszinski, *Chair*
G. Scribner, *Vice Chair*
G. Moino, *Staff Secretary*
P. Murray, *Staff Secretary*
J. P. Chicoine
D. C. Cook
P. D. Edwards
T. E. Hansen
B. L. Krasiun
P. F. Martin
L. E. McDonald
D. Miller
I. Powell
D. E. Tuttle
R. Uebel
E. A. Whittle
P. Williams
T. P. Beirne, *Alternate*
M. Blankinship, *Alternate*
J. W. Dickson, *Alternate*
J. M. Downs, *Alternate*
B. J. Hackett, *Alternate*
W. Hibdon, *Alternate*
Y.-S. Kim, *Alternate*
B. Morelock, *Alternate*
M. Poehlmann, *Alternate*
R. Rockwood, *Alternate*
L. Skarin, *Alternate*
R. D. Troutt, *Alternate*
B. C. Turczynski, *Alternate*
S. V. Voorhees, *Alternate*
D. Cheetham, *Contributing Member*
A. J. Spencer, *Honorary Member*

COMMITTEE ON NUCLEAR CERTIFICATION (CNC)

R. R. Stevenson, *Chair*
J. DeKleine, *Vice Chair*
L. Powers, *Staff Secretary*
S. Andrews
G. Gobbi
S. M. Goodwin
J. W. Highlands
K. A. Huber
K. A. Kavanagh
J. C. Krane
M. A. Lockwood
L. M. Plante
T. E. Quaka
G. Szabatura
C. Turylo
D. M. Vickery
E. A. Whittle
C. S. Withers
J. Ball, *Alternate*
P. J. Coco, *Alternate*
N. DeSantis, *Alternate*
C. Dinic, *Alternate*
P. D. Edwards, *Alternate*
D. P. Gobbi, *Alternate*
K. M. Hottle, *Alternate*
P. Krane, *Alternate*
M. Martin, *Alternate*
D. Nenstiel, *Alternate*
M. Paris, *Alternate*
E. L. Pleins, *Alternate*
P. F. Prescott, *Alternate*
A. Torosyan, *Alternate*
S. V. Voorhees, *Alternate*
M. Wilson, *Alternate*
S. Yang, *Alternate*
S. F. Harrison, Jr., *Contributing Member*

Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

SUMMARY OF CHANGES

Errata to the BPV Code may be posted on the ASME website to provide corrections to incorrectly published items, or to correct typographical or grammatical errors in the BPV Code. Such Errata shall be used on the date posted.

Information regarding Special Notices and Errata is published by ASME at http://go.asme.org/BPVCerrata.

Changes given below are identified on the pages by a margin note, **(19)**, placed next to the affected area.

The Record Numbers listed below are explained in more detail in "List of Changes in Record Number Order" following this Summary of Changes.

Page	*Location*	*Change (Record Number)*
xvi	List of Sections	Updated
xviii	Foreword	Penultimate paragraph revised
xx	Statement of Policy on the Use of the ASME Single Certification Mark and Code Authorization in Advertising	Revised
xx	Statement of Policy on the Use of ASME Marking to Identify Manufactured Items	Revised
xxi	Submittal of Technical Inquiries to the Boiler and Pressure Vessel Standards Committees	In para. 4, third sentence revised
xxiv	Personnel	Updated
4	Table KG-141	Revised *(10-322, 16-2899, 17-1545, 17-3385, 18-1762)*
3	KG-150	Revised in its entirety *(13-2204)*
5	Table KG-150	Former Table 7-1 moved to Part KG and redesignated *(13-2204)*
7	KG-310	First paragraph revised and second paragraph added *(18-1729)*
10	KG-322	Subparagraph (a) revised *(18-1729)*
10	KG-323	New subpara. (c) added, and former subparas. (c) through (g) redesignated as subparas. (d) through (h), respectively *(18-1729)*
13	KG-411	*(1)* In first sentence, reference to endnote 2 deleted *(17-2783)* *(2)* Endnote 2 deleted and subsequent endnotes renumbered (see Endnotes) *(17-2783)*
14	KG-431	Revised in its entirety *(17-2783)*
14	KG-432	Revised *(17-2783)*
18	Article KG-6	Added *(10-322)*
23	KM-211.1	*(1)* In subpara. (b), last line revised *(15-2625)* *(2)* In subpara. (c), first sentence revised *(15-2625)*

AVA Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

Page	Location	Change (Record Number)
23	KM-211.2	*(1)* In first paragraph, second sentence revised *(10-1894)* *(2)* Subparagraph (d) revised *(10-1894)*
29	KM-250	*(1)* Second paragraph revised *(10-1378)* *(2)* In KM-251, KM-252, and KM-253, last sentence revised *(17-3385)*
33	Table KM-400-1	*(1)* Under Nominal Composition, for Carbon steel, Plate, SA-841, values in "Thickness, in." column revised *(13-1999)* *(2)* Entries added for Carbon steel, Plate, SA-841, Type F *(17-600)*
39	Table KM-400-1M	*(1)* Under Nominal Composition, for Carbon steel, Plate, SA-841, values in "Thickness, mm" column revised *(13-1999)* *(2)* Entries added for Carbon steel, Plate, SA-841, Type F *(17-600)* *(3)* First, third, fourth, fifth, seventh, and eighth entries in "Thickness, mm" column for Spec. No. SA-540 revised *(16-2900)*
46	Table KM-400-2	*(1)* Under "Notes" column, for 27th through 34th entries, Note (6) added *(15-1182)* *(2)* Under Max. Design Temp., °F, 27th through 34th entries revised *(15-1182)*
49	Table KM-400-2M	*(1)* Under "Notes" column, for 27th through 34th entries, Note (6) added *(15-1182)* *(2)* Under Max. Design Temp., °C, 27th through 34th entries revised *(15-1182)*
56	Article KM-6	Added *(16-2238)*
62	Article KM-7	Added *(10-322)*
68	KD-210(t)	Added *(10-322)*
68	KD-210(u)	Added *(10-322)*
68	KD-221	Second paragraph added *(17-2173)*
69	KD-221.1	*(1)* Numerical value in first set of parentheses in eqs. (KD-221.1) and (KD-221.2) revised *(17-2173)* *(2)* Nomenclature for K_{ut} added *(17-2173)*
69	KD-221.2	*(1)* Numerical value in first set of parentheses in eqs. (KD-221.3) and (KD-221.4) revised *(17-2173)* *(2)* Nomenclature for K_{utj} added *(17-2173)*
69	KD-221.3	Numerical value in first set of parentheses in eq. (KD-221.5) revised *(17-2173)*
69	KD-221.4	Numerical value in first set of parentheses in eq. (KD-221.6) revised *(17-2173)*
72	Table KD-230.2	Entry for L_A added *(16-2439)*
70	KD-231	In second sentence, "design" revised to read "load" *(17-1974)*
70	KD-231.1	First sentence revised *(16-2238)*
70	KD-231.2	In subpara. (a), third sentence, "design" revised to read "load" *(17-1974)*
72	Table KD-230.3	Revised *(17-2173)*
72	KD-231.3	Step 3 revised *(16-2238)*

AVA Documents
Document Sharing Hub

Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)

Page	Location	Change (Record Number)
73	Table KD-230.4	*(1)* Under "Load Combinations," entries (2) through (5) revised *(16-2439)* *(2)* Equation for "Hydrostatic Test Conditions" revised *(17-2173)* *(3)* General Note (b) revised and General Note (c) added *(17-2173)*
74	Table KD-230.5	Relocated to Article KM-6, revised, and redesignated as Table KM-620 *(15-2620, 16-2238)*
73	KD-231.4	Relocated to Article KM-6 and redesignated as KM-620 *(16-2238)*
73	KD-232.1	*(1)* Subparagraphs (a) through (j) revised in their entirety and redesignated as subparas. (a) through (k) *(16-2508)* *(2)* References to Table KD-230.5 updated to Table KM-620 throughout *(16-2238)* *(3)* Nomenclature added under eq. (KD-232.4) *(18-1761)* *(4)* Equation (KD-232.5) revised *(17-3051)*
75	KD-233	In second line, "design" revised to read "load" *(17-1974)*
75	KD-233.1	*(1)* Title revised *(17-1974)* *(2)* In first and second sentences, "design" revised to read "load" *(17-1974)*
75	KD-234	First paragraph revised *(16-2508)*
75	KD-234.1	Step 3 revised *(16-2238, 16-2508)*
76	KD-236	Revised *(16-2238)*
76	KD-237	*(1)* In subpara. (a), first sentence revised *(16-2439)* *(2)* Subparagraph (b) revised *(16-2439)*
76	KD-240	Added *(10-322)*
78	KD-302.2	Second paragraph revised *(15-495)*
79	KD-312.3	*(1)* Subparagraphs (a) and (b) revised *(15-495)* *(2)* Subparagraph (b)(4) revised *(17-599)*
80	KD-312.4	Subparagraphs (a) and (b) revised *(15-495)*
81	KD-321	Subparagraph (c) revised *(15-495)*
81	KD-322	Subparagraphs (b) and (d) revised *(15-495)*
84	KD-341	*(1)* Equations (KD-341.1), (KD-341.3), and (KD-341.4) revised *(17-806)* *(2)* In Step 5, last line of second paragraph revised *(16-2238)*
89	KD-360	Relocated to KM-630 in its entirety (including all tables) and redesignated; cross-references updated *(16-2238)*
89	KD-372	*(1)* Table KD-370.1 (Table KD-370.1M) relocated to KM-630 and redesignated *(16-2238)* *(2)* Cross-reference to former Table KD-370.1 revised to Table KM-630.1 (Table KM-630.1M) *(16-2238)*
92	Table KD-320.1	*(1)* In General Note (d)(4), S_{alt} corrected as S_a *(17-3133)* *(2)* In General Note (d)(5), S_{eq} corrected as S_a *(17-3133)* *(3)* In General Note (d)(7), second equation, minus sign corrected to plus sign by errata *(17-3322)* *(4)* General Note (d)(8) added *(12-913)*
95	Table KD-320.1M	*(1)* In General Note (d)(4), S_{alt} corrected as S_a *(17-3133)* *(2)* General Note (d)(8) added *(12-913)*

Documents
Document Sharing Hub
Full document details: ASME BPVC Section VIII, Division 3: Alternative Rules for Construction of High Pressure Vessels, 2019 Edition
Copyright ASME International (BPVC)