



Committee  
Handbook for  
Nuclear Codes and  
Standards  
2009

June 17, 2009

## 1.0 Introduction

### 1.1 Statement of Purpose

The purpose of the *ASME Committee Handbook for Nuclear Codes and Standards* is to provide a convenient easy-to-use reference that defines the roles and responsibilities of volunteers and staff as well as providing an overview of the standards development process. This handbook is designed to be used by new, as well as experienced, ASME staff and volunteers to quickly answer questions and provide guidance in what can be a sometimes frustrating and confusing environment.

### 1.2 ASME Mission Statement

#### 1.2.1 Society Mission

To serve our diverse global communities by advancing, disseminating and applying engineering knowledge for improving the quality of life; and communicating the excitement of engineering.

#### 1.2.2 Codes and Standards Mission

Develop the preeminent, universally applicable codes, standards, conformity assessment programs, and related products and services for the benefit of humanity. Involve the best and brightest people from around the world to develop, maintain, promote, and employ ASME products and services globally.

#### 1.2.4 Codes and Standards Strategic Objectives

The ASME Board of Governors sets the Society's strategic direction. In turn, the Standards and Certification Board of Directors (BoD) sets the strategic objectives for codes, standards, and related conformity assessment activities. Supervisory boards then adapt the objectives to their area of responsibility and establish specific objectives and initiatives. A summary of the BoD current objectives as implemented by BNCS are:

- Better serve core customers for improvement of public safety and quality of life
- Increase Net Revenue
- Develop new and expanded market relevant content
- Develop volunteer resources
- Implement a systematic approach to new program, product and service offerings
- Advance recognition and use in emerging markets.

#### 1.2.5 What is a Standard?

A *standard* is a set of technical definitions, instructions, requirements, guidelines, or characteristics set forth to provide consistent and comparable results, including:

- Items manufactured uniformly, providing for interchangeability
- Tests and analyses conducted reliably, minimizing the uncertainty of the results
- Facilities designed and constructed for safe operation



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Standards, which can run from a few paragraphs to hundreds of pages, are written by committees comprised of technical experts. Standards are considered voluntary because they serve as guidelines, not having the force of law. ASME publishes its standards; certifies users of selected standards to ensure that they are capable of manufacturing products that meet those standards; and provides stamps that certified manufacturers place on their products, indicating that a product was manufactured according to a standard. ASME cannot, however, force any manufacturer, inspector, or installer to follow ASME standards. Their use is voluntary.

A code is a standard that is intended to be adopted by governmental bodies, either local, state, or federal, or cited in a contractual agreement, such that the standard has the force of law. Further, other documents are considered a “Code of Practice” and these documents are also referred to as a code. Today, referring to a document as code rather than a standard is more of a custom than a technical difference between a code and a standard as many standards are referenced in regulations, contracts, etc. and such standards also have the force of law.

ASME Nuclear Codes and Standards produces three other publications that supplement its codes and standards - cases<sup>1</sup>, interpretations<sup>2</sup> and guides.

Cases represent alternatives or additions to existing rules. Cases are written as a question and reply, and are usually intended to be incorporated into the code or standard at a later date. When used, requirements prescribed in cases are mandatory in the same sense as the text of the code or standard. However, users are cautioned that not all regulatory authorities or owners automatically accept cases. The most common applications for cases are:

- to permit early implementation of an approved revision based on an urgent need
- to permit the use of a new material, technology or techniques
- to gain experience with new materials or alternative rules prior to incorporation directly into the code or standard.

Interpretations provide clarification of the meaning of existing rules or standard text, and are also presented in question and reply format. Interpretations do not introduce new requirements. Any user of the code or standard may submit an inquiry to ASME for consideration and possible publication as an interpretation.

A second type of interpretation is an intent interpretation. Intent interpretations may be issued when the existing wording in code or standard does not exactly convey the intent of the committee at the time the wording was approved. Intent interpretations are permitted only to clarify conflicting or ambiguous wording or to resolve incorrect wording. An intent interpretation must be approved by the standards committee along with revision(s) to the code or standard that supports the intent interpretation. The interpretation’s question begins with “Is it the intent”.

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<sup>1</sup> Cases is a generic term for those documents that provide alternatives or additions to existing requirements in codes or standards. The use of Cases originated with the Boiler and Pressure Vessel Code and was normally referred to as “Code Cases”. Since this document addresses both codes and standards writing committees the generic term “cases” is used as there are no procedural or policy limiting cases to codes,

<sup>2</sup> Interpretations are sometimes referred to as inquiries. “Inquiry” is actually an incorrect term, the official term is interpretation.



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Guides are a suggested practice, process or method and, as the name implies, are not intended to be mandatory.

The following two tables summarize the similarities and differences among codes, standards and guides.

**Nuclear Codes, Standards and Guides  
Similarities and Differences during Development Phase**

Code	Standard	Guide
	Intended to enhance public safety	
	Developed following a consensus process	
Requirements written in terms of "shall"		Written in terms of "may" and "should"
Intended to provide for uniformity and commonality		May only address special topics or recommended practices
Based on established technology		May contain state-of-the-art techniques or recommended practices
Requirements must be practical and reasonably attainable by all users		May provide statements of consideration on special topics
May contain related mandatory and nonmandatory appendices		May contain nonmandatory appendices
Intended to be used as a complete set of requirements		May be used whole or in part
Intended to be adopted as law	Are not intended to be adopted as law	
Usually are more comprehensive than standards or guides	May address limited topics or special applications	
May be a compilation of standards	Not Applicable	

**Codes, Standards and Guides  
Similarities and Differences during Implementation Phase**

Code	Standard	Guide
Not intended to result in deviation or exceptions		May be used whole or in part
Intended to be used as a whole		
Intended to be enforced	Enforcement, if any, to be determined by the parties involved	Not intended to be enforced

All Nuclear Codes and Standards are maintained by standing committees that meet regularly to update the codes, standards and guides within the committee's scope of responsibility. ASME Nuclear Codes and Standards provides an administrative frame work for committees to develop consensus to address the committee's operational needs.

## 2.0 The Volunteer

### 2.1 Benefits and Roles

Volunteers are individuals who are willing to donate time and their knowledge and expertise for the development and maintenance of ASME codes and standards. Employers may provide at least some of the time and pay the expenses for most individual member volunteers. The volunteer does not serve to promote the interests of his/her employer. However the volunteer and their employer do greatly benefit from the standards development activity by way of:

- Greater understanding of codes and standards requirements
- Advanced notice of impending changes
- Influence code revisions based on best practice of company, agency or organization.
- Volunteer has opportunity to develop project management and leadership skills
- Work with worldwide experts in the field of pressure technology

Many first time volunteers believe that the role of the volunteer within ASME Nuclear Codes and Standards is to develop and maintain the technical rules. Although this is a large part of most volunteers' activity, in fact volunteers work hand in hand with ASME staff in all areas of the society's codes and standards business. The table below illustrates the important role volunteers have in the area of governance and setting policy for ASME.

	Volunteers		Staff	
	Responsible	Involved	Responsible	Involved
<b>Governance</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Administration and budgets</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Decides what</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Decides how and by whom</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Makes policy</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Carries out policy</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Sets goals</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Plans to achieve goals</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Reviews plans</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Implements plans</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Monitors progress</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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## 2.2 Advancements in the Volunteering Process

The earliest ASME committees were made up of members (volunteers) who carried out the majority of the work via attendance at meetings. As an example, at one time the Boiler and Pressure Vessel (BPV) Committee (and its subtier committees<sup>3</sup>) met six times per year. Most of the members were from North America, and attendance at meetings was expected. All communication was via hand and typewritten documents, distributed by the postal service.

Today, ASME standards are used worldwide, making it important to have the committees represented by stakeholders from around the world. This creates obvious challenges in terms of communication, meeting attendance, etc. One of the major steps taken by ASME was the development of C&S Connect, the web based tool used by volunteers and staff in all phases of codes and standards development. This tool allows volunteers from around the world to participate on ASME committees, and provides a robust communication solution for both proposal and balloting phases of codes and standards development. The use of C&S Connect along with increasing use of virtual meetings (telecoms/webcasts) has greatly accelerated the standards development process.

The second area where ASME has made significant changes in process is the recognition of different membership and participant classifications. These classifications recognize an individual's ability and in some cases constraints in participating on code and standards committees. To continue to function according to the five key principles (openness, transparency, balance of interest, due process/ appeals process, and consensus) in an international community, different membership and participant classifications were needed. The standing committee determines the appropriate member classification for the individual with the concurrence of BNCS. The Table below summarizes the different member and participant classifications including their roles and responsibilities within the committee structure.

**Member and Participant Classifications**

Member Classification	Description	Expectations <sup>(1)</sup>	Privileges
Member	An individual <sup>(4)</sup> that is self sponsored or sponsored by an employer, representing a particular interest category, and capable of attending all scheduled meetings. May be a member of a standards committee, and/or one of its subtier committee(s).	<ol style="list-style-type: none"> <li>Attend scheduled meetings [Attendance or absence at committee meetings affects quorum at meetings.]</li> <li>Participate on all ballots</li> <li>Take on work assignments as directed by committee Chair</li> <li>Actively participate in committee discussions</li> </ol>	<ol style="list-style-type: none"> <li>Listed on committee roster in AS-11 and standard membership listing</li> <li>Receives complimentary copies of standard(s) pertinent to committee work</li> </ol> Full access to C&S Connect and all of its features

<sup>3</sup> All Nuclear Codes and Standards are developed by a Standards Committee. Many times there is a need to establish subtier committees to address specialty requirements (e.g.: design). Subtier committee is a generic term encompassing subcommittees, subgroups, task groups, project teams, etc.

<p>Corresponding Member</p>	<p>An individual that is self sponsored or sponsored by an employer, representing a particular interest category; limited ability or unable to attend meetings. May not be a member of a standards committee where attendance at meetings is mandatory.</p>	<ol style="list-style-type: none"> <li>1. Attendance at scheduled meetings optional; participation via teleconference desired. [Attendance or absence at committee meetings affects quorum at meetings]</li> <li>2. Participate on all ballots</li> <li>3. Take on work assignments as directed by committee Chair</li> <li>4. Review and comment on committee items</li> </ol>	<ol style="list-style-type: none"> <li>1. Listed on committee roster in AS-11 and standard membership listing</li> <li>2. Receives complimentary copies of standard(s) pertinent to committee work</li> <li>3. Full access to C&amp;S Connect and all of its features.</li> </ol>
<p>Delegate <sup>(2)</sup></p>	<p>Represents a group or an individual company located outside the U. S. and Canada. Must be fluent in English, and have a working knowledge of the technical aspects of the committee's work. Delegates may be appointed to standards committees, and all of its subtier committees. A delegate is not a member of the consensus committee <sup>(3)</sup>.</p>	<ol style="list-style-type: none"> <li>1. Attendance at scheduled meetings optional; participation via teleconference desired.[Attendance or absence at meetings does not affect quorum at meetings.]</li> <li>2. Relative to the standards committee voting on first consideration ballots.</li> <li>3. Participate on all review and comment ballots</li> <li>4. Take on work assignments as directed by committee Chair</li> </ol>	<ol style="list-style-type: none"> <li>1. Listed on committee roster in AS-11 and standard membership listing</li> <li>2. Receives complimentary copies of standard(s) pertinent to committee work</li> <li>3. Full access to C&amp;S Connect and all of its features.</li> </ol>
<p>Contributing Member</p>	<p>An individual that is self sponsored or sponsored by an employer and whose contribution to a committee is in the form of technical comment and review of proposals. Attendance at committee meetings is neither expected nor required. In addition the frequency of technical comment and review of items is by matter of agreement between the Contributing Member and the committee Chair.</p>	<ol style="list-style-type: none"> <li>1. Attendance at scheduled meetings optional; participation via teleconference optional. [Attendance or absence at meetings does not affect quorum at meetings.]</li> <li>2. As a Contributing Member, does not vote (approved/not-approved) on committee ballots.</li> <li>3. Has the option to participate on all review and comment ballots.</li> </ol>	<ol style="list-style-type: none"> <li>1. Listed on committee roster in AS-11 and standard membership listing as "Contributing Member".</li> <li>2. Full access to C&amp;S Connect and all of its features.</li> <li>3. Complementary copies of standard(s) provided per discretion of committee Chair.</li> </ol>



Alternate	An individual that is self sponsored or sponsored by an employer who substitutes for an existing committee member at meetings or to vote on ballot(s) when necessary.	Same expectations as the member. Approved/Not Approved votes counted in final tally only if alternate's member does not submit vote, though any comments will be considered.	1. Receives the same privileges as the member
Representative	When a member is unable to attend a meeting or portions of a meeting, he or she may ask a Representative to sit in for them at the meeting. The Representative may participate in all committee business, with the exception of standards actions.	N/A	N/A
Interested Party <sup>(5)</sup>	An individual who has expressed interest in the work of one or more committees, and by agreement with the committee Chair and ASME Staff receives committee correspondence (Agendas, minutes, etc.)	1. Does not vote on committee ballots. 2. By mutual agreement may be assigned a committee work item by the Chair.	1. Receives committee correspondence in the form of agendas, minutes, etc.

**Notes to Table**

(1) The Chair of each committee is expected to evaluate the performance of the members making up the committee based on the expectations identified in the Table. For example the following are typical performance criteria for volunteers serving on ASME BPV committees:

Attendance	75% of all meetings
Participation on Ballots for Approval	90%
Participation on review/comment ballots	75%

(2) The intent of the ASME Delegate Program is to allow representatives of organized groups of interested experts, located outside of the U.S. and Canada, to participate in the ASME codes and standards development process. The Delegate Program is for organizations that have a specific technical interest in an ASME code or standard, including trade and manufacturers' associations, user groups, national standards committees, or any other organizations responsible for oversight of a particular industry. The group of experts can be from an individual company or organization with a clearly defined interest in participating on ASME committees.

Each group must be open to membership by qualified experts who wish to join. When applying to ASME for appointment of a Delegate, the group must describe its organization and purpose in writing. The group shall provide to ASME the names and affiliations of the technical experts that will be working with the Delegate to provide the group's input to the ASME committee. Periodically, this information will be updated.

Each group must select a single individual (Delegate) to represent its interests and provide collective group comments on committee standards actions. Delegates must have fluency in the English language and a working knowledge of the technical aspects of the committee's work. Delegates may request appointment on the Standards Committee and any of its



subtier committees. For more information on the Delegate program and other information on Participating on ASME Codes & Standards, please see the Further Reading List below.

- (3) The standards committee is made up of members, delegates, and contributing members. The consensus committee is a subset of the standards committee, and is made up of those members authorized to vote on first and recirculation ballots that ultimately count towards approval of a standards committee action in accordance with the ANSI Accredited Procedures. (See 7.2.5)
- (4) In their standards committee activities these members participate, including voting, as individuals rather than as representatives of their employer or of any other organization.
- (5) Cognizant staff and volunteer leadership shall determine whether there is a need for an interested party to sign an ASME Participation Acknowledgment Form (PAF), based on the anticipated extent of participation by, and types of documents made available to, the interested party.

## 2.3 Further Reading

1. ASME Delegate Program  
[http://www.asme.org/Codes/DevelopmentCommittees/Delegate\\_Program\\_Guidelines.cfm](http://www.asme.org/Codes/DevelopmentCommittees/Delegate_Program_Guidelines.cfm)
2. Benefits in Participating in ASME Codes  
[http://www.asme.org/Codes/DevelopmentCommittees/Benefits\\_Participating\\_Codes.cfm](http://www.asme.org/Codes/DevelopmentCommittees/Benefits_Participating_Codes.cfm)
3. Guide to ASME Policies & Procedures  
<http://cstools.asme.org/csconnect/pdf/CommitteeFiles/7611.pdf>
4. Detailed Training Information for ASME Codes & Standards Volunteers  
<http://cstools.asme.org/trainingmodules.cfm>

### **3.0 Role of ASME Staff**

#### **3.1 Primary Role**

The primary role of staff assigned to boards and committees is to implement actions that are required to meet the objectives of the board or committee on a continuing basis. Working under broad lines of policy established by the board or committee, the staff:

- Initiate programs,
- Actively engage in the work, and
- Make operating decisions necessary to carry forward the programs in a dynamic and efficient manner

#### **3.2 Primary Staff Involved**

- Codes and Standards Technical Staff
- ASME Publishing Staff
- Standards Technology, LLC Staff

##### **3.2.1 Codes and Standards Technical Staff**

In general, Codes and Standards Technical Staff (staff engineers) provides committees and subordinate groups with the necessary support for the process of development of standards actions, interpretations, cases, as well as for related administrative actions (e.g. membership, procedures). Staff support (i.e. Staff Secretary) is normally provided at Standards Committee levels only.

The technical expertise needed to develop consensus resides with the volunteers, therefore, the role of C&S staff is normally to provide administrative support. However, depending on the experience of the relevant staff person, it may also be appropriate for C&S Staff to provide some degree of technical support (e.g. drafting for committee consideration proposed technical requirements or responses to comments; researching and drafting for committee consideration proposed replies to requests for interpretation).

Specific committee-related responsibilities of C&S Technical Staff include the following:

- **Project Management:** Process requests and recorded votes for standards actions, interpretations, cases, membership actions, and procedural revisions; serve as Project Administrative Manager for actions proposed for committee approval; interface with ASME Publishing Staff to manage schedule for issuance of standards actions and related material;
- **Administrative:** Schedule meetings and prepare and distribute agendas and minutes; maintain committee/subordinate group membership; receive and maintain all committee and subordinate group documents in accordance with C&S record retention requirements;
- **Additional Support:** correspond with interfacing organizations or individuals in the name of the committee; provide guidance to volunteers on ASME procedures and policies; provide guidance

to volunteers on legal implications of codes and standards activities, and consult with ASME Legal Counsel, as necessary.

- ASME Standards Technology, LLC may also be involved in project management for major codes and standards initiatives, to manage those initiatives that exceed the resources of an individual volunteer.

The ASME Codes and Standards Web site contains a feature to search for relevant C&S Technical staff members at: <http://cstools.asme.org/csconnect/CommitteePages.cfm?view=CFStaffSearch>

### **3.2.2 Codes and Standards Publishing Staff**

ASME Publishing Staff do not participate directly in committee activities but work with the C&S Technical Staff in preparation of manuscripts that accurately reflect the voted standards actions of the committee, and manage the processing of the manuscripts through the production and publishing stages, including review of proofs.

The Publishing Staff provides guidance on style of ASME standards, and performs editorial review of standards in development for consistency in style, as well as for editorial accuracy.

### **3.2.3 ASME Standards Technology, LLC Staff**

The ASME Standards Technology, LLC (ASME ST-LLC) was established as a separate legal entity, with ASME as the sole member, to carry out work related to newly commercialized technology. Primary objectives of the ASME ST-LLC are as follows:

- Initiate and manage research projects essential to developers of technical standards to address the related industry, governmental, and jurisdictional needs,
- Anticipate future codes and standards needs related to existing and emerging technology and bridge gaps between new technology and standardization,
- Develop new standards-related products and services beyond the traditional role of ASME Codes and Standards,
- Facilitate the development, dissemination and application of market-relevant engineering knowledge worldwide, and
- Manage the development of training programs on Codes and Standards working with ASME Continuing Education Institute and ASME Education Programs group with universities.

ASME ST-LLC staff works closely with ASME Codes and Standards Technical staff in identifying and prioritizing potential projects that support C&S Committee standards development activities.

For ASME ST-LLC contacts and additional information on LLC activities and services, refer to: <http://stllc.asme.org/>

## **4.0 How Does Someone Become a Member?**

### **4.1 Who Can Become a Member?**

Any individual wishing to become a participant in the codes and standards development and maintenance process can apply for committee membership.

There are no fees or geographical restrictions associated with ASME Codes & Standards committee membership. Applicants for individual membership are selected based on their technical experience, interest classification, and ability to actively participate in committee activities. Members of committees need not also be members of ASME. Membership in ASME is encouraged but not required.

Volunteers are often sponsored by their employer. However, in their standards committee activities these members participate, including voting, as individuals rather than as representatives of their employer or of any other organization.

### **4.2 Selection/Acceptance Criteria**

To ensure that ASME's Codes & Standards are developed in accordance with the procedures accredited by the American National Standards Institute (ANSI), individual membership selection is based on various criteria, including:

- Experience and technical qualifications,
- Ability to actively participate in committee activities,
- Business interest of the organization, if any, that supports the member's committee participation (interest classification),
- The balance of interests in the committee, and
- The limit on the number of members for a committee.

At the discretion of the committee, applicants may be requested to attend one or more meetings prior to being considered for membership.

### **4.3 Which Committee to Apply to?**

Many of ASME's standards development committees consist of a broad range of subtier committees, including subcommittees, subgroups, working groups, special working groups and project teams needed to support the development, update and maintenance of the wide range of ASME's codes and standards. ASME seeks the participation of all parties having an interest and technical expertise in specific areas covered by ASME's codes and standards.

#### **4.3.1 Committee Has a Need**

Standards Committees and their subtier committees looking for volunteers may be found under the link "Call for Participants" on ASME's website at:

[http://www.asme.org/Codes/DevelopmentCommittees/Participating\\_Codes\\_Standards.cfm](http://www.asme.org/Codes/DevelopmentCommittees/Participating_Codes_Standards.cfm)

[http://www.asme.org/Codes/DevelopmentCommittees/Call\\_Participants.cfm](http://www.asme.org/Codes/DevelopmentCommittees/Call_Participants.cfm)

### 4.3.2 Existing Committees

A list of all existing committees is given on ASME's website at:

<http://cstools.asme.org/csconnect/CommitteePages.cfm>

Below is a list of all existing Nuclear Codes and Standards committees<sup>4</sup> with a short description of their scope of activity as of May 2008.

Limits to numbers of members and member qualifications vary by committee, and there may not be openings on the desired committee at the time of submission. For committees with subtier committees (subgroups, working groups, task groups), applying to a subtier working group is generally preferred for a first application.

#### **Board on Nuclear Codes and Standards (BNCS)**

Management of all ASME activities related to codes, standards, and accreditation programs directly applicable to nuclear facilities and technology.

#### **BPV Committee on Construction of Nuclear Facility Components (BPV III)**

Development and maintenance of Section III of the Boiler and Pressure Vessel Code, rules relating to pressure integrity governing the construction and inspection during construction of components (e.g. vessels, storage tanks, piping, pumps, valves, containments, core supports, and containment systems for storage and transport packaging of spent fuel and high level radioactive material and waste) for use in nuclear power plants and other nuclear facilities.

#### **BPV Committee on Nuclear Inservice Inspection (BPV XI)**

Development and maintenance of Section XI of the Boiler and Pressure Vessel Code, rules relating to pressure integrity governing inservice inspection of Class 1, 2, 3, MC and CC pressure retaining components and their supports and core support structures in nuclear power plants.

#### **Committee on Operation and Maintenance of Nuclear Power Plants (OM)**

Development and maintenance of codes, standards, and guides applicable to the safe and reliable operation and maintenance of nuclear power plants.

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<sup>4</sup> The short description of the scope of activity of each committee is a summary of its charter. Refer to the extended charter on the Committee Page of C&S Connect (see 6.5.1) for more detailed information.



### **Committee on Cranes for Nuclear Facilities (CNF)**

Development and maintenance of codes, standards, and guides for the design, manufacture, shipment, storage prior to erection and use, erection, testing, and inspection of cranes in nuclear facilities.

### **Committee on Nuclear Air and Gas Treatment Equipment (CONAGT)**

Development and maintenance of codes and standards for design, fabrication, installation, testing, and inspection of equipment for air and gas treatment for nuclear facilities.

### **Committee on Nuclear Quality Assurance (NQA)**

Development and maintenance of a quality assurance standard applicable to siting, design, construction, operation, and decommissioning of nuclear power plants and nuclear fuel cycle facilities.

### **Committee on Nuclear Risk Management (CNRM)**

Development and maintenance of standards and guides on risk management techniques, including PRA for nuclear power plants and other nuclear facilities.

### **Committee on Qualification of Mechanical Equipment Used in Nuclear Facilities (QME)**

Development and maintenance of codes and standards for the qualification of active mechanical equipment to be used in nuclear facilities.

## **4.3.3 Subcommittees, Subgroups, Working Groups**

When a committee has been selected, the list of its subtier committees can be found on ASME's website page of corresponding Committee under C&S Connect (see Section 6.5.1). This same page enables access to wider information on the selected group. The basic list of subtier committees can be more simply seen by opening the list (+ symbol) on: <http://cstools.asme.org/csconnect/CommitteePages.cfm>

In the front of each Code Book or Standard, the "PERSONNEL" section gives the list of all volunteers and ASME staff members involved in the development and maintenance of the Code or Standard. This list reflects the structure of the responsible committee. The basic list of subtier committees can also be found there.

## **4.3.4 First steps to Joining an ASME Committee**

It is recommended that a first time volunteer contact the ASME staff engineer prior to submitting the membership application to ASME. Attending a committee meeting as a visitor prior to submission is also recommended. The ASME staff engineer will provide all information concerning date, place, hotel and schedule of the next meeting.

Contact references of the appropriate staff engineer may be found on the corresponding committee page at: <http://cstools.asme.org/csconnect/CommitteePages.cfm>



Or at: <http://cstools.asme.org/csconnect/CommitteePages.cfm?view=CFStaffSearch>

#### **4.4 Joining an ASME Committee**

A request must be sent to the Secretary or Chair of the committee of the desire to join the committee. First time applicants must complete the following forms:

- Complete a New Member Profile - <http://cstools.asme.org/csconnect/public/MemberProfile.cfm>
- Signed Participation Acknowledgment Form (PAF) (Needed only for those who do not already have one on file)

The PAF form can be downloaded from:

[http://www.asme.org/Codes/DevelopmentCommittees/Join\\_Codes\\_Standards.cfm](http://www.asme.org/Codes/DevelopmentCommittees/Join_Codes_Standards.cfm)

Upon receipt, the application is acknowledged by the appropriate staff engineer and distributed for consideration. ASME staff is not responsible for making membership decisions.

The signed Participation Acknowledgment Form (PAF) recognizes that the new member agrees to comply with ASME Society Policies P-15.7 Ethics, P-15.8 Conflicts of Interest, P-14.6 Society Name, Seal, Emblem, Initials, Titles, Identification, and Certificates, and P-15.9 Policy Against Discrimination, as well as ASME's copyright policies. No access is given to the "Members Only" before receipt by ASME of a signed PAF form, and until after the appointment has been approved.

ASME Society Policies are available on ASME's web site at:

<http://www.asme.org/asma/policies/policy.html>

Once access is given to the "Members Only" part of C&S Connect new members can access ASME Codes and Standards Policies, accredited procedures and other relevant codes and standards documents at: <http://cstools.asme.org/csconnect/CommitteePages.cfm>

#### **4.5 Orientation**

On C&S Connect training downloads are available by clicking on the "News" tab on C&S Connect. ASME Staff also provides training on various topics at some committee meetings.

#### **4.6 Volunteering at higher levels in Codes and Standards**

The ASME's Volunteer Orientation and Leadership Training (VOLT) Academy ensures that ASME volunteers have the training needed to assume leadership positions of ever-increasing responsibility in the Society and that the skills gained from such leadership positions, in turn, enhance their professional careers.

More information on the VOLT Academy can be found on ASME's website at:

<http://volunteer.asme.org/VOLT/>



## 5.0 Committee Organization

### 5.1 ASME Codes & Standards Organization

ASME committees are organized in a hierarchical structure. As can be seen in the Codes and Standards Organization Chart, all codes and standards committees ultimately report to the Standards and Certification Board of Directors (BoD). Beneath the BoD are Supervisory Boards for each of the technology sectors. Each Supervisory Board focuses on a particular area. The six areas are:

- Standardization and Testing (BST)
- Safety Codes & Standards (BSCS)
- Pressure Technology Codes & Standards (BPTCS)
- Nuclear Codes & Standards (BNCS)
- Conformity Assessment (BCA)
- New Development (BOND)

### 5.2 Supervisory Boards

The Supervisory Boards are responsible for creating and supervising the committees that develop new and revised standards. This includes:

- Assessing the need for C&S activities
- Structuring the necessary committees
- Ensuring procedures for due process are followed
- Approving and discharging committee personnel
- Developing and maintaining operations and strategic plans
- Hearing appeals
- Recommending the disbanding of a committee
- Directing research and development of technical information for C&S committees (via ASME Standards Technology, LLC)

### 5.3 Standards Committee

Reporting to each Supervisory Board are one or more Standards Committees. It is the Standards Committee that is ultimately responsible for the development of the document in its final form. The Standards Committee is the group where the relevant technical expertise resides, the group within Codes and Standards that is responsible for developing consensus on proposed standards actions. However, most complex standards require expertise in numerous areas, thereby requiring a further sub tier of committees beneath the standards committee. The actual organizational structure beneath the Standards Committee will vary from one committee to the next.

The Standards Committee Chair responsibilities include:

- Facilitate meetings (Robert's Rules of Order)
- Follow C&S development process procedures
- Follow committee's operating and administrative procedures

- Monitor overall process for conformance to procedures and its effectiveness
- Work with Project Technical Manager and Project Administrative Manager to determine project team members

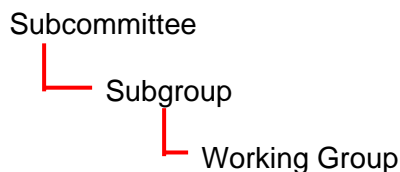
One of the Vice Chairs is responsible to carry out the duties of the Chair in the event he or she is unable to fulfill their duties. The Staff Secretary prepares the agenda, initiates ballots, records minutes of the meeting, and assists in all other administrative areas of the committee. The Chair and Vice Chair(s) are elected by the committee and appointed by BNCS for three year terms, and the Chair may serve a maximum of two consecutive terms. Standards Committees may have two Vice Chairs.

Some Standards Committees also have an Executive Committee. The Chair and one of the Vice Chairs of the Standards Committee swap roles within the Executive Committee. The Executive Committee is responsible to consider process and procedure improvements, membership, committee charters, creation of Project Teams, and make recommendations to the full Standards Committee in Administrative session.

Each Standards Committee is made up of a fixed number of members, typically 20 to 30 members. Three of the members are the officers of the committee (Chair, Vice Chair and Secretary). The Secretary is the member of the ASME staff assigned to the Standards Committee, but is not counted in the fixed number of members.

## 5.4 Subtier Committees

Most standards committees have a number of subtier committees reporting to it. It is within the subtier committees and the project teams that report to them that much of the development work takes place. There are several different types of subtier committees within ASME:



The number and type of subtier committees that report to a standards committee will vary depending upon the scope of responsibility of the standards committee. Subtier groups (subcommittees, subgroups, working groups, task groups, etc.) have as a minimum a Chair and may have a volunteer that takes on the secretary responsibilities. Subtier groups should also appoint a member to the position of Vice Chair, but this is not required.





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- To supervise subordinate groups charged with developing rules in specialized areas for consideration by the BPV Standards Committees (e.g. Subcommittee on Safety Valve Requirements);
- Maintaining the Foreword to the Code.

TOMC reports to both the Board on Nuclear Codes and Standards and the Board on Pressure Technology Codes and Standards

## **5.6 Committee on Nuclear Certification**

Section III of the Boiler and Pressure Vessel Code contains accreditation programs. The accreditation programs are for component (vessels, pumps, valves, etc.) design and fabrication (N-Type Certificate), and material manufacture and supply (QSC Certificate). The Committee on Nuclear Certification is responsible for overseeing the BPV III accreditation programs.

## 6.0 How Does The Work Get Done?

### 6.1 Work Items – Record Number

Work items are initiated by:

- ASME Committee; e.g. updating an existing rule, editorial improvements, correcting errata, technology enhancements, experience and process improvements, etc.
- Code user; e.g. request for a new material via the issuance of a Code Case, request for interpretation of a code rule, etc.
- Supervisory Board and/or Executive Committee; e.g. development of new standard, such as Section XII, or major update of a standard, such as Section VIII, Division 2.

Work items are assigned a unique record number (e.g. 08-235) by C&S Connect for purposes of tracking the item during its lifetime. This record number facilitates locating items on C&S Connect. Each year, more than 2,000 record numbers are assigned to work items being handled by all of its committees.

Each record on C&S Connect contains information necessary to document the activity leading up to publication. The ASME staff secretary and the Project Technical Manager are responsible for keeping this information up-to-date. Some of the fields recorded on each C&S Connect record are:

- Record number
- Responsible committee
- Project Manager – name and contact information
- Subject
- Proposal
- Explanation
- Summary of Change
- Attachments – proposal and supporting background files
- Ballot history
- Ballot results, including comments and responses

### 6.2 Project Technical Manager and Project Team

Committees with a broad scope of activity are divided into subtier technical committees (subcommittees, subgroups, task groups, etc.) each one of them dealing with specific aspects of the Code or Standard under their responsibility.

Each item is handled at the lowest level of each "organization" by a Project Technical Manager (PTM) who is a member of the group responsible for the item. Beside the technical aspects, the PTM is also responsible for filling in the appropriate fields on the C&S Connect record, and making available to the committee a copy of the proposal and supporting material. Distribution of material can be handled within C&S Connect, using the Volunteer Contact Center (VCC) (see 6.5).

For more complex items or when several members are working on the same item, a Project Team is created. The PTM then also coordinates the actions and speaks for the team. It is the complexity of the item that will dictate the level of effort that the PTM needs to ensure it is completed for the item to be

approved as it moves forward through the consensus process. Some of the key points to ensure successful approval of the item are addressed by filling in the required fields of the C&S Connect record for the item as follows:

- 1) Try to keep the Subject and Proposal fields of the C&S Connect record to no more than one sentence each. For Nuclear Codes and Standards items it is recommended the Proposal Field include the safety significance categories (e.g., **S** = Safety, **RRE** = Reduced Radiation Exposure, **RB** = Reduced Burden, and **M** = Maintenance with a – **N** = Normal or **H** = High) for the item.
- 2) The Explanation field should be a maximum of one paragraph and should completely address why the item is being considered and the needed background for the item. If one paragraph is not considered sufficient then a “White Paper” should be developed to provide a complete explanation with all the background information needed for the item. (The “White Paper” should be included in the Background Material File of the C&S Connect record).
- 3) Keep the Summary of Changes field to a short and concise statement no more than just a few words.
- 4) File Attachments that should be included in the record:
  - The Proposal File should contain the proposal with the C&S Connect record number, the revision of the proposal, and the date in the header with the proposal presented in a two column format showing the current Code or Standard words in the left column and the proposed or changed words in the right column. For a new Code or Standard or Code Case the complete document should be included in the proposal in a single column format. The use of the [C&S Writing Guide 2000](#)<sup>1</sup> is strongly recommended when developing proposed items.
  - The Background Material File should contain any reference material needed to support the item including documents used for the development of the item and the “White Paper,” if one has been developed in support of the item. For Nuclear Codes and Standards items a regulatory analysis should be included.
  - The Committee Correspondence File should contain any information that is generated as part of the project attached here for future or historical purposes as the item progresses through the consensus process

Often Project Teams or technical groups carry out their work in between formal meetings. ASME staff can arrange for teleconferences when needed, and C&S Connect can be used to distribute documents. Large documents may also be stored and retrieved from the "Committee File Sharing" resource on C&S Connect. In order for the item to move forward from technical group to technical group it is the responsibility of the PTM to ensure that this gets accomplished as expeditiously as possible. Once the item is ready to move through the process the PTM has several options or combinations of options to choose from to accomplish this task. Before applying any of the options the PTM must determine, which technical groups will need to approve the item and then depending on the complexity of the item and its safety significance the PTM needs to develop a plan to move the item through the process. Since option 1) is the standard approval process it is recommended that the PTM get concurrence from the technical

group chairs prior to using any of the other options or combinations of options for an item. The following is the list of options that may be used.

- 1) Standard Tiered Approval Process – The item is reviewed and approved by each technical group one group at a time. This is a slow process and can further be limited by the numbers of meetings held by the technical groups as the item moves forward.
- 2) Broad Review and Comment Process – Once the item is ready to move forward from the lowest level technical group or a project team it is sent out by letter ballot for review and comment to all the technical groups that will ultimately have to vote on the item. This type of option is usually applied to a new very complex item. It has several advantages and disadvantages. The advantages include giving all of the potential voters a look at the item in advance of casting a vote and allowing them an opportunity to provide input to the item. This type of process may alleviate future negatives when the item actually moves forward for a vote. The disadvantages are that the item could receive so many comments that resolving them all in a timely manner may actually be slower than using option 1) directly. The PTM has to be aware that using this option may or may not speed up the approval of the item.
- 3) Lower Level Letter Ballot Process – This letter ballot process may be used when a lower level technical group approves its use for an item. It should be noted that a ballot of a lower level group is not required as the Standards Committee may, or may not, require a lower level committee approve a proposal prior to a standards committee action on a proposal. The PTM is responsible to obtain this approval by a vote of the technical group. One of the advantages of using this process is when it is used for an item following the use of option 2) it can result in faster approval of an item. However, this is a decision to be made by the PTM with concurrence of the applicable technical group chair. The disadvantage of this process is that no open discussion is provided on the item and many times if the item is not explicitly simple and clear it will draw negatives because of those reasons and this may not be the best option to use.

As the PTM you control the item and how it will be moved through the consensus process. If you respond to comments that are posted against your item in a timely manner and put forth the effort to communicate with the members of the responsible technical groups you can be successful. You as the PTM must remember that the consensus committee for each Code and Standard is the last technical vote in the process and those are the members that ultimately have to agree on the item.

#### References

1. [C&S Writing Guide 2000 \(464KB\)](http://cstools.asme.org/csconnect/pdf/CommitteeFiles/7621.pdf) [http://cstools.asme.org/csconnect/pdf/CommitteeFiles/7621.pdf]

### 6.3 Meetings

Committees meet on a regular basis. For example, the B&PV Committees hold one week of meetings four times per year. Agendas are sent to the members of the different committees prior to the meetings. For many committees, agendas are also accessible on C&S Connect on the committee webpage.



### 6.3.1 Task groups, Subgroups, or Special Working Groups

During meetings, Task groups, Subgroups or Special Working Groups hold their meetings first. Each Item is presented by the Project Technical Manager and then discussed among members. For members unable to attend, a conference phone can be arranged by ASME staff.

Proposals and background material are either attached to the agendas or provided as handouts at the meeting by the Project Technical Manager. They can also be found on C&S Connect under the record number of the item.

Depending on the organization, proposals approved by the Project Team, Subgroup, etc., are then submitted to the Standards Committee for consideration.

### 6.3.2 Subcommittee

In some large organizations, the subgroups, task groups, etc. report to a subcommittee, instead of directly to a standards committee. All items approved at the subgroup, task group, etc. level are considered by the subcommittee prior to being placed on a ballot to the standards committee. First consideration of items at the subcommittee level can be by ballot or live presentation at their meeting. Once a subcommittee has developed consensus on a proposal, it is submitted for ballot to the Standards Committee.

### 6.3.3 Standards Committee

The duties of a Standards Committee include:

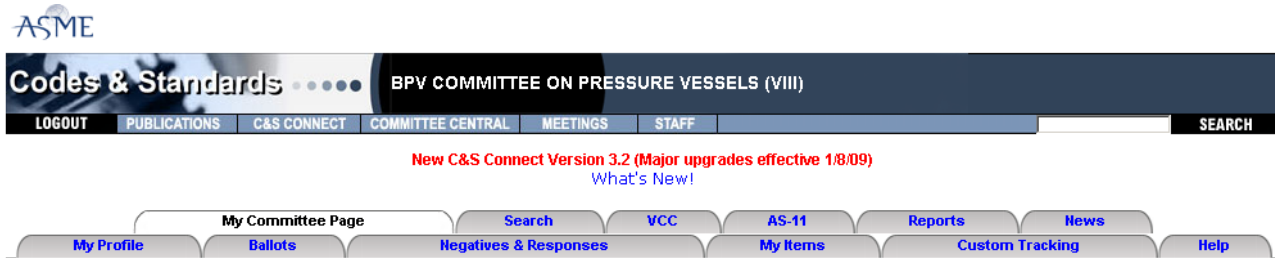
- Develop and maintain standards within its charter.
- Achieve consensus for the action proposed on a standard.
- Ensure that duplication of standards is minimized.
- Not promulgate conflicting standards.
- Provide for interpretations of standards within its charter, if applicable.
- Report status of standards within its charter at least annually to the cognizant supervisory board.
- Oversee the assignment of project teams for the development of proposed standards actions.

Most Standards Committees conduct their business using a combination of ballots and live meetings. In the case of the BPV Standards Committees, they meet four times a year in technical session to discuss and resolve negatives and comments on balloted items. During this meeting a second consideration voice vote may be taken. Because some members may be absent when this second consideration vote is taken, the actual vote is recorded on a recirculation (real time) ballot for a period of 10 days to give members an opportunity to reconfirm the previous vote or to change it. The BPV Standards Committees also meet in administrative session to discuss personnel actions, meeting logistics, etc.

## 6.4 Teleconferences/Web Conferences

When extra meetings are needed, they can take place as teleconference or web conference at a date and time agreed among the participants. In that case all the necessary documents are sent by e-mail or

are posted on C&S Connect prior to the conference. A free call-in number and a pass code are provided.



## 6.5 C&S Connect

Most tasks carried out by volunteers are performed in C&S Connect. Only Codes & Standards members have access to C&S Connect which can be reached at: <http://cstools.asme.org/csconnect/index.cfm>

C&S Connect allows one to:

- Access all general information pertaining to a group
- Search records, ballots, and Code Cases.
- Send email to ASME volunteers and Staff
- Access ASME C&S Personnel Directory
- Print customized reports
- View one's profile
- Vote on ballots and withdraw negatives electronically
- View records
- Customize Item Tracking

Detailed instructions for using C&S Connect can be found at:  
<http://cstools.asme.org/csconnect/News.cfm?AnnouncementFormID=2>

Also hands-on training for C&S Connect is often scheduled during ASME B&PV Code Weeks. Below is a brief synopsis of each of the major sections (Tabs) of C&S Connect.

### 6.5.1 My Committee Page Tab

The "My Committee Page" tab can be accessed through "COMMITTEE CENTRAL" and enables access to Committee and Subgroup pages.

Future meeting dates, minutes, agendas, rosters, etc. can be retrieved from it. The charter of the committee and the contact information of the secretary (ASME staff member) and other interesting information is posted on this page



### **6.5.2 My Items Tab**

The “My Items” tab lists all records for which the logged-in member is the Project Manager, either Technical or Administrative (Project Administrative Manager is usually the ASME staff secretary). Updates can be performed except when the item is out for ballot. Responses can be posted through this page to comments or negatives during a ballot.

### **6.5.3 Ballots Tab**

The “Ballots” tab lists all open ballots for the logged-in member. This would include ballots for approval and also review and comment. Closed ballots may be accessed through the Search Tab.

### **6.5.4 Search Tab**

The “Search” tab is used to locate records, ballots and Code cases by their number or by other criteria such as keyword, project manager name, level, committee, Code, etc.

### **6.5.5 VCC Tab**

The Volunteer Contact Center (VCC) tab provides a method for sending e-mails to other volunteers, committees, or a stored distribution list. So long as volunteers accurately maintain their profiles, including their current e-mail address, the VCC provides the most efficient, direct method for sending e-mails concerning committee business.

### **6.5.6 AS-11 Tab**

The AS-11 tab allows a volunteer to query the ASME membership database and locate contact information and committee assignments for all volunteers and ASME staff.

## 7.0 Process and Procedures

### 7.1 Process

ASME's standards development process is characterized by the following key principles:

- Openness
- Transparency
- Balance of Interest
- Due Process
- Consensus

#### **Openness**

ASME's standards development process is open to participation, in some manner, by all materially interested parties. Participation is not restricted to U.S. citizens or residents, nor is membership in ASME required. ASME committee meetings at which standards issues are discussed are open to the public.

#### **Transparency**

Information regarding ASME standards development activities and processes is readily available to anyone interested.

#### **Balance of Interest**

No individual, organization, or interest category may dominate the process. The membership of committees responsible for establishing consensus on standards actions are required to be balanced among the committee's interest categories to preclude any one category from having over 1/3 of the membership.

#### **Due Process**

Any materially interested party can submit their concerns with regard to an ASME standard, have those concerns addressed and responded to, and if not satisfied with the consideration of their concerns, has the right to appeal.

#### **Consensus**

Consensus does not require unanimous approval, but does require approval by more than a simple majority of all materially interested parties. Consensus also requires that attempts be made to resolve all objections related to the proposed standards action.

These principles of ASME's process are consistent with the principles established for international standards development by the World Trade Organization's Technical Barriers to Trade Committee.

#### **Policy and Procedures**

All Nuclear Codes and Standards Committees operate in conformance with ASME's accredited procedures and the Committee's Procedure Supplement. The Committee's procedure Supplement is posted on the Committee's web page. Further, each Nuclear Codes and Standards Committee must operate in conformance with ASME Codes and Standards Policy (<http://cstools.asme.org/csconnect/CommitteePages.cfm>) and the Board on Nuclear Codes and



Standards' Management and Operations Manual

(<http://cstools.asme.org/csconnect/CommitteePages.cfm?Committee=O10000000&Action=2973>).

## 7.2 Procedures

### 7.2.1 ANSI Accreditation

ASME has been accredited by the American National Standards Institute (ANSI) as a developer of American National Standards using the Procedures for ASME Codes and Standards Development Committees. The current version of ASME's accredited procedures is available on ASME's Web site at: <http://cstools.asme.org/csconnect/pdf/CommitteeFiles/25963.pdf> All ASME Committees must operate in accordance with the accredited procedures. All committees are also required to develop a Supplement to the accredited procedures, which refers to the accredited procedures, but also may contain additional requirements necessary for that specific committee's operations. The Supplement provides information on areas of the procedures that might vary across committees, such as the committee charter, limits on number of members, relevant member interest categories, and procedures for determining subordinate group or project team membership.

Committees may also develop written instructions (e.g. administrative guidelines) in order to provide additional guidance as needed to facilitate committee operations. Such instructions shall not conflict with the committee's Supplement, Codes and Standards Policies, C&S Connect or ASME Staff assignments and require only standards committee approval.

An additional document - Guide to Procedures for ASME Codes and Standards Development Committees – has been created to provide guidance on selected topics addressed by these procedures. This document can be accessed at the Codes and Standards Web site at: <http://cstools.asme.org/csconnect/pdf/CommitteeFiles/7611.pdf>

### 7.2.2 Codes and Standards Development Policy

ASME has also established a number of Codes and Standards policies, many of which provide additional guidance to standards development activities. The complete document of policies is accessible at the Codes and Standards Web site at: <http://cstools.asme.org/csconnect/pdf/CommitteeFiles/7614.pdf>

Some of the policies relevant to the standards development process are:

- CSP-9 Codes and Standards Documentation
- CSP-11 Committee Participation Acknowledgement
- CSP-18 External Communication
- CSP-29 Committee Membership
- CSP-31 Voluntary Standards Use by Regulatory Authorities
- CSP-33 Interpretations
- CSP-38 Document Retention
- CSP-58 Referencing Patented Items and Trademarks in Codes and Standards

### 7.2.3 Training Submodules

ASME has also created a set of training submodules to assist volunteers in their committee participation activities. These submodules cover the general categories of Administrative, Process, and Legal, and are reviewed for updating on a regular basis. Continuous training of volunteers is encouraged, either as part of committee meetings, or by self-reviews of the training submodules, which are accessible at the Codes and Standards Web site at: <http://cstools.asme.org/TrainingModules.cfm>

### 7.2.4 Procedural Requirements for Subordinate Groups

The Procedures for ASME Codes and Standards Development Committees primarily address the procedures required at the standards committee level. Specific procedural requirements for subordinate groups may be included in the committee's Supplement

The key standards committee actions addressed by these procedures are as follows:

- Approval of standards actions (i.e. new standard, revision to an existing standard, reaffirmation of an existing standard, or withdrawal of an existing standard)
- Approval of editorial actions
- Approval of personnel and administrative items
- Approval of responses to requests for interpretations

### 7.2.5 Approval of Standards Actions

**Project Team** - Each proposed standards action shall have a project technical manager and may have an assigned project team to prepare proposals for committee approval. The project team can be an existing group (e.g. subcommittee, subgroup, etc.) or a selected group of individuals<sup>5</sup> with the appropriate technical knowledge for the subject. The project team supports the project technical manager for reviewing and developing responses to comments submitted during the development process.

**Review and Comment** - After the project technical manager has developed a draft proposal or a project team has reached agreement on a draft proposal (a formal vote of the project team is not required but can be recorded; otherwise, determination by the project technical manager of general acceptance by the project team is sufficient) and at appropriate stages during the development process, the proposal should be provided for review and comment by technically affected parties, such as the relevant standards committee, subordinate groups, other standards committees, supervisory board members, and members of the public who have expressed interest. This review and comment can be conducted concurrently with a recorded vote of the standards committee or subordinate group.

**Subcommittee Vote** - Some standards committees will have its relevant subcommittees consider and vote on standards action proposals for recommendation to the standards committee for approval. Some committee procedures address specific criteria for approval at the subcommittee level but others do not. In those cases where the committee procedures do not address specific criteria for approval at the subcommittee level, the Subcommittee Chair would normally make a determination that the results of the

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<sup>5</sup> The selected group of individuals may be identified at a subtier committee level and the assignment need not be recorded.

subcommittee vote, including the consideration of the comments, are representative of consensus at the subcommittee level. The proposal then proceeds for standards committee approval. These activities may also be performed by subtier groups reporting to the standards committee.

**Standards Committee Vote** - All standards committee votes for standards actions are recorded in C&S Connect, ASME's web-based electronic voting system.

- **First Consideration Vote:** The standards committee receives the proposed standards action for vote, and also has access to the comments and responses recorded during the development process on C&S Connect. Members have the following voting options: approved, disapproved, abstain, and not voting (used for instances of conflict of interest). Members must submit comments related to the proposal to support disapproved votes, and can provide comments along with approved votes. The relevant supervisory board is normally provided with the proposed standards action at this time for review and comment. All substantive comments are considered and responded to, and attempts must be made to resolve all disapproved votes.

According to ASME's accredited standards development procedures, a proposed standards action is approved on first consideration vote if the proposal is approved by at least 2/3 of the total committee membership (exclusive of any not voting or disapproved without comment responses); there are no unresolved disapproved votes or substantive supervisory board comments; and no technical changes have been made to the proposed standards action.

The two Boiler and Pressure Vessel Committees' Supplement (Standards Committees III and XI) to the procedures also require that no substantive comments are received from the Conference Committee, International Interest Review Group, Marine Conference Group or TOMC in order for the proposed standards action to be approved on first consideration vote.

- **Recirculation Vote:** A recirculation vote is conducted for the following reasons: to review unresolved disapproved votes and/or substantive supervisory board comments; or to review unresolved objections received as a result of the ANSI public review and comment process.

For the two Boiler and Pressure Vessel Committees, the recirculation vote would normally be conducted at a standards committee meeting. Members in attendance are given the opportunity to change their first consideration vote based on support of any first consideration disapproved votes, unresolved public review objections, or substantive supervisory board comments. Members not in attendance at the meeting will still be given the opportunity to change their votes via C&S Connect.

According to ASME's accredited standards development procedures, a proposed standards action would be approved on recirculation vote if the proposal is approved by at least 2/3 of the total committee membership (exclusive of any not voting or disapproved without comment responses). More than one reconsideration vote may be needed to obtain the required approval.

The two Boiler and Pressure Vessel Committees' Supplements to the procedures also require that there are not more than three disapproved votes from committee members in order for the proposed standards action to be approved on recirculation vote.



- **Public Review:** All proposed standards actions are required to be provided for a public review and comment period. The public review period can be conducted concurrently with the committee vote. The availability of the proposed standards action for public review and comment is announced in ANSI's Standards Action publication and on the Codes and Standards Web site. If the proposed standards action is available electronically, the comment period is 45 days; if not, the period is 60 days.

All public comments must be addressed and responded to. If there are any unresolved public review objections, a recirculation vote must be conducted to give members an opportunity to change their votes based on support of the objections.

- **Supervisory Board Approval:** After committee approval, the proposed standards action is provided to the relevant ASME supervisory board for approval. Members of the supervisory board are provided with the results of the committee voting, and have access to comments and responses from the voting process on C&S Connect. If any public review comments are received, they shall also be provided to the board members, along with the responses to the comments.

Supervisory board approval is based upon evaluation of the committee's compliance with its procedures in developing the proposed standards action, rather than on evaluation of the technical content of the proposal. Any objections from supervisory board members must be considered and responded to, and a recirculation vote of the board may be necessary if the objection remains unresolved. If technical comments are made by a supervisory board member during the compliance review, the chair may rule that the comment is out-of order.

- **ANSI Approval:** After supervisory board approval, the proposed standards action is submitted for ANSI approval. ANSI approval is also based upon an evaluation of ASME's compliance with its accredited procedures in the development of the proposal.

## 7.2.6 Approval of Editorial Actions

Editorial revisions require approval of the Standards Committee including those editorial revisions made to a proposed standards action as a result of consideration of comments on a proposed revision either on a first consideration or a recirculation vote.

## 7.2.7 Approval of Personnel and Administrative Actions

Approval of personnel and administrative items (e.g. revisions to procedures) require approval of a majority vote of the committee via C&S Connect or a majority vote of committee members voting at a meeting, provided a quorum is present at the meeting.

## 7.2.8 Approval of Responses to Requests for Interpretations

Interpretations are formal written responses to written (letter, fax, or e-mail) inquiries that are transmitted to the inquirer on ASME interpretation letterhead. Interpretations may be approved by either of the following methods:

- Committee or Cognizant Subcommittee
- Special Committee

Committee or Cognizant Subcommittee – If the committee or subcommittee is voting on the interpretation, no member interest category shall have a majority. The voting options are no objection, objection, and not voting. ASME’s accredited standards development procedures require that, when the vote is taken at a meeting, no objection by at least 2/3 of the members present is required to approve the interpretation, provided that a quorum is present. However, the Boiler and Pressure Vessel Committee’s Supplement to the procedures require no objection votes by at least ¾ of the members present, and at least 2/3 of the entire subcommittee membership in order to approve the interpretation.

When the vote is taken other than at a meeting, all objections and comments shall be considered and responded to, and attempts made to resolve the objections. The responses shall be made available to the members of the committee or subcommittee. If technical changes are made to the proposed interpretation as a result of consideration of comments, members shall be given an opportunity to express opposition to the changes. If, after consideration, objections cannot be resolved, they shall be provided to the members, along with the responses, and the members shall be given an opportunity to change their original vote.

ASME’s accredited standards development procedures require no objection vote by at least 2/3 of the members voting to approve the interpretation, provided at least ½ of the members vote. However, the two Boiler and Pressure Vessel Committees’ Supplements to the procedures requires no objection vote by at least ¾ of the members eligible to vote in order to approve the interpretation.

Special Committee – A special committee shall have at least five members, one of which shall be the ASME staff secretary responsible for the standard. The other members shall be members of the committee or subordinate group responsible for the standard, as appointed by the Chair of the standards committee or cognizant subcommittee. No member interest category shall have a majority on the special committee. The voting options are no objection and objection. Votes may be conducted at meetings or via C&S Connect. All objections and comments shall be considered and responded to, and attempts made to resolve the objections. If technical changes are made to the proposed interpretation as a result of consideration of comments, members shall be given an opportunity to express opposition to the changes. If, after consideration, objections cannot be resolved, the interpretation shall be submitted to the consensus committee or cognizant subcommittee for consideration. Special Committees do not approve intent interpretations. Intent interpretations, with the associated revisions, are approved by the standards committee.

Interpretations are approved when all members of the special committee vote no objection.

### **7.2.9 Cases**

Some ASME Committees, including the two Boiler and Pressure Vessel Committees, issue cases. Cases represent alternatives or additions to existing rules. Cases are usually intended to be incorporated into the code or standard at a later date. When used, requirements prescribed in Cases are mandatory in the same sense as the text of the code or standard. However, users are cautioned that not all Jurisdictions or owners automatically accept Cases. The most common applications for Cases are:

- To permit early implementation of an approved revision based on an urgent need;
- To permit the use of a new material for construction;
- To gain experience with alternative or additional rules prior to incorporation directly into the code or standard.

Cases are approved by ASME, but are not subsequently submitted for ANSI approval. Procedurally, Cases are handled like standards actions, except for the following:

- The Project Initiation System process is not followed.
- Announcement for public review in ANSI Standards Action is not done.
- The Case is not submitted for ANSI approval.

Cases are approved for use immediately following Supervisory Board approval and are usually made available on the applicable Committee Page on C&S Connect. Cases no longer expire. Instead they exist until action is taken to annul it due to incorporation of its provisions into a standard, or because the case is no longer needed.

### **7.2.10 Robert's Rules of Order**

On questions of parliamentary procedure not covered in ASME's procedures, Robert's Rules of Order shall be used - <http://www.robertsrules.org/>

**Appendix 1 - Guidelines on Use and Future Maintenance**

ASME Codes & Standards Board of Directors tasked Strategic Project Team 3 with *developing guidelines for mentoring of volunteers* with the goal of improving volunteer recruitment and retention. One of the projects SPT-3 undertook towards this goal was the development of a *Volunteer Handbook*, now called the "ASME Codes and Standards Committee Handbook". The purpose of this handbook is to provide in one package a convenient and easy-to-use reference that describes the standards development process within ASME, and the roles and responsibilities of volunteers and staff.

In the early stages of development of the handbook, it was debated at length as to how much detail to put into the handbook, and whether to produce a handbook that is *generic* and could be used by all volunteers, or to place detail in the handbook that would be specific to each area of the Codes and Standards organization (e.g. Pressure Technology). It was decided that a handbook would best serve volunteers if it did contain specific details for the area of Codes and Standards they are serving. The draft handbook prepared by SPT-3 was customized for Pressure Technology and contains roughly 85% generic material, and 15% specific to BPTCS committees. The other Supervisory Boards are encouraged to produce a Handbook for their volunteers and the purpose of this document is to highlight those sections of the handbook that would need to be customized by the other Supervisory Boards.

The handbook contains seven chapters covering the following topics:

1. Introduction
2. Role of the Volunteer
3. Role of ASME Staff
4. How Does Someone Become a Participant?
5. Committee Organization and Operation
6. How Does the Work Get Done?
7. Process and Procedures

Of these seven chapters, only Chapters 2, 4, 5, and 6 contain content specific to BPTCS committees. Below is a summary of the sections in these chapters that SPT-3 has identified as needing to be *customized* by other Supervisory Boards. If any of the other Supervisory Boards feel there are other sections that would be appropriate to customize to apply to their activities, they should so advise the ASME Continuous Improvement Committee.

CHAPTER	PARAGRAPH	SUBJECT
2	2.1	List of benefits for a committee volunteer
	2.2	Some examples relative to B&PV Meetings
	Table 2-2, Footnote (1)	Performance criteria for B&PV Committees
4	4.3.2	List of Standards Committees reporting to the Supervisory Board
	4.5	Orientation - SPT-3 recommends that standards committees assign a mentor to first-time volunteers, and also provide some level of orientation for them. Each Supervisory Board would need to revise this section of the handbook.



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5	5.3 – 5.5	This chapter describes the committee organization and operation, and is specific to each Supervisory Board. For the Pressure Technology version of the handbook, the BPV committees were used as the example to describe committee organization (standards committee and sub tier committees).
6	6.3	Meetings - This paragraph describes typical workflow process whereby committees hold live meetings to carry out their technical work. This paragraph uses BPV committees and Code Week to describe this process.

**a. Maintenance of the ASME Codes and Standards Committee Handbook**

The ballot of the ASME Codes and Standards Committee Handbook produced numerous comments concerning future maintenance of this document. Of special concern was the possibility that the material in one or more versions of the handbook would become out of date relative to other ASME documents. Examples cited were the ASME Training Modules, the ANSI Accredited Procedures, and the Guide to the Accredited Procedures. This was discussed by members of SPT-3, and the team's recommendation is that those sections of the handbook that are defined as *generic* (see above) would be maintained by the Continuous Improvement Committee. Those sections of the handbook that are *customized* by a Supervisory Board would be maintained by that Supervisory Board. SPT-3 recommends an annual review of the handbook(s) be conducted by both the Continuous Improvement Committee and each Supervisory Board.

## Appendix 2 – Nuclear Codes and Standards

All existing Nuclear Codes and Standards are listed in the ASME on-line catalogue at:  
<http://catalog.asme.org/home.cfm?CATEGORY=CS&TaxonomyItemID=3021>

Below is a list of Nuclear Codes and Standards with a short description of their scope.

### Subsection NCA-General Requirements Division 1 & 2

This Subsection covers general requirements for manufacturers, fabricators, installers, designers, material manufacturers, material suppliers, and owners of nuclear power plants. This Subsection which is referenced by and is an integral part of Division 1, Subsections NB through NG, and Division 2 of Section III, covers quality assurance requirements, Code Symbol stamping and authorized inspection for Class 1, 2, 3, MC, CS, CB and CC construction. Selective reference of ASME Standard NQA-1, Quality Assurance Program Requirements for Nuclear Facilities, is made in this Subsection. NQA-1 provides the programmatic quality assurance requirements for the establishment and execution of a quality assurance program.

### Subsection-NB-Class 1 Components

This Subsection contains requirements for the material, design, fabrication, examination, and testing and overpressure protection of items which are intended to conform to the requirements for Class 1 construction. The rules of Subsection NB cover the requirements for assuring the structural integrity of items.

### Subsection NC-Class 2 Components

This Subsection contains requirements for the material, design, fabrication, examination, and testing and overpressure protection of items which are intended to conform to the requirements for Class 2 construction. The rules of Subsection NC cover the requirements for assuring the structural integrity of items.

### Subsection ND-Class 3 Components

This Subsection contains requirements for the material, design, fabrication, examination, and testing and overpressure protection of items which are intended to conform to the requirements for Class 3 construction. The rules of Subsection ND cover the requirements for assuring the structural integrity of items.

### Subsection NE-Class MC Components

This Subsection contains requirements for the material, design, fabrication, examination, inspection, and testing and overpressure protection of metal containment vessels which are intended to conform to the requirements for Class MC construction. The rules of Subsection NE cover the requirements for assuring the structural integrity of the metal containment vessel.

### **Subsection NF-Supports**

This Subsection contains requirements for the material, design, fabrication, and examination of supports which are intended to conform to the requirements for Classes 1, 2, 3, and MC construction. Nuclear power plant supports for which rules are specified in this Subsection are those metal supports which are designed to transmit loads from the pressure retaining barrier of the component or piping to the load carrying building structure. In some cases there may be intervening elements in the component support load path which are not constructed to the rules of this Section, such as diesel engines, electric motors, valve operators, coolers, and access structures.

### **Subsection NG-Core Support Structures**

This Subsection contains requirements for the material, design, fabrication, and examination required in the manufacture and installation of core support structures. Core support structures are those structures or parts of structures which are designed to provide direct support or restraint of the core (fuel & blanket assemblies) within the reactor pressure vessel.

### **Subsection NH Class 1 Components in Elevated Temperature Service**

This Subsection contains requirements for materials, design, fabrication, examination, testing and overpressure protection of Class 1 components, parts, and appurtenances which are expected to function even when metal temperatures exceed those covered by the rules and stress limits of Subsection NB and Tables 2A, 2B, and 4 of Section II, Part D, Subpart 1.

### **Division 1-Appendices**

This Subsection contains appendices, both mandatory and non-mandatory for Section III, Division 1 (Subsection NCA through NG) and Division 2, including a listing of design and design analysis methods and information, and Data Report Forms. These appendices are referenced by and are an integral part of Subsection NCA through NG and Division 2.

### **Section III- Division 2-Code for Concrete Containments**

This Division contains requirements for the material, design, construction, fabrication, testing, examination, and overpressure protection of concrete reactor vessels and concrete containment structures, prestressed or reinforced. These requirements are applicable only to those components that are designed to provide a pressure retaining or containing barrier. They are not applicable to other support structures, except as they directly affect the components of the systems. This Section contains appendices, both mandatory and nonmandatory, for Division 2 construction.

### **Section III -Division 3 Containments for Transportation & Storage of Spent Nuclear Fuel & High Level Radioactive Material & Waste**

This Division contains requirements for the design and construction of the containment system of a nuclear spent fuel or high level radioactive waste transport packaging.



## **Section XI-Rules for Inservice Inspection of Nuclear Power Plant Components**

This Section provides rules for the examination, inservice testing and inspection, and repair and replacement of components and systems in light water cooled and liquid metal cooled nuclear power plants. The Division 2 rules for inspection and testing of components of gas cooled nuclear power plants have been deleted in the 1995 Edition. With the decommissioning of the only gas cooled reactor to which these rules apply, there is no apparent need to continue publication of Division 2. Application of this Section of the Code begins when the requirements of the Construction Code have been satisfied. The rules of this Section constitute requirements to maintain the nuclear power plant while in operation and to return the plant to service, following plant outages, and repair or replacement activities. The rules require a mandatory program of scheduled examinations, testing, and inspections to evidence adequate safety. The method of nondestructive examination to be used and flaw size characterization are also contained within this Section.

### **BPVC Nuclear Code Cases: Nuclear Components**

This volume contains provisions which have been adopted by the Boiler and Pressure Vessel Committee that cover Section III, Divisions 1, 2 and 3 and Section XI to provide, when the need is urgent, rules for materials or constructions not covered by existing Code rules.

### **NQA-1 Quality Assurance Requirements for Nuclear Facility Applications**

This standard provides requirements and guidelines for the establishment and execution of quality assurance programs during siting, design, construction, operation and decommissioning of nuclear facilities. This Standard reflects industry experience and current understanding of the quality assurance requirements necessary to achieve safe, reliable, and efficient utilization of nuclear energy, and management and processing of radioactive materials. The Standard focuses on the achievement of results, emphasizes the role of the individual and line management in the achievement of quality, and fosters the application of these requirements in a manner consistent with the relative importance of the item or activity.

### **AG-1 Code on Nuclear Air and Gas Treatment**

Provides requirements for the performance, design, construction, acceptance testing, and quality assurance of equipment used as components in nuclear safety-related air and gas treatment systems in nuclear facilities.

### **N509 Nuclear Power Plant Air-Cleaning Units and Components**

This Standard covers requirements for the design, construction, and qualification and acceptance testing of the air-cleaning units and components which make up Engineered Safety Feature (ESF) and other high efficiency air and gas treatment systems used in nuclear power plants.

### **N510 Testing of Nuclear Air-Treatment Systems**

This Standard covers field testing of N509 high efficiency air treatment systems for nuclear power plants.

## **N511 In-Service Testing of Nuclear Air Treatment, Heating, Ventilating, and Air-Conditioning Systems**

This standard covers the requirements for in-service testing of nuclear safety-related air treatment, heating, ventilating, and air conditioning systems in nuclear facilities.

## **OM - Code for Operation and Maintenance of Nuclear Power Plants**

Establishes the requirements for preservice and inservice testing and examination of certain components to assess their operational readiness in light-water reactor power plants. It identifies the components subject to test or examination, responsibilities, methods, intervals, parameters to be measured and evaluated, criteria for evaluating the results, corrective action, personnel qualification, and record keeping. These requirements apply to: (a) pumps and valves that are required to perform a specific function in shutting down a reactor to the safe shutdown condition, in maintaining the safe shutdown condition, or in mitigating the consequences of an accident; (b) pressure relief devices that protect systems or portions of systems that perform one or more of these three functions; and (c) dynamic restraints (snubbers) used in systems that perform one or more of these three functions.

## **NOG-1 Rules for Construction of Overhead and Gantry Cranes (Top Running Bridge, Multiple Girders)**

This Standard covers electric overhead and gantry multiple girder cranes with top running bridge and trolley used at nuclear facilities and components of cranes at nuclear facilities.

## **NUM-1 Rules for Construction of Cranes, Monorails, and Hoists (with Bridge or Trolley or Hoist of the Underhung Type)**

This Standard covers underhung cranes, top-running bridge and gantry cranes with underhung trolleys, traveling wall cranes, jib cranes, monorail systems, overhead hoists, and hoists with integral trolleys used in nuclear facilities. All of the above cranes, whether single or multiple girder, are covered by this Standard with the exception of multiple girder cranes with both top-running bridge and trolley, which are covered by ASME NOG-1.

## **QME-1 Qualification of Active Mechanical Equipment used in Nuclear Power Plants**

Describes the requirements and guidelines for qualifying active mechanical equipment used in nuclear power plants. The requirements and guidelines presented include the principles, procedures, and methods of qualification. This Standard does not apply to electric components such as motors, electric valve actuators instrumentation, and control devices which are qualified by conformance with appropriate IEEE Standards.



## **RA-S Standard for Level 1 / Large Early Release Frequency Probabilistic Risk Assessment for Nuclear Power Plant Applications**

This Standard sets forth requirements for probabilistic risk assessments (PRAs) used to support risk-informed decisions for commercial nuclear power plants, and prescribes a method for applying these requirements for specific applications.