



Standards and Certification Training

Module B – Process B1. ASME Organizational Structure

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UPDATES

06/22/17	Updated to reflect current ASME Organizational Structure.
09/20/12	Revised completely to reflect the updated ASME organizational structure and to remove items that are covered in other S&C Modules.
11/22/10	Changed "Codes and Standards Board of Directors" to "Council on Standards and Certification" throughout.

MODULE B COURSE OUTLINE

- B1. ASME Organizational Structure**
- B2. Standards Development: Staff and Volunteer Roles and Responsibilities
- B3. Conformity Assessment: Staff and Volunteer Roles and Responsibilities
- B4. Initiating and Terminating Standards Projects
- B5. Consensus Process for Standards Development
- B6. The Basics of Parliamentary Procedure
- B7. The Appeals Process
- B8. International Standards Development
- B9. ASME Conformity Assessment Programs
- B10. Performance Based Standards
- B11. Consensus Process for Standards Interpretation and Code Cases

Module B contains eleven submodules. We will start with B1 – ASME Organizational Structure.

LEARNING OBJECTIVES

At the end of this module you will be able to:

- Describe the organizational structure of ASME and its sectors
- Describe the organization of the Standards and Certification (S&C) Sector
- Identify the types of codes, standards or conformity assessment programs covered by each of the Supervisory Boards reporting to the S&C Council
- Understand the Roles of ASME Learning and Development and ASME ST-LLC within the S&C Sector

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ASME's MISSION, VISION AND STRATEGIC PRIORITY

- **Mission statement**

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

- **Vision**

ASME aims to be the essential resource for mechanical engineers and other technical professionals throughout the world for solutions that benefit humankind

- **Five Core Technologies**

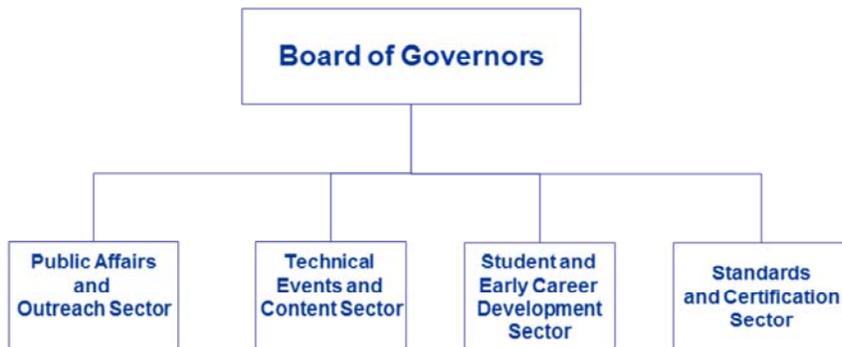
- Manufacturing
- Pressure Technology
- Robotics
- Clean Energy
- Bioengineering

The Society's Mission Statement is "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." ASME aims to be the essential resource for mechanical engineers and other technical professionals throughout the world for solutions that benefit humankind.

In order to achieve this mission, five core technologies have been identified in which ASME will deliver locally relevant engineering to advance:

- Manufacturing – Both traditional industrial production and emerging areas including Additive/3D and Digital Manufacturing.
- Pressure Technology – Technologies involved in the design, analysis, materials, fabrication, construction, inspection, operation, nondestructive evaluation, and failure prevention of pressure vessels, piping, pipelines, power and heating boilers, heat exchangers, reactor vessels, pumps, valves, and other pressure and temperature-bearing components.
- Robotics – Traditional industrial machine systems that typically have three degrees or more of articulation as well as emerging areas such as drones and autonomous vehicles.
- Clean Energy – Technologies to support the generation of electric power while minimizing environmental impact.
- Bioengineering- The applications of engineering skills and analysis to the development of pharmaceuticals, biological devices, food supplements, and other products.

ASME ORGANIZATIONAL STRUCTURE



At the top of ASME's organizational structure is the Board of Governors.

Reporting to the Board of Governors are four groups called "Sectors." These are:

- Standards and Certification,
- Technical Events and Content,
- Public Affairs and Outreach and
- Student and Early Career Development.

Each of these Sectors has responsibility for a specific area and carries out activities designed to further the objectives of the society.

Let us briefly take a look at the responsibilities of the Board and each of the Sectors, starting with the Board of Governors.

BOARD OF GOVERNORS

- Develops overall policy for the Society
- Delegates responsibility to subsidiary bodies to ensure fulfillment of ASME's mission
- Members
 - President
 - President-elect
 - Immediate past President
 - Nine governors (staggered three-year terms)
 - Executive Director (non-voting)

The Board of Governors is responsible for developing the overall policy for the Society and delegating responsibility to subsidiary bodies including Subordinate Committees and Sectors to ensure fulfillment of ASME's Mission and Vision.

The Board of Governors is made up of twelve voting members and the Executive Director of the Society, who is a non-voting member.

ASME SECTORS

Public Affairs and Outreach (PAO)

- Coordinates outreach to industry, government, education, and the public as well as initiatives that address diversity and humanitarian programs
- Boards and Committees:
 - Industry Advisory Board
 - Committee on Government Relations
 - Engineering for Global Development Committee
 - Committee on Engineering Education
 - Pre-College Education Committee
 - Diversity & Industry Strategy Committee

The Public Affairs and Outreach Sector is responsible for the coordinated outreach to industry, government, education, and the public as well as initiatives that address diversity and humanitarian programs.

The Public Affairs and Outreach Sector is led by a council which currently has the following Board and Committees reporting to it:

- Industry Advisory Board
- Committee on Government Relations
- Engineering for Global Development Committee
- Committee on Engineering Education
- Pre-College Education Committee
- Diversity & Industry Strategy Committee

ASME SECTORS

Technical Events & Content (TEC)

- Provides a focused arena for business activities relevant to identified technical, educational or technological endeavors
- Five Segments
 - Design, Materials, and Manufacturing Segment (DMM)
 - Energy Sources and Processing Segment (ESP)
 - Energy Conversion and Storage Segment (ECS)
 - Gas Turbine Segment (GTS)
 - Engineering Sciences Segment (ESS)

The underlying purpose of ASME's Technical Events and Content Sector is to provide a focused arena for business activities relevant to identified technical, educational or technological endeavors.

The Technical Events and Content Sector currently has five segments:

- Design, Materials, and Manufacturing Segment (DMM)
- Energy Sources and Processing Segment (ESP)
- Energy Conversion and Storage Segment (ECS)
- Gas Turbine Segment (GTS)
- Engineering Sciences Segment (ESS)

ASME SECTORS

Student & Early Career Development (SECD)

- Provide advocacy leadership for students and early career engineers
- Create opportunities for students and early career engineers to influence the “path forward” for ASME
- Committees:
 - Early Career Engineer Programming Committee
 - Student Programming Committee

The Student & Early Career Development Sector’s mission is to provide a voice for students and early career engineers. This Sector will provide advocacy leadership and create opportunities for students and early career engineers to influence the “path forward” for ASME.

The Student and Early Career Development Sector is led by a council which currently has the following Committees reporting to it:

- Early Career Engineer Programming Committee
- Student Programming Committee

STANDARDS AND CERTIFICATION SECTOR

S&C Vision

- Develop the best, most applicable codes, standards, and conformity assessment programs in the world for the benefit of humanity

S&C Mission

- Involve the best and the brightest people from all around the world to develop, maintain, and promote the use of these ASME products and services world about

The issue of standards was discussed at the very first ASME meeting in 1880 with the topic being standardized sizes for screw threads. For over 125 years, ASME Standards and Certification has continually strived to develop the best, most applicable codes, standards, and conformity assessment programs in the world for the benefit of humanity.

The S&C Mission is to involve the best and the brightest people from all around the world to develop, maintain, and promote the use of these ASME products and services.

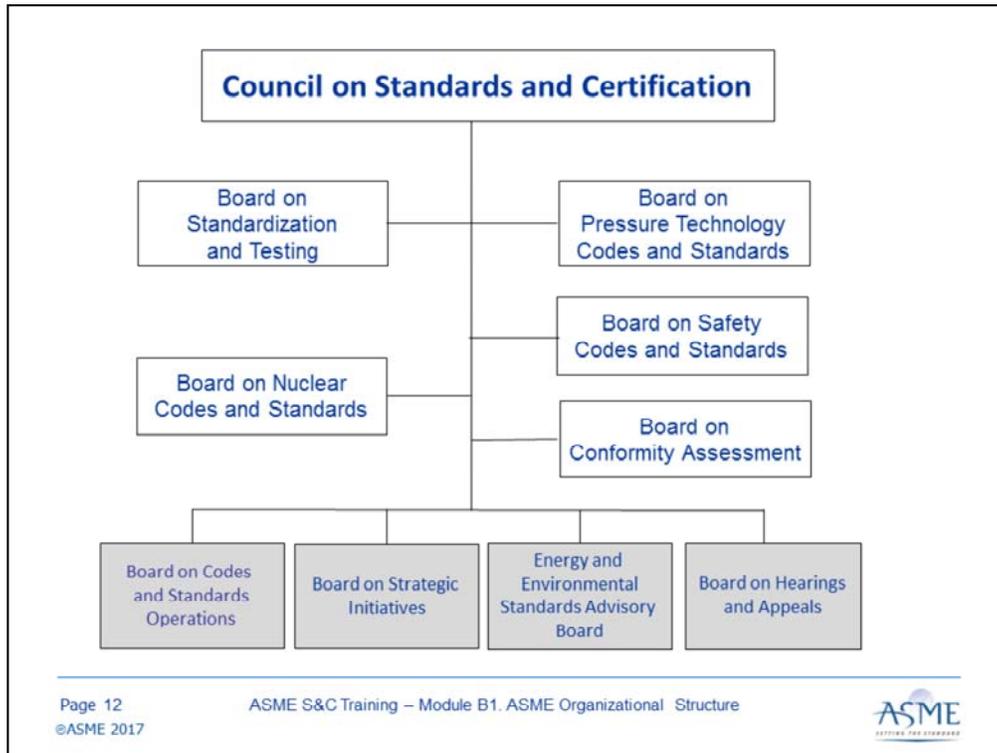
STANDARDS AND CERTIFICATION SECTOR

- Worldwide Scope
 - Over 500 codes and standards
 - 5,500 active individuals
 - Over 1,100 technical experts from outside U.S.
 - Used in over 100 countries
 - ASME-certified manufacturers in approximately 75 countries

To date, ASME currently has over 500 codes and standards in print. Standards and Certification committee activities involve about 5,500 individuals, mostly volunteers, of which over 1,100 of these individuals reside outside the U.S. Not all active individuals are ASME members, though membership in ASME is encouraged.

ASME standards are used in over 100 countries around the world.

Finally, ASME has certified manufacturers of products related to ASME codes and standards in approximately 75 countries.



There are nine Boards that report to the Council on Standards and Certification. Five Supervisory Boards and the four advisory Boards shown in grey.

The membership on the Council and the responsibilities of these Boards will be discussed briefly in the next several slides.

S&C COUNCIL MEMBERSHIP

- Chair and two Vice Chairs are appointed by the Board of Governors
 - Chair, Senior Vice President of S&C
 - Vice Chair of Operations
 - Serves as the Chair of the Board on Codes and Standards Operations (BCO)
 - Vice Chair of Strategic Initiatives
 - Serves as the Chair of the Board on Strategic Initiatives

The Chair and two Vice Chairs of the Standard & Certification Council are appointed by the Board of Governors.

- The Chair of the Council is also known as the Senior Vice President, Standards and Certification
- The Vice Chair of Operations who will also serve as the Chair of the Board on Codes and Standards Operations (BCO)
- The Vice Chair of Strategic Initiatives who will also serve as the Chair of the Board on Strategic Initiatives

S&C COUNCIL MEMBERSHIP

- Council Membership:
 - Chairs of all Supervisory Boards
 - Chair of the Board on Hearings and Appeals
 - Chair of the Energy and Environmental Standards Advisory Board (EESAB)
 - Twelve members-at-large
 - Associate Executive Director, S&C (non-voting)
 - Managing Directors, S&C (non-voting)

Council Membership Includes:

- The Chairs of all Supervisory Boards
- The Chair of the Board on Hearings and Appeals
- The Chair of the Energy and Environmental Standards Advisory Board (EESAB)
- Twelve members-at-large
- Associate Executive Director, Standards and Certification (non-voting)
- Managing Directors, S&C (non-voting)

S&C ADVISORY GROUPS

- **Board on Codes and Standards Operations**
 - Deals with honors, informational services, legal considerations, procedures and planning, considers action on items delegated by Council on Standards and Certification (e.g., standards committee charters, procedures, and personnel)
- **Board on Hearings & Appeals**
 - Provides a forum for appeals resulting from procedural due process issues in codes, standards and related conformity assessment programs
- **Energy and Environmental Standards Advisory Board**
 - Coordinates initiation of programs, products, and services addressing global energy and environmental needs
- **Board on Strategic Initiatives**
 - Advise the Council on Standards and Certification on trends, implications, strategic issues and planning

The Advisory Groups are primarily forums for discussion of issues associated with standards development. They are tasked with making recommendations for Council on Standards and Certification action in their respective areas and taking action on items delegated by the Council on Standards and Certification.

- The Board on Codes and Standards Operations deals with honors, informational services, legal considerations, procedures and planning; considers action on items delegated by Council on Standards and Certification (e.g., standards committee charters, procedures, personnel).
- The Board on Hearings and Appeals provides a forum for appeals resulting from alleged grievances related to procedural due process in codes, standards and related conformity assessment programs. The Board will first evaluate the validity of the alleged grievance to determine whether a hearing should be scheduled.
- The Energy and Environmental Standards Advisory Board coordinates initiation of new standards development, workforce development, certification programs and related products and services addressing global energy and environmental needs.
- The Board on Strategic Initiatives advises the Council on Standards and Certification on trends, implications, strategic issues and planning.

S&C SUPERVISORY BOARDS

Responsible for:

- Assessing the need for S&C activity
- Structuring the necessary committees
- Ensuring procedures for due process
- Approving & discharging committee personnel
- Approving codes & standards for ASME
- Hearing appeals
- Recommending disbanding of committees

The Supervisory Boards are responsible for creating and supervising the committees that develop new and revised standards. Each Board is specifically responsible for:

- Assessing the need for S&C activity
- Structuring the necessary committees
- Ensuring procedures for due process
- Approving and discharging committee personnel
- Approving codes and standards for ASME
- Hearing appeals
- Recommending the disbanding of a committee

Each Supervisory Board presides over Standards and Certification activities which focus on a particular area of interest. The areas covered by each of the five supervisory Boards will be described in the following slides.

BOARD ON STANDARDIZATION AND TESTING (BST)

- Dimensional, design, application, drafting and other standards
- Determination of performance of mechanical equipment designed to meet specified criteria of performance and operability
- Examples of Documents
 - A112.19.7M, Whirlpool Bathtub Appliances
 - B18.1.1, Small Solid Rivets
 - EA-2, Energy Assessment for Pumping Systems
 - PTC 19.1, Test Uncertainty, PTC 46, Overall Plant Performance
 - V&V 20, Verification and Validation in Computational Fluid Dynamics and Heat Transfer
 - Y14.5M, Dimensioning and Tolerancing

The areas of responsibility for the Board on Standardization and Testing includes management and supervision of the dimensional, design, application, drafting and other standards, as well the determination of performance of mechanical equipment designed to meet specified criteria of performance and operability (also known as performance test codes).

Examples of some of the standards developed under this Board are:

- A112.19.7M, Whirlpool Bathtub Appliances
- B18.1.1, Small Solid Rivets
- EA-2, Energy Assessment for Pumping Systems
- PTC 19.1, Test Uncertainty, PTC 46, Overall Plant Performance
- V&V 20, Verification and Validation in Computational Fluid Dynamics and Heat Transfer
- Y14.5M, Dimensioning and Tolerancing

BOARD ON SAFETY CODES AND STANDARDS (BSCS)

- Standards addressing the safety of employees and the public in the construction, installation, operation, inspection and maintenance of cranes, elevators, escalators and similar equipment
- Examples of Documents
 - A17.1, Safety Code for Elevators and Escalators
 - B30.5, Safety Standard for Mobile and Locomotive Cranes
 - CSD-1, Safety Standard for Controls and Safety Devices for Automatically Fired Boilers
 - RT-2, Safety Standard for Structural Requirements for Heavy Rail Transit Vehicles

Safety Codes and Standards address the safety of employees and the public in the construction, installation, operation, inspection and maintenance of cranes, elevators, escalators and similar equipment.

Examples of some of the standards developed under this Board are:

- A17.1, Safety Code for Elevators and Escalators
- B30.5, Safety Standard for Mobile and Locomotive Cranes
- CSD-1, Safety Standard for Controls and Safety Devices for Automatically Fired Boilers
- RT-2, Safety Standard for Structural Requirements for Heavy Rail Transit Vehicles

BOARD ON PRESSURE TECHNOLOGY CODES AND STANDARDS (BPTCS)

- Rules governing the design, fabrication and inspection of non-nuclear pressure-containing equipment
- Examples of Documents
 - B16.5, Pipe Flanges and Flanged Fittings
 - B31.1, Power Piping
 - BPE, Bioprocessing Equipment
 - BPVC Section I, Rules for Construction of Power Boilers
 - BPVC Section VIII, Rules for Construction of Pressure Vessels (Div. 1, 2 and 3)
 - RTP-1, Reinforced Thermoset Plastic Corrosion-Resistant Equipment

Pressure Technology covers rules governing the design, fabrication and inspection of non-nuclear pressure-containing equipment.

Examples of some of the standards developed under this Board are:

- B16.5, Pipe Flanges and Flanged Fittings
- B31.1, Power Piping
- BPE, Bioprocessing Equipment
- BPVC Section I, Rules for Construction of Power Boilers
- BPVC Section VIII, Rules for Construction of Pressure Vessels (Div. 1, 2 and 3)
- RTP-1, Reinforced Thermoset Plastic Corrosion-Resistant Equipment

BOARD ON NUCLEAR CODES AND STANDARDS (BNCS)

- ASME standards for nuclear facilities & technology
- Examples of Documents
 - BPVC Section III, Rules for Construction of Nuclear Facility Components
 - BPVC- XI, Rules for Inspection of Nuclear Power Plant Components
 - NQA-1, Quality Assurance Requirements for Nuclear Facility Applications
 - OM, Code for the Operation and Maintenance of Nuclear Power Plants

Nuclear Codes & Standards covers standards for nuclear facilities and technology.

Examples of some of the standards developed under this Board are:

- BPVC Section III, Rules for Construction of Nuclear Facility Components
- BPVC- XI, Rules for Inspection of Nuclear Power Plant Components
- NQA-1, Quality Assurance Requirements for Nuclear Facility Applications
- OM, Code for the Operation and Maintenance of Nuclear Power Plants

BOARD ON CONFORMITY ASSESSMENT (BCA)

- Operation of accreditation, product certification, personnel certification, and management system certification programs
- Examples of Programs:
 - Authorized Inspection Agencies
 - Boilers and Pressure Vessels – BPVC Sections I, IV, VIII, X and XII
 - Nuclear Components – BPVC Section III, Div. 1, 2 & 3
 - Geometric Dimensioning and Tolerancing Professionals
 - Bioprocessing Equipment

The main role of the Board on Conformity Assessment is to oversee the operation of accreditation, product certification, personnel certification, and management system certification programs established by standards committees under the jurisdiction of other Supervisory Boards.

Examples of these programs include, but are not limited to:

- The accreditation of Authorized Inspection Agencies,
- Product certification for Boilers and Pressure Vessel components and Nuclear Components,
- Personnel certification for Geometric Dimensioning and Tolerancing Professionals, and
- Management system certification for Bioprocessing Equipment.

BOARD ON CONFORMITY ASSESSMENT (BCA)

- Examples of Documents
 - CA-1, Conformity Assessment Requirements
 - QAI-1, Qualifications for Authorized Inspection
 - QRO-1, Standard for the Qualification and Certification of Resource Recovery Facility Operators

Examples of some of the standards developed under this Board are:

- CA-1, Conformity Assessment Requirements
- QAI-1, Qualifications for Authorized Inspection
- QRO-1, Standard for the Qualification and Certification of Resource Recovery Facility Operators

STANDARDS COMMITTEES

- Where the relevant technical expertise resides
- Responsible for developing consensus on proposed standards actions
- May delegate certain standards development activities to one or more Subordinate Groups

Each Supervisory Board has numerous of standards committees that reports directly to them. The Standards committee is a group of technically qualified experts that are responsible for developing consensus on proposed standards actions. However, in many cases, the standard development activities is delegated to one or more Subordinate Groups.

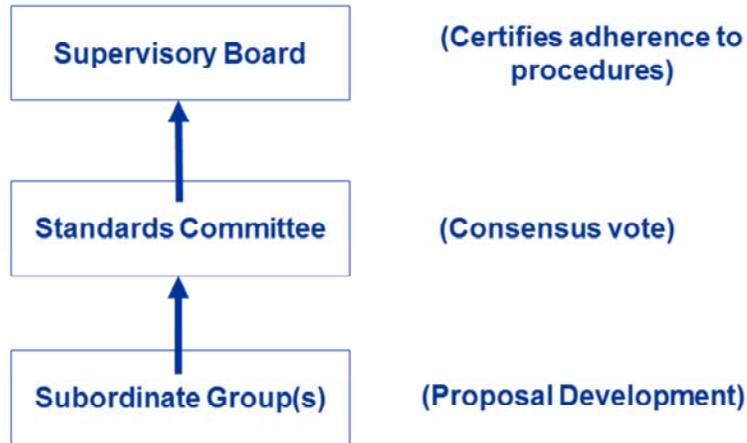
SUBORDINATE GROUPS

- Develop specific proposals for the committee's formal consensus consideration
- May draw on the expertise of individuals outside of the standards committee
- Include Project Teams, Subcommittees, Task Groups, Working Groups and Ad-hoc Groups

Each Standards Committee may have a number of subordinate groups that reports to them. These groups:

- Develop specific proposals for the committee's formal consensus consideration.
- May draw on the expertise of individuals who may not be members of the Standards committee. This enables the Standards committee to access expertise unencumbered by requirements of formal membership which may not be possible for all interested individuals.
- Subordinate group names vary by Committee and can include Project Teams, Subcommittees, Task Groups, Working Groups and Ad-hoc Groups.

S&C COMMITTEE STANDARDS ACTION PROCESS



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ASME S&C Training – Module B1. ASME Organizational Structure



The S&C Committee standards action development process typically proceeds in a tiered fashion:

- The Subordinate Group develops a formal proposal.
- Technical discussion may occur in related Standards committees, subordinate groups, or with others with necessary expertise.
- Once the proposal is approved by the Subordinate Group(s), it proceeds to the Standards Committee, who then votes on the proposal to achieve consensus.
- Once consensus has been achieved by the Standards Committee, the appropriate Supervisory Board certifies that the procedures have been followed throughout the proposal development and voting process and that the procedural requirements have been met.

Further details into the consensus process for S&C activities are discussed in Modules B5, Consensus Process for Standards Development and/or B9, ASME Conformity Assessment Programs.

LEARNING AND DEVELOPMENT

- ASME Learning and Development provides training for engineers and technical professionals including companion courses for codes and standards and a wide variety of engineering and management courses
- Course Formats include:
 - Online ASME Assessment Based Courses
 - In-Company Training
 - On-line instructor –supported courses
 - Instructor-led courses on various topics world-wide
- ASME Learning and Development Catalog:
<http://www.asme.org/kb/courses>

ASME Learning and Development maintains close relationship with ASME S&C to provide companion courses for codes and standards where there is a need.

Course Formats include:

- Online ASME Assessment Based Courses
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ASME Learning and Development Catalog can be found at this web-site address.

ASME STANDARDS TECHNOLOGY, LLC (ST-LLC)

- Not-for-profit Limited Liability Committee with ASME as the sole member of LLC
- Advances application of emerging and newly commercialized technology
- ASME ST-LLC maintains close relationship with ASME S&C Sector
- Provides research and technology development for technical relevance of codes and standards
- ASME Standards Technology LLC Web Site:
 - <http://asmestllc.org/>

The ASME Standards Technology, LLC (ST-LLC) is a not-for-profit Limited Liability Company, with ASME as its sole member.

The ambition of the ASME ST-LLC is to meet the needs of industry and government by providing new standards-related products and services, which advance the application of emerging and newly commercialized science and technology.

ASME ST-LLC maintains a close relationship with ASME especially the Standards and Certification organization. ASME ST-LLC provides research and technology development needed to establish and maintain the technical relevance of codes and standards.

ASME ST-LLC products and services include government contracting, collaborative research projects, pre-standards offerings, industry/consortia standards and technical services for standards implementation.

All S&C committee web pages contain more information about ASME ST-LLC.

MODULE SUMMARY

- ASME is governed by the Board of Governors who are tasked with fulfilling ASME's Mission.
- Four Sectors report to the Board of Governors. The Standards and Certification Sector is responsible for all ASME Standards and Certification activities.
- Four Advisory Boards and Five Supervisory Boards report to the Council on Standards and Certification.
- The five S&C supervisory boards include Standardization and Testing (BST), Safety Codes & Standards (BSCS), Pressure Technology Codes & Standards (BPTCS), Nuclear Codes & Standards (BNCS), and Conformity Assessment (BCA). Multiple standards committee report to each Supervisory Board.
- Learning and Development and ASME ST-LLC maintain close relationships with ASME S&C committees to provide research and training products related to codes and standards.

In summary:

- ASME is governed by the Board of Governors who are tasked with fulfilling ASME's Mission.
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- Learning and Development and ASME ST-LLC maintain close relationships with ASME S&C committees to provide research and training products related to codes and standards.

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