



**ASME
STANDARDS COMMITTEE
FOR
NONMETALLIC PRESSURE PIPING SYSTEMS**

**GAS TECHNOLOGY INSTITUTE – WORKSHOP
COMPOSITE PIPING SYSTEMS
WASHINGTON GAS – SPRINGFIELD CENTER
SPRINGFIELD, VA
JULY 17, 2012**

**MOHINDER L. NAYYAR, P. E.
CHAIRMAN, ASME STANDARDS COMMITTEE
FOR
NONMETALLIC PRESSURE PIPING SYSTEMS**

STANDARDS COMMITTEE FOR NONMETALLIC PRESSURE PIPING SYSTEMS

- **TOPICS**

- **ASME CODES AND STANDARDS
ACTIVITIES – NONMETALLIC AREA**
- **ASME VISION FOR FUTURE**
- **ASME STANDARDS COMMITTEE FOR
NONMETALLIC PRESSURE PIPING
SYSTEMS – CHARTER**
- **ORGANIZATION OF STANDARDS
COMMITTEE**

STANDARDS COMMITTEE FOR NONMETALLIC PRESSURE PIPING SYSTEMS

- **TOPICS**
 - **ORGANIZATION OF SUBCOMMITTEES
AND THEIR CHARTERS**
 - **ADDITIONAL ACTIONS**
 - **COMPOSITE PIPING SYSTEMS**
 - **OTHERS**
 - **QUESTIONS AND ANSWERS**

STANDARDS COMMITTEE FOR NONMETALLIC PRESSURE PIPING SYSTEMS

- **ASME CODES AND STANDARDS ACTIVITIES
IN NONMETALLIC AREA**
 - **ASME B31, PRESSURE PIPING CODE**
 - **ASME B31.1** **POWER PIPING CODE**
 - **ASME B31.3** **PROCESS PIPING CODE**
 - **ASME B31.8** **GAS TRANSMISSION AND
DISTRIBUTION PIPING SYSTEMS**
 - **ASME B31.9** **BUILDING SERVICES PIPING**
 - **ASME B31.12** **HYDROGEN PIPING AND PIPELINES**

STANDARDS COMMITTEE FOR NONMETALLIC PRESSURE PIPING SYSTEMS

– ASME B31, PRESSURE PIPING CODE

- **ASME B31.1** **POWER PIPING CODE**

- NO DEDICATED FOCUS SUBGROUP CONSISTING OF
NONMETALLIC EXPERTS

- **ASME B31.3** **PROCESS PIPING CODE**

- SUBGROUP ON NON-METALLIC PIPING

STANDARDS COMMITTEE FOR NONMETALLIC PRESSURE PIPING SYSTEMS

– ASME B31, PRESSURE PIPING CODE

- **ASME B31.8 GAS TRANSMISSION AND
DISTRIBUTION PIPING SYSTEMS**

- NO DEDICATED FOCUS SUBGROUP CONSISTING OF
NONMETALLIC EXPERTS**

- **ASME B31.9 BUILDING SERVICES PIPING**

- NO DEDICATED FOCUS SUBGROUP OF NONMETALLIC
EXPERTS**

STANDARDS COMMITTEE FOR NONMETALLIC PRESSURE PIPING SYSTEMS

– ASME B31, PRESSURE PIPING CODE

- ASME B31.12 HYDROGEN PIPING AND
PIPELINES**

**– CODE DOES NOT CONTAIN REQUIREMENTS FOR
NONMETALLIC PIPING OR COMPONENTS.**

STANDARDS COMMITTEE FOR NONMETALLIC PRESSURE PIPING SYSTEMS

– ASME BOILER AND PRESSURE CODE

- **ASME SECTION II MATERIALS**

- **SUBGROUP ON STRENGTH NON-METALLIC MATERIALS**
- **SPECIAL WORKING GROUP ON NON-METALLIC MATERIALS**

- **ASME SECTION III NUCLEAR FACILITY COMPONENTS**

- **SUBGROUP ON POLYETHYLENE PIPE**

STANDARDS COMMITTEE FOR NONMETALLIC PRESSURE PIPING SYSTEMS

– ASME BOILER AND PRESSURE CODE

- ASME SECTION IV HEATING BOILERS**
- ASME SECTION IX WELDING AND
BRAZING
QUALIFICATIONS**

– SUBGROUP ON PLASTIC FUSING

STANDARDS COMMITTEE FOR NONMETALLIC PRESSURE PIPING SYSTEMS

– ASME BOILER AND PRESSURE CODE

- **ASME SECTION X FIBER-REINFORCED
PLASTIC PRESSURE
VESSELS**

- **INTERNAL DESIGN PRESSURE LIMITS VARY.**
- **CLASS I VESSELS**

- » **150 PSI FOR BAG-MOLDED, CENTRIFUGALLY CAST, AND CONTACT MOLDED**
- » **1500 PSI FOR FILAMENT WOUND VESSELS**
- » **3000 PSI FOR FILAMENT WOUND VESSELS WITH POLAR BOSS OPENING**

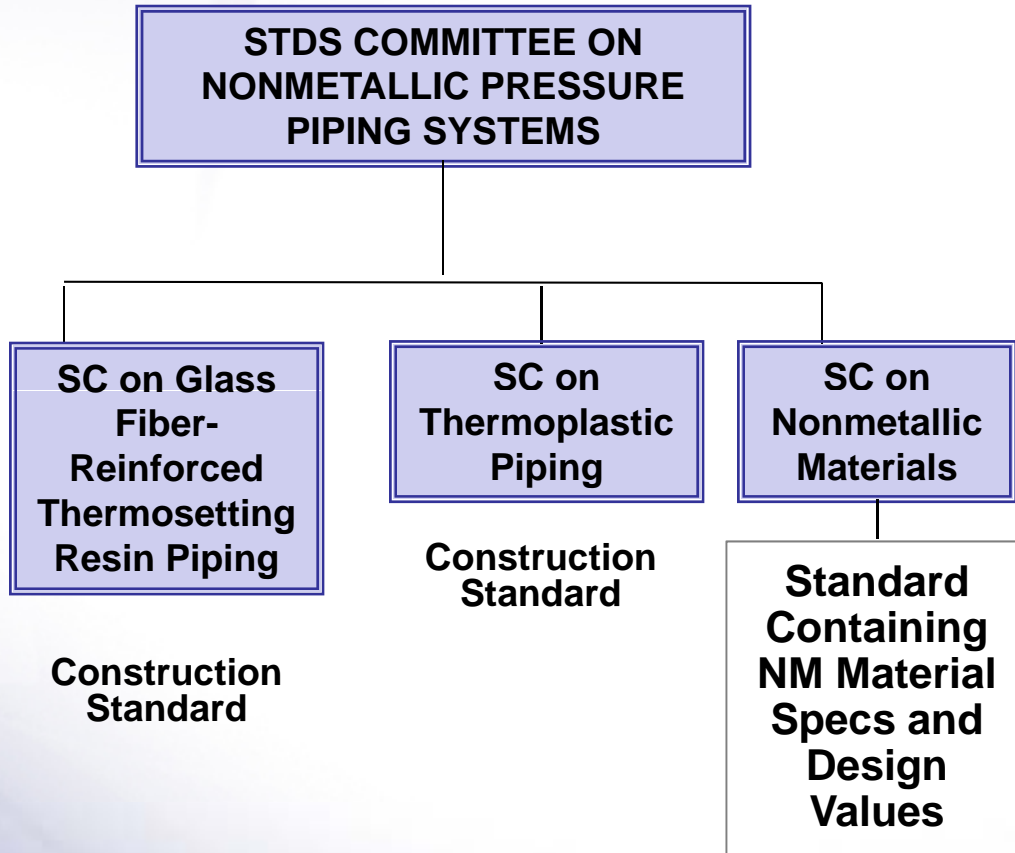
STANDARDS COMMITTEE FOR NONMETALLIC PRESSURE PIPING SYSTEMS

- **ASME REINFORCED THERMOSET PLASTIC (RTP)
CORROSION-RESISTANT EQUIPMENT COMMITTEE**
 - **ASME RTP-1 APPLIES TO STATIONARY VESSELS AT PRESSURES NOT EXCEEDING 15 psig EXTERNAL AND/OR 15 psig INTERNAL ABOVE ANY HYDROSTATIC HEAD.**
- **ASME B16 COMMITTEE**
 - **UNTIL RECENTLY THERE WAS NO EFFORT TO DEVELOP STANDARD FOR NONMETALLIC VALVES**

ASME VISION FOR FUTURE

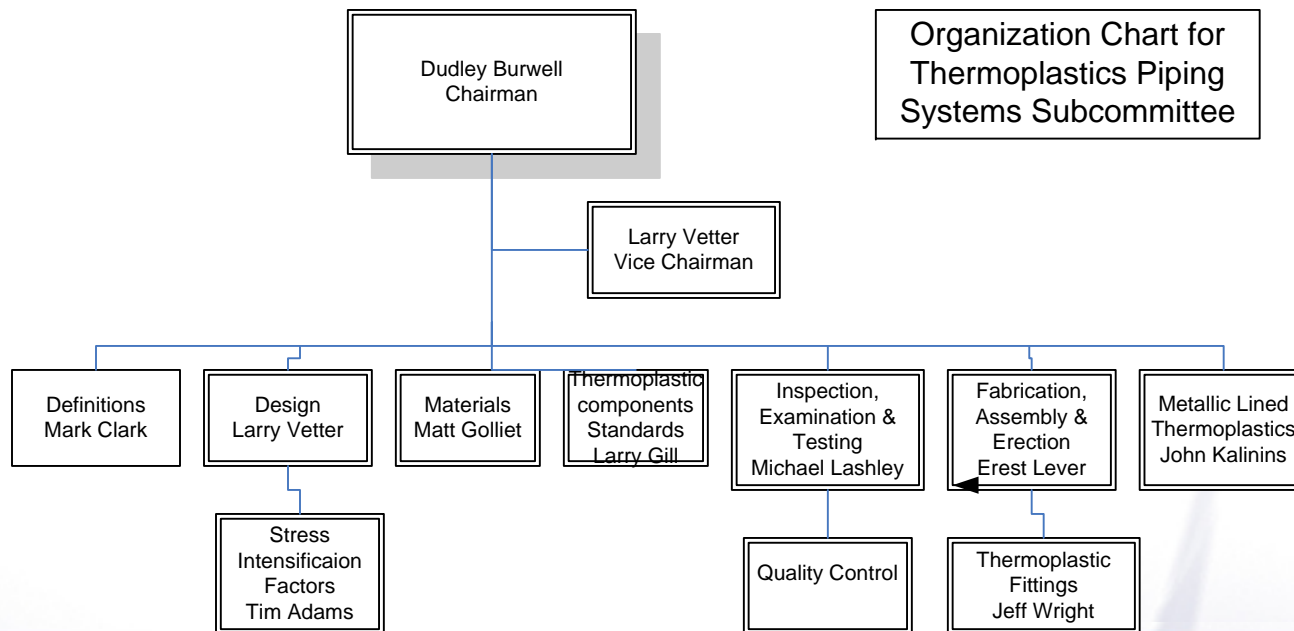
- **ASME STANDARDS COMMITTEE FOR NONMETALLIC PRESSURE PIPING SYSTEMS (NPPS)**
 - **SUBCOMMITTEE ON THERMOPLASTIC PIPING**
 - **SUBCOMMITTEE ON GLASS-FIBER REINFORCED THERMOSETTING RESIN PIPING**
 - **SUBCOMMITTEE ON NONMETALLIC MATERIALS**

Consolidation of Nonmetallic Committee Activities



Charter of Standards Committee

Development and maintenance of codes and standards for the design, manufacture, fabrication, installation, examination, testing, and inspection of thermoplastic and glass-fiber-reinforced thermosetting resin piping systems suitable for pressure applications. Also, development and maintenance of nonmetallic materials other than wood, glass, and concrete for pressure applications; and , consistent with the requirements of piping construction codes, development and maintenance of material design values and limits on the use of nonmetallic materials.



Charter of Thermoplastic Piping Subcommittee

Establish rules relating to pressure integrity governing the construction of Thermoplastic Piping Systems.

Construction, as used in this charter, is limited to materials, design, fabrication, examination, installation, inspection, testing, and certification, as required.

Organization Chart for FRP Subcommittee

**Glass Fiber-Reinforced Thermosetting Resin
Piping Subcommittee**

Chairman – Charles Henley

Vice Chairman – Craig Moore

Secretary – Carlton Ramcharran

Design Subgroup
Chairman – Bruce Hebb

Material Subgroup
Chairman – Bruce Colley

**Fabrication/Examination/QA
Subgroup**
Chairman – Zlatan Siveski

Working Groups – TBD

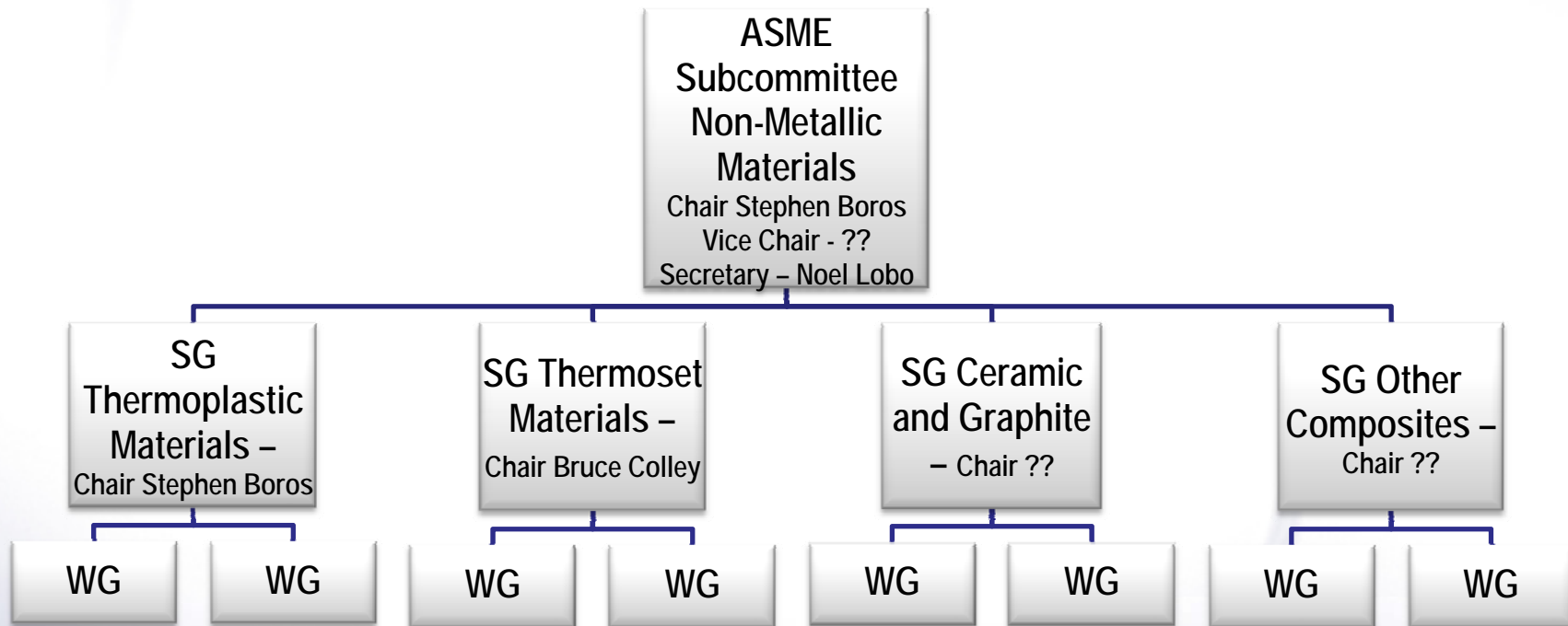
Working Groups – TBD

Working Groups – TBD

Charter of FRP Subcommittee

Establish rules relating to pressure integrity governing the construction of Glass-Fiber-Reinforced Thermosetting Resin Piping Systems. Construction, as used in this charter, is limited to materials, design, fabrication, examination, installation, inspection, testing, and certification, as required.

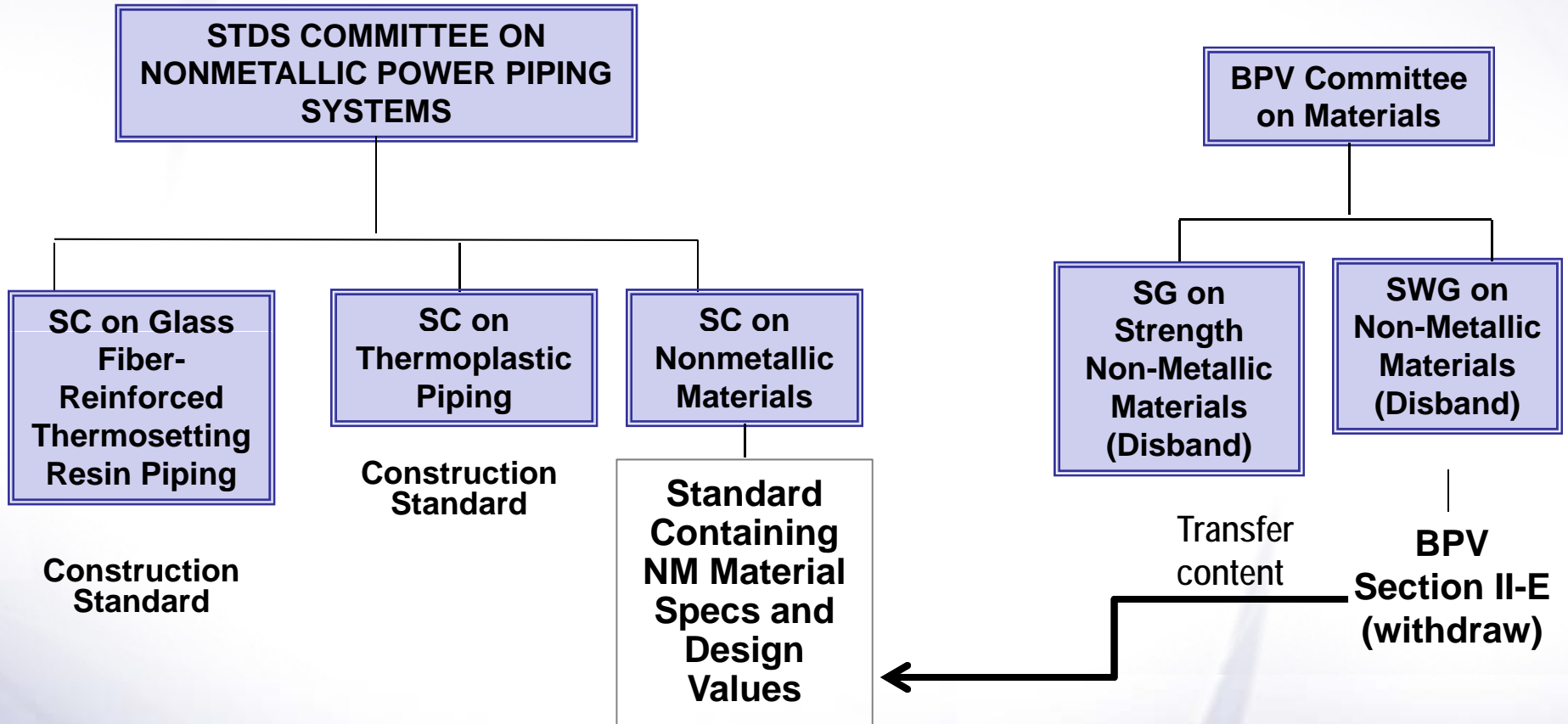
Organization Chart For ASME Subcommittee Nonmetallic Materials



Charter of Nonmetallic Materials Subcommittee

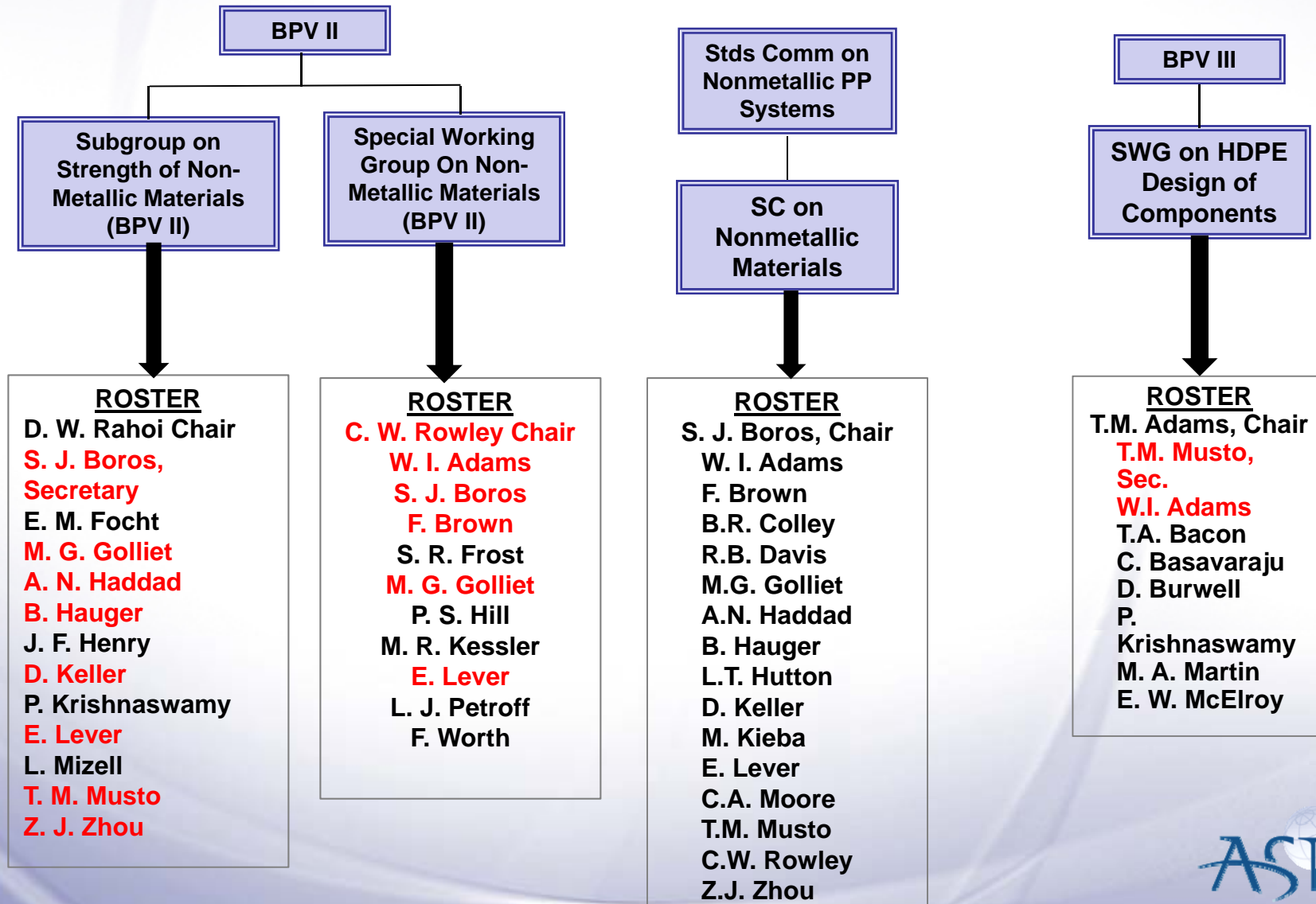
Development and maintenance of material specifications for nonmetallic materials other than wood, glass, and concrete; and, consistent with the requirements ASME BPV, B31, B16, and RTP construction codes and standards, development and maintenance of material design values and limits on the use of nonmetallic materials.

Consolidation of Nonmetallic Committee Activities

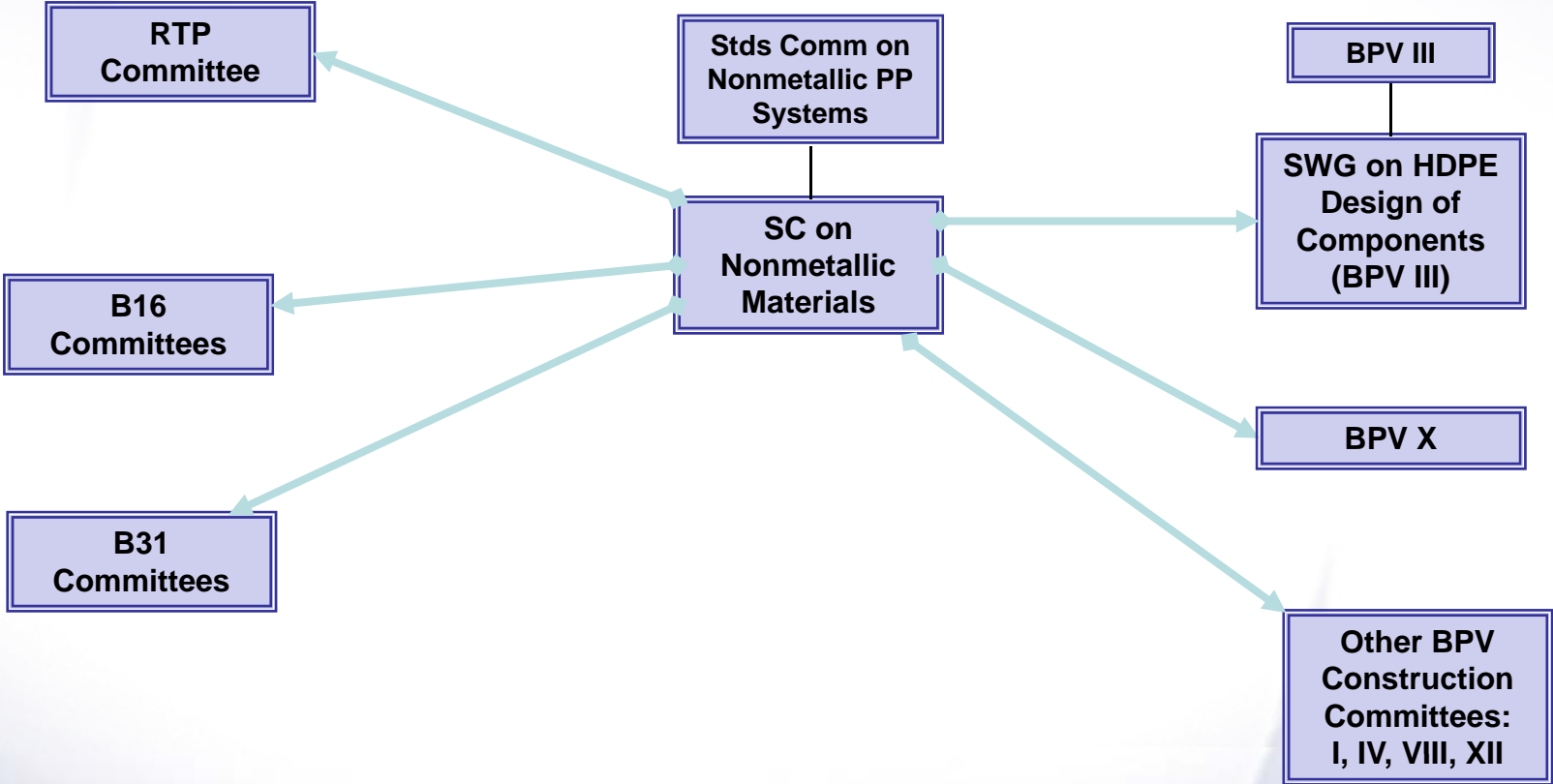


Consolidation of Nonmetallic Committee Activities

Names shown in Red are also members of the new SC on Nonmetallic Materials



Customers for SC on Nonmetallic Materials



BENEFITS OF NEW ORGANIZATION

- **Consolidates volunteer nonmetallic material expertise and engineering skills within 1 committee**
- **Avoids burdening Section II Committee with ballots on subjects with which they have little or no experience, expertise, or interest**
- **Avoids duplication of efforts by B31, B16, RTP, III, IV, VIII, X, XII and others: thus, increased efficiency in the standards development process and improved time-to market for committee actions**
- **Provides for nonmetallic technology support for a broad range of other ASME committees, analogous to the technology support provided by other committees such as BPV II, V & IX**

Additional Actions

- **DESIGNATIONS FOR COMMITTEES**
 - **NM FOR STANDARDS COMMITTEE**
 - **NM-1, NM-2, AND NM-3 FOR SUBCOMMITTEES**

- **APPROVAL OF SCOPE OF NEW CODES NM-1, NM-2, AND NM-3**

Additional Actions

- **DESIGNATIONS FOR NEW CODES**
 - **NM-1 THERMOPLASTIC PIPING SYSTEMS**
 - **NM-2 GLASS-FIBER-REINFORCED THERMOSETTING RESIN PIPING SYSTEMS**
 - **NM-3 NONMETALLIC MATERIALS**

Additional Actions

- **COMPOSITE PIPING SYSTEMS**
 - **CONSIDER ESTABLISHING SUBGROUPS AND WORKING WORKINGS FOR:**
 - **DESIGN**
 - **MATERIALS**
 - **FABRICATION AND EXAMINATION**
 - **INSTALLATION, TESTING, AND INSPECTION**
 - **QUALITY**
 - **NEED EXPERTS**

Additional Actions

- **CONTACTS:**

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- **Colleen O'Brien**

- obrienc@asme.org

Additional Actions

- **SUMMARY**
 - **CURRENT STATUS OF ASME ACTIVITIES ON NONMETALLIC MATERIALS AND TECHNOLOGIES**
 - **FUTURE VISION OF ASME**
 - **NEW STANDARDS COMMITTEE**
 - **NEW SUBCOMMITTEES**
 - **CHARTERS**
 - **COMPOSITE PIPING**

Additional Actions

- **QUESTIONS AND ANSWERS**