

ASME Committee on Nuclear Air & Gas Treatment (CONAGT)

Activities, Accomplishments and Challenges

***Thomas J. Vogan, Chair - CONAGT
July 20, 2010***

Topical Agenda

- ✓ **History of CONAGT**
- ✓ **The Committee Organization**
- ✓ **CONAGT Codes & Standards**
- ✓ **ASME AG-1**
- ✓ **ASME N511**
- ✓ **Future Activities**



History of CONAGT



31st International Nuclear Air Cleaning Conference

History of CONAGT

- **May 1971 – ANSI N45.8 Committee formed to address air cleaning systems – Initiated work on the development of ANSI N509 and N510**
- **Jan 15, 1976 – CONAGT was accredited and chartered under the ASME Board on Nuclear Codes & Standards – Replaced ANSI N45.8 Committee**
- **May 6, 1976 – First CONAGT business meeting held at ASME headquarters in New York**

History of CONAGT

- **June 1951 – Air Cleaning Seminar for the AEC
Held at Harvard University, Cambridge, MA**
- **Evolved into the AEC Air Cleaning Conferences**
- **ANSI N45.8 formed between 11th & 12th ACC
with participants from the ACC.**

Original Publications

- **ANSI N510-1975 published June 19, 1975**
- **ANSI N509-1976 published December 7, 1976**
- **ORNL NISC-65, Air Cleaning Handbook published May 1976**

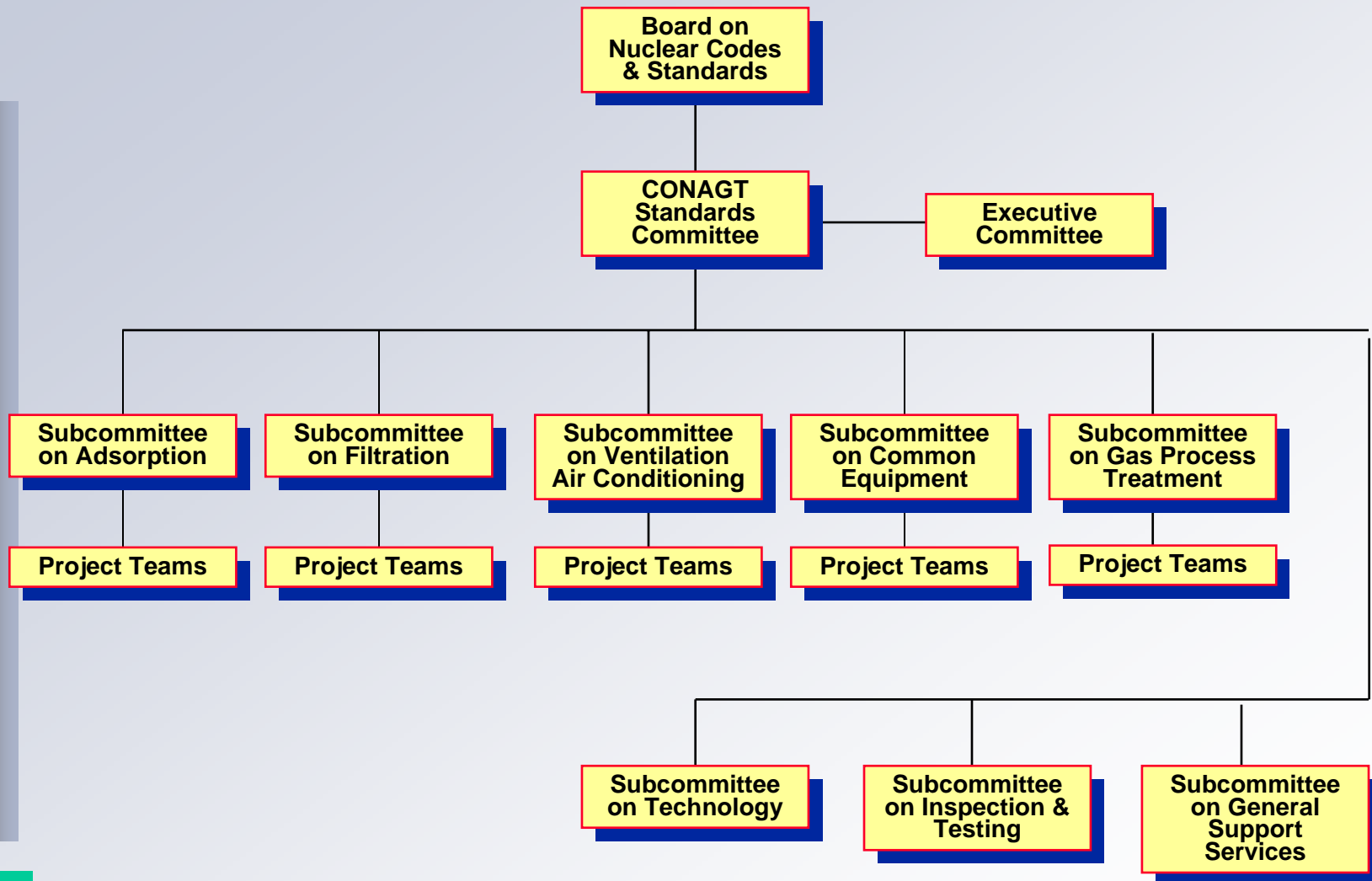


The Committee Organization



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CONAGT ORGANIZATION





CONAGT

Codes & Standards



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Codes & Standards

- **ASME AG-1-2009: Code on Nuclear Air and Gas Treatment**
- **ASME N509-2002: Nuclear Power Plant Air-Cleaning Units and Components**
- **ASME N510-2007: Testing of Nuclear Air Treatment Systems**
- **ASME N511- 2007: In-Service Testing of Nuclear Air Treatment, Heating, Ventilating, and Air-Conditioning Systems**

ASME AG-1 Code Equipment

Organization of AG-1

- **Division 1 – General Requirements**
- **Division 2 – Air Cleaning Equipment**
- **Division 3 – Gas Process Treatment Equipment**
- **Division 4 – Testing**

Division 1 – General Requirements

- **Definitions, References and Materials**
- **Structural Design Rules**
 - ✓ **Loading Criteria**
 - ✓ **Loading Combinations & Service Limits**
 - ✓ **Stress Criteria**
 - ✓ **Deflection Criteria**
 - ✓ **Component & Support Design Rules**
 - ✓ **Seismic Design Verification**
- **Inspection & Testing**
- **Fabrication & Coatings**
- **Packaging, Quality Assurance & Documentation**
- **Repairs, Replacements & Modifications**

Division 2 – Air Cleaning Equipment

- **Fans & Blowers**
- **Dampers & Louvers**
- **Ductwork**
- **AHU Housings**
- **Refrigeration Equipment**
- **Conditioning Equipment (Heaters & Coolers)**
- **Moisture Separators**
- **Filters**
- **Adsorbers & Adsorbent Media**
- **Mounting Frames**
- **Instrumentation**

Division 3 – Gas Process Equipment

- **Vessels**
- **Noble Gas Holdup**
- **High Pressure Blowers**
- **Hydrogen Recombiners**
- **Gas Sampling**
- **Scrubbers**
- **Cyclones**
- **Membranes**
- **Filters**
- **Precipitators**
- **Adsorbents**
- **Mist Eliminators**

Division 4 – Air Cleaning Equipment

- **Testing Air Treatment Systems**
- **Testing Gas Process Treatment Systems**

AG-1 Activities & Accomplishments 2003 → 2009 Edition

- **New Code Sections**
 - ✓ **Section FH – Type IV Adsorbers**
 - ✓ **Section FJ – Low Efficiency Filters**
 - ✓ **Section FK – Special HEPA Filters**
- **Consolidation of References & Material Specifications**
- **Clarify Certificates of Conformance (NQA-1)**
- **Maintenance Revisions**



ASME N511

In-Service Testing



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ASME N511

In-Service Testing

- **General Requirements**
 - ✓ **Test Instrument Requirements**
 - ✓ **Establishment of Reference Values**
 - ✓ **Inspection & Test Requirements**
- **Component Testing Requirements & Intervals**
 - ✓ **Fans**
 - ✓ **Dampers**
 - ✓ **Ducts & Housings**
 - ✓ **Refrigeration Equipment**
 - ✓ **Conditioning Equipment**
 - ✓ **Filters & Moisture Separators**
 - ✓ **Adsorbers**
 - ✓ **Adsorbent Media**

ASME N511

In-Service Testing (Con't)

- **Integrated System Testing**
- **Acceptance Criteria**
- **Corrective Action Requirements**



CONAGT Challenges & Future Plans

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AG-1 Code

2009 → 2011 Editions

- **New Code Sections or Appendices:**
 - ✓ **Section FI - Metal Media Filters**
 - ✓ **Section FL - Sand Filters**
 - ✓ **Section FM - High Strength HEPA Filters**
 - ✓ **Section GC – High Pressure Blowers**
 - ✓ **Section GM – Adsorbent Media**
 - ✓ **Adsorbent Test Canister Design**
- **Maintenance Revisions**
 - ✓ **HEPA Filter Mildew & Fungus Requirements**
 - ✓ **HEPA Filter Media Production Testing**
 - ✓ **Preconditioning Rules**
 - ✓ **Ductwork Design Rules**

AG-1 Code Beyond 2011 Edition

- **ASME Publications - Elimination of Addenda**
- **2 or 3 Year AG-1 Code Publication Cycle**
- **Planned New Code Sections & Appendices:**
 - ✓ **Section FM - High Strength HEPA Filters**
 - ✓ **Balance of Division 3 Code Sections**
 - ✓ **Portable ATS Vacuum Systems**
 - ✓ **Other Adsorbent Media**
- **Maintenance Revisions**
 - ✓ **HEPA Filter Media Production Testing**
 - ✓ **Preconditioning Rules**

Standards ASME N509, N510 and N511

Future Plans

- **Withdraw ASME N509**
 - ✓ **Component Rules in ASME AG-1**
 - ✓ **Develop a New Systems Design Standard**
- **Withdraw ASME N510**
 - ✓ **Acceptance Test Rules in AG-1, Section TA**
 - ✓ **In-Service Test Requirements in ASME N511**
- **Expand ASME N511**
 - ✓ **Pulse Mode Testing**
 - ✓ **Establish VOC Limitations**
 - ✓ **Address Risk Informed Test Requirements for Low Safety Significant Components**

Discussion

