INTRODUCTION

This presentation is an overview of the contents of the 2012 Edition of AG-1, which is the latest published version of this Code Book.

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HISTORY

– 1971 ANSI Nuclear Technical Advisory Board Created N45-8
  • To develop a standard for BWR Standby Gas Treatment Systems

– Immediately Expanded to all Engineered Safety Feature Filtration Systems
  • Issued ANSI N510 in 1975 for Testing of Systems
  • Issued ANSI N509 for Units and Components in 1976

– ASME Committee on Nuclear Air and Gas Treatment (CONAGT) Established in February 1976 in New York City
  • Small meeting of experts and US regulators

– AG-1 first issued in 1985 as a component based document
AG-1 USE AND IMPLEMENTATION

- Intended to replace N509 and N510

- Create one recognized code for all nuclear facility ventilation and air cleaning requirements that is recognized world-wide

  - One codified document
  - Endorsed by United States Nuclear Regulatory Commission

- Used, recognized and incorporated either directly or by reference by countries worldwide. This effort must continue as we work towards our goal of improving public health and safety

ASME
SETTING THE STANDARD
TRAINING OPPORTUNITIES

- Many Opportunities to learn what is in AG-1

  - ASME computerized training on code use through the ASME website
  - Harvard University School of Public Health In-Place Filter Testing Workshop
  - Corporation-sponsored training
  - Specific onsite training of AG-1 tailored to your needs
  - International Nuclear Air Cleaning Conferences
  - Become involved as a member of CONAGT
    - Two meetings per year, corresponding membership provides input without attendance at meetings
SCOPE AND PURPOSE
AG-1

SCOPE

This Code provides requirements for the performance, design, fabrication, installation, inspection, acceptance testing, and quality assurance of equipment used in air and gas treatment systems in nuclear facilities.

PURPOSE

The purpose of this Code is to ensure that equipment used in nuclear facilities for air and gas treatment systems is acceptable in all aspects of design and operation.
AG-1 applies only to individual components in a system. The Code does not cover any functional system design requirements or sizing of complete systems, or any operating characteristics of these systems. The responsibility for meeting each requirement of this Code shall be assigned to the Owner or assigned designee. The requirements of AG-1 for air and gas treatment components may be used for engineered safety features systems and normal systems in nuclear power generation facilities, and for air cleaning systems in other nuclear facilities. The design and procurement specifications shall delineate the design, qualification and quality assurance requirements appropriate for the application.
The ASME Code on Nuclear Air and Gas Treatment consists of Divisions I through IV. All Divisions are broken down into Sections designated by two capital letters.

- Division 1 – General Requirements
- Division 2 – Air Cleaning Equipment
- Division 3 – Gas Process Treatment Equipment
- Division 4 – Testing
CONTENT OF DIVISION I

Division I: General Requirements

• Section AA: Common Articles
CONTENT OF DIVISION II

Division II: Ventilation Air Cleaning and Ventilation Air Conditioning

• Section BA: Fans and Blowers
• Section DA: Dampers and Louvers
• Section SA: Ductwork
• Section HA: Housings
• Section RA: Refrigeration Equipment
• Section CA: Conditioning Equipment
• Section FA: Moisture Separators
• Section FB: Medium Efficiency Filters
• Section FC: HEPA Filters
• Section FD: Type II Adsorber Cells
• Section FE: Type III Adsorbers
CONTENT OF DIVISION II

Division II: Ventilation Air Cleaning and Ventilation

Air Conditioning – Cont’d

- Section FF: Adsorbent Media
- Section FG: Mounting Frames for Air-Cleaning Equipment
- Section FH: Other Adsorbers
- Section FI: Metal Media Filters
- Section FJ: Low Efficiency Filters
- Section FK: Special HEPA Filters
- Section FL: Deep Bed Sand Filters
- Section FM: High Strength HEPA Filters
- Section FO: Ceramic Filters
- Section IA: Instrumentation and Controls
CONTENT OF DIVISION III

Division III: Process Gas Treatment

- Section GA: Pressure Vessels, Piping, Heat Exchangers, and Valves
- Section GB: Noble Gas Hold-Up Equipment
- Section GC: Compressors
- Section GD: Other Radionuclide Equipment
- Section GE: Hydrogen Recombiners
- Section GF: Gas Sampling
- Section GG: Scrubbers
- Section GH: Cyclones
- Section GI: Membranes
- Section GJ: Filters
Division III: Process Gas Treatment - Cont’d

- Section GK: Mist Eliminators
- Section GL: Electrostatic Precipitators
- Section GM: Adsorbent Media
CONTENT OF DIVISION IV

Division IV: Testing Procedures

• Section TA: Field Testing of Air Treatment Systems
• Section TB: Field Testing of Gas-Processing Systems
FUTURE CHANGES TO AG-1

AG-1-2014
(with editor for final publication)

• ASME Publications - Elimination of Addenda
• 2 Year AG-1 Code Publication Cycle
• Planned New Code Sections & Appendices:
  – Section FI – Metal Media Filters
  – Section FM - High Strength HEPA Filters
  – Section GC – Compressors (in 2014 edition)
  – Section GM - Adsorbers
  – Maintenance Revisions
SUMMARY

This Code Book (AG-1) has over 40 years of experience built into its pages. Industry volunteer and ASME staff participation along with Owners, Regulators, Insurance Inspectors, Manufacturers, and the Public have all contributed to make this Code Book the world’s choice for high reliability air cleaning equipment. We will continue to work on this Code and respond to industry needs.