

# CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES

## TRIP REPORT

**SUBJECT:** ASME Professional Development Short Course Number PD184 Boiler & Pressure Vessel Code: Section III, Division 1, Requirements For Design And Manufacture Of Nuclear Power Plant Components  
Project Number 20.06002.01.011; AI Number 06002.01.011.009

**DATE/PLACE:** October 13-16, 2003  
Houston, Texas

**AUTHOR:** D.S. Dunn

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**AUTHOR:** D.S. Dunn

**PERSONS PRESENT:** D.S. Dunn, Center for Nuclear Waste Regulatory Analyses

### **BACKGROUND AND PURPOSE OF TRIP:**

The purpose of the trip was to attend the American Society of Mechanical Engineers training course. The course description is attached.

### **SUMMARY OF PERTINENT POINTS:**

The short course was focused on the development of Section III of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code. The course instructor Marcus N. Bressler, P.E., has been a member of the ASME Boiler and Pressure Vessel Code Main Committee, as well as several subcommittees and has more than 30 years experience with the use and development of the Boiler and Pressure Vessel Code while employed with Babcock and Wilcox, Lenape Forge, Taylor Forge and the Tennessee Valley Authority (TVA). In addition, Mr Bressler has many years of experience in the fabrication and inspection of reactor vessel components.

An overview of Section III was provided including the organization of this section, Division 1, Division 2, and the requirements for Class 1, 2 and 3 vessels. Significant changes to the Boiler and Pressure Vessel Code since the 1971 edition were presented. Detailed information was provided on the development of Subsection NCA—General Requirements. In addition, the significance of code cases, the incorporation of code cases into the code, and the code interpretations were provided. Discussion of Subsection NB and other subsections of Section III Division 1 were limited to its organization.

In addition to the course material, Mr Bressler presented some slides taken from his working experience at Lenape Forge which included the fabrication of pressure vessels and components for nuclear power plants. Although many slides were of vessels constructed more than 30 years ago, Mr. Bressler pointed out that most nuclear power plants in the U.S. are constructed with a Code of record that predates the 1974 edition. This may be an important consideration in license renewal.

A comprehensive set of course notes were provided to the course attendees and are available.

**SUMMARY OF ACTIVITIES:**

None.

**CONCLUSIONS:**

The course provided an excellent history of the development of Section III and was focused on the development of Subsection NCA. Detailed information on other subsections was not provided. Another ASME short course which will focus on other Subsections of Section III (i.e., Subsections NB, NC, ND) is under development.

**PROBLEMS ENCOUNTERED:**

None.


**PENDING ACTIONS:**

None.

**RECOMMENDATIONS:**


The short course appears to be valuable to staff in operating nuclear power plants and suppliers of pressure vessels and other components. Contrary to the course description, detailed coverage of Subsections other than NCA was not provided. Future ASME courses, which are under development, may be worth attending to provide additional information on Section III of the Boiler and Pressure Vessel Code.

**SIGNATURES:**

  
\_\_\_\_\_  
Darrell S. Dunn  
Principal Engineer

10/29/03  
Date

**CONCURRENCE:**

  
\_\_\_\_\_  
Vijay Jain, Manager  
Corrosion Science & Process Engineering, Element

10/29/03  
Date

  
\_\_\_\_\_  
Budhi Sagar  
Technical Director

10/30/03  
Date

DD:jg

## **ASME Course Description**

**Short Course Number:** PD184

**Short Course Title:** ASME Boiler & Pressure Vessel Code: Section III, Division 1, Requirements For Design And Manufacture Of Nuclear Power Plant Components

**Short Course Date:** 10/13/2003 - 10/16/2003

**Short Course Location:** Houston, Texas

Designed to assist technical organizations, utilities, equipment and material manufacturers, installers and insurance companies in the understanding of the Nuclear Code, this course blends the technical and administrative requirements that form the basis for the Section III Quality Systems. The ASME Code, Section III, Subsection NCA, General Requirements for Division 1, 2001 Edition; NQA-1-1989 with 1a-1989, 1b-1991 and 1c-1992 Addenda; and the lecturer's notes will be used as reference material.

Please bring copies of ASME Section III, Subsection NCA, General Requirements for Division 1 and Division 2, and Subsection NB, 2001 Edition and 2002 Addenda.

The notes will include supporting reference material, including excerpts of the 2001 and earlier editions of the ASME Boiler and Pressure Vessel Code.

**WHO SHOULD ATTEND** The course is designed for component, support, piping subassembly and parts manufacturers; architects, engineers, constructors and designers; Registered Professional Engineers involved in code certifying activities who must update their qualifications in accordance with N626.3-1993 and Appendix XXIII; utilities; quality engineering and quality assurance managers; lead engineers and auditors responsible for ASME Quality Assurance activities in the shop or field; suppliers of services; and especially, material organizations supplying and manufacturing material.

**Short Course Outline:** First Day · Development of Section III-Part I · Code Cases and NRC Acceptance Regulatory Guides (RG) 1.84, 1.85 · Scope, Exclusions - NCA - 1100, NCA - 1130 · Code Effective Date - NCA - 1140 · Classification - NCA - 2000, RG 1.26 · Duties and Responsibilities - NCA - 3000 Second Day · Development of Section III Quality Assurance Requirements-NCA-4000 · Inspection - NCA - 5000 · ASME III Construction Classes Subsections NB,NC, and ND, Subsections NE, NF, NG, and NH · New Appendices, Code Cases - Part II Appendices S, T, U and V Important New Code Cases · New Codes Under Review - Part III Component Supports (AISC N690, MSS SP-58) - Code Case N-500 Section III, Division 3 Nuclear Packaging Vessels (NUPACK) Code Cases N-47 through N-51 (subsection NH, 1995 Edition) · Accreditation - Part IV Types, Terms, Issuance and Renewal of Certificates, ASME Accreditation process Third Day · Authorized Inspection ASME QAI-1, 1995 Qualification of Authorized Inspection Agencies, QAI-1, Parts 4 and 5 · Quality Assurance - NCA-4000 Transition to NQA-1, 1979 Edition in W82 Addenda NQA-1, 1989 Edition, Addenda NQA-1a-1989, NQA-1b-1991, and NQA-1c-1992 Addenda · Registered Professional Engineer Design Specification, Design Report, Load Capacity Data Sheet, Design Report Summary, Overpressure Protection Report Maintenance of Qualifications, N626.3-1993, Appendix XXIII Appendices B and C Fourth Day · Material Requirements Material Organizations Material History - NA-3700/NCA-3800 · New Requirements for Accredited Material Organizations Effective July 1, 1995

**Early Bird Member Price: \$1,344.00**  
**Early Bird Non-Member Price: \$1,494.00**

**Payment Due Date for Early Bird Discount: 05/21/04**

**Member Price: \$1,494.00**  
**Non-Member Price: \$1,644.00**

**Number of days: 4**  
**CEU's: 3.00**  
**PDH's: 30**

**About the Instructors:** Marcus N. Bressler, P.E., is president of M.N. Bressler, P.E. Inc., a consulting engineering firm. He has over 46 years experience in design, materials, manufacturing, and installation of boilers and pressure vessels. He is a member of the ASME Boiler and Pressure Vessel Code Main Committee, the subcommittee on Materials, the subcommittee on Nuclear Power, the subgroup on Design, the subgroup on Repairs and Replacements, and the subcommittee on Nuclear Accreditation. He also serves on the Boards on Nuclear Codes and Standards and Conformity Assessment, the QAI Main Committee and the Committee on Conduct of Certification and Accreditation Activities.