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## ASME SECTION III DESIGN OF CLASS 1 COMPONENTS

(Excluding Piping)

**LECTURER:** Mr. Richard W. Barnes, P. Eng. & Dr. Amarjit Banwatt, P. Eng.  
**DATE:** Dec 7-8, 2020  
**LOCATION:** ANRIC Enterprises Inc., 701 Evans Ave., Suite 202, Toronto  
**FEE:** Register four weeks before and pay at time of registration:  
**\$1,465.00** (pp/plus HST)  
**Registrations received within four weeks: \$1,615.00** (pp/plus HST)

**OBJECTIVE:**  
 At the completion of the course, the participant will have gained a working knowledge of what forms the basis of the Design Requirements given in Section III Division 1 of the ASME Code for Class 1 Components.  
**NOTE:** Piping is excluded. It is a separate 2-day course covering design requirements for Class 1, 2 & 3.

**CONTENTS:** A two-day course consisting of the following:

<p><b>DAY 1:</b></p> <p><i>The first day will cover (approximate timing based on questions and discussion)</i></p> <p><b>SESSION 1</b></p> <ul style="list-style-type: none"> <li>• Certification Requirements</li> <li>• Design Specification</li> </ul> <p><b>SESSION 2</b></p> <ul style="list-style-type: none"> <li>• Design Criteria, basis for NB-3200 rules</li> </ul> <p><b>SESSION 3</b></p> <ul style="list-style-type: none"> <li>• NB-3200 Definitions, Pressure Design, Design Limits</li> </ul> <p><b>SESSION 4</b></p> <ul style="list-style-type: none"> <li>• NB-3200 Primary &amp; Secondary Stress Limits</li> </ul>	<p><b>DAY 2:</b></p> <p><i>The second day will cover (approximate timing based on questions and discussion)</i></p> <p><b>SESSION 5</b></p> <ul style="list-style-type: none"> <li>• NB-3200 Shakedown, Fatigue</li> </ul> <p><b>SESSION 6</b></p> <ul style="list-style-type: none"> <li>• NB-3200 Inelastic Design</li> <li>• NB-3300 Vessel Design</li> </ul> <p><b>SESSION 7</b></p> <ul style="list-style-type: none"> <li>• NB-3500 Valve Design</li> </ul> <p><b>SESSION 8</b></p> <ul style="list-style-type: none"> <li>• NB-3400 Pump Design</li> </ul>
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**WHO SHOULD ATTEND?**  
 This course is directed towards Class 1 component designers and those personnel in operations at Nuclear Power Stations who are required to interact with designers and understand the design documents associated with the Class 1 components. Those attending should have a reasonable degree of familiarity with the Code and its application. **This is a development course in the design requirements of Section III, Division 1 for experienced personnel. It will allow persons required to certify Design Reports to count this course as part of their experience base in accordance with Appendix XXIII of Section III, Division I.** A prerequisite for this course is the ASME Section III - Overview course which introduces participants to the overall basic philosophy of Section III, Division 1 of the ASME Boiler and Pressure Vessel Code.

**EXPECTATIONS:**  
 Course participants with adequate experience will have attained the following by the end of the course:

1. The ability to identify where specific Design Requirements can be found within the Code Section.
2. The ability to discuss the various types of stress limits associated with the various types of Design; vessel, piping valves etc.
3. The ability to discuss in detail the certification requirements associated with the Design Specification.
4. A clear understanding as to their responsibilities with respect to review and certification of the design report.

## LECTURERS:

**Mr. Richard W. Barnes** is the Principle Engineer at ANRIC Enterprises Inc. and has been actively involved for over 30 years in the development of the ASME and CSA Codes and Standards associated with Pressure Boundary for both nuclear and non-nuclear power plants. Mr. Barnes leads the team at ANRIC Enterprises Inc that offers technical assistance for companies registering Pressure Boundary products, and provides expert consultation on the application of the various pressure boundary codes. The ANRIC team also develops and delivers training on both the CSA and ASME Codes and Standards for delivery on-site at the ANRIC Learning Centre and off-site at the clients' premises. Mr. Barnes sits on various code committees responsible for the development of Codes and Standards. He is the past-chair and member of the ASME Standard Committee of the BPV III, which is responsible for the development of Section III of the ASME BPV Code; past Vice-Chair and member of N285A Technical Committee on CANDU Nuclear Power Plant Systems and Components, member of the B51 Technical Committee on Boilers and Pressure Vessels, and member of N286 Technical Committee on Overall Quality Assurance for Nuclear Power Plants of the CSA Standards Committee; and member of ASME B16 Standards Committee of Standardization of Valves, Flanges, Fittings and Gaskets and member of the Subcommittee responsible for development of the B16:34 Standard . Mr. Barnes has received the ASME Dedicated Service Award and the highest ASME Nuclear award, the Bernard F. Langer Nuclear Codes and Standards Award in recognition for his contributions to the nuclear industry. In 2007, was elected to the ASME Grade of Fellow. In 2009, Mr. Barnes received the CNA Outstanding Contribution Award and in 2011 the CSA Award of Merit.

**Dr. Amarjit Banwatt** has been actively involved for over 35 years in the stress analysis field and the use of ASME Codes and CSA Standards. He has been involved for the past 10 years in the development of the CSA N285.0 Standard as member of the Technical Committee. He has worked at AECL to prepare registration documents for Pressure Boundary components. Dr. Banwatt is a recognized stress analyst and Codes expert; he is consulted by many groups for Code clarifications. Dr. Banwatt is the past president of the Canadian Society for Mechanical Engineering and past member of NSERC Grants Selection Committee, Ottawa. He is a fellow of the Canadian Society for Mechanical Engineering and the Engineering Institute of Canada.

## IMPORTANT INFORMATION:

**PAYMENT:** Full payment is due at time of registration. Payment can be made via credit card (VISA, MasterCard or American Express), cheque or purchase order. **PLEASE NOTE:** Payment is non-refundable.

**CANCELLATION POLICY:** Cancellation must be received in writing 7 days prior to course start date. If cancellations are made after that date, the cancellation fee will be 50% of the course cost. You may send a substitute. Notification of a substitute must be received at least 48 hours prior to the commencement of the course or a cancellation fee will be charged. **PLEASE NOTE:** The cancellation fee can be discounted towards any future course taken at the ANRIC Learning Centre.

**FOOD AND BEVERAGE:** At the start of the day juice, fruit, pastries, coffee and tea will be provided before the course. Coffee and Tea will be provided at mid-morning break, including pop in the afternoon and lunch will be provided. Please indicate when you are enrolling for the course if you have any specific food requirements. Every effort will be made to accommodate your needs in this area.

**COURSE TIMES:** Registration begins at 8:00 a.m. The course will begin at 8:30 a.m. and conclude at 4:30 p.m.

**DRESS:** Please dress so that you will be comfortable. It is prudent to dress light and bring a light jacket in case you need it during the course. The tolerance to temperature varies for people and sometimes room temperature acceptable to the majority may not be right for an individual.

**PARKING:** There is parking available for a fee of \$5.00 per day. There is parking at 701 and 703 Evans Ave.

**ANRIC Enterprises Inc. specializes in courses of calibre to industry by providing lecturers who have recognized expertise and who are involved with the development and application of Codes and Standards.**

ANRIC Enterprises Inc. reserves the right to cancel any course and/or change lecturers.