

## ASME SECTION III - DESIGN REQUIREMENTS FOR NUCLEAR PIPING

**LECTURER:** Mr. R. Peter Deubler, P. Eng.  
**LOCATION:** ANRIC Enterprises Inc., 701 Evans Ave., Suite 202, Toronto  
**FEE:** Register four weeks before and pay at time of registration:  
 \$1,495.00 (pp/plus HST)  
 Registrations received within four weeks: \$1,645.00 (pp/plus HST)

### OBJECTIVE:

The objective of this course is to provide participants with an understanding of the existing rules of NB/NC/ND-3600 and their basis. There will be references, as appropriate, to the use of NB-3200 Design by Analysis in the design of piping. Emphasis will be given to the importance of the Design Specification in assuring Code satisfaction and the basis of the new Seismic rules will be discussed. The course will also cover design requirements for the interface between piping and its supports from the piping designer perspective. This course has been designed, in combination with the Section III - An Overview course, to assist the participants required to certify Design Reports to meet the qualification requirements of Appendix XXIII. The requirements for piping in the CSA Standard, CSA N285.0-95, will be covered so that participants will understand the relationship of the ASME Code to nuclear piping in Canada. The course will provide ample opportunity to discuss issues raised by the participants.

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

<p><b>DAY 1:</b></p> <p><b>CLASS 1 PIPING:</b></p> <ul style="list-style-type: none"> <li>• Introduction to Piping Design</li> <li>• Importance of the Design Specification</li> <li>• Discussion of Design by Analysis             <ul style="list-style-type: none"> <li>- NB-3200 Criteria versus Piping Design</li> </ul> </li> <li>• Primary Stress Protection             <ul style="list-style-type: none"> <li>- Minimum thickness, Standard Fittings, Fabricated branch connections</li> </ul> </li> <li>• Collapse Protection             <ul style="list-style-type: none"> <li>- B Indices, Loadings-Design</li> <li>- Level A, Level B, Level C, Level D</li> </ul> </li> <li>• Seismic Rule Discussion</li> <li>• CSA CN285.0 Requirements</li> </ul>	<p><b>DAY 2:</b></p> <p><b>CLASS 1 PIPING (continued):</b></p> <ul style="list-style-type: none"> <li>• Fatigue             <ul style="list-style-type: none"> <li>- C and K Indices, Shakedown, Inelastic Cycling, Usage Factor Determination</li> </ul> </li> </ul> <p><b>CLASS 2 AND 3 PIPING:</b></p> <ul style="list-style-type: none"> <li>• Background</li> <li>• Primary Stress Protection</li> <li>• Collapse Protection             <ul style="list-style-type: none"> <li>- Stress Intensification Factors, B Indices versus 0.75i</li> </ul> </li> <li>• Loadings</li> <li>• Fatigue</li> <li>• SUPPORT/PIPING INTERFACE             <ul style="list-style-type: none"> <li>- Piping designer perspective</li> <li>- Interaction between piping and supports</li> <li>- Discussion on areas of concern</li> </ul> </li> </ul>
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### WHO SHOULD ATTEND?

This course is directed towards piping designers and the personnel who are required to interact with and to understand the design documents associated with piping in the operation of Nuclear Power Stations.

### EXPECTATIONS:

The course will provide participants with an excellent explanation of the requirements for nuclear piping in Section III, and the basis for these requirements and their application to piping systems.

## LECTURERS:

Mr. R. Peter Deubler has spent 40 years working in the area of power plant design and has spent over 25 years as a member of various code committees. Since early in his career he has been involved in the design of both nuclear and fossil power plants and has participated in many code committees involving both of these areas. He is currently a member of two ASME Standards Committees, one for Section III for Nuclear Facility Components and one for B31 Piping Standards. In addition, he is a member of eight other committees. His committee work has been focused on the area of piping supports and he has chaired the working group for supports under Section III and the Subgroup Design under Section III, each for 10 years. While chairing these committees, Mr. Deubler has lead efforts to incorporate lessons learned from experience and recent design developments for supports, piping and other components into the design requirements of the codes.

## IMPORTANT INFORMATION:

**PAYMENT:** Full payment is 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.

**ACCOMMODATION:** The Stay Inn, 560 Evans Ave (2 minute drive to 701 Evans Ave), has provided a quote of \$99.00 per night for 1 bed and \$109.00 for 2 beds, including a continental breakfast. The Stay Inn can be contacted at [info@stayinn.ca](mailto:info@stayinn.ca) or 416-259-7899/1-888-445-4473 for more information. Please refer to ANRIC Enterprises Inc. when speaking with reservations. This is a small hotel, so it is advisable to book early.

**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.