

# PROFESSIONAL DEVELOPMENT COURSE

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## ASME SECTION III – AN OVERVIEW PEL-370

**LECTURER:** Dr. Amarjit Banwatt, P. Eng.  
**DATE:** See website for Delivery Dates  
**LOCATION:** ON-LINE Delivery through ANRIC Enterprises Inc.  
**FEE:** Register & PAY three (3) weeks before start: \$2,140.00 (pp/plus HST)  
 Registrations received within three weeks: \$2,270.00 (pp/plus HST)  
 Group pricing available; please contact [training@anric.com](mailto:training@anric.com) or  
 call +1 (416) 253-9459.  
 \*\* Payment can be made by Credit Card or Purchase Order.

### OBJECTIVE:

The objective of the course is to introduce participants to an overview of Section III of the ASME Boiler and Pressure Vessel (B&PV) Code. The course examines the concepts and principles that are the basis of the requirements in Section III for the materials and components used in the Pressure Boundary of a Nuclear Power Plant and how their requirements are applied in Canada. It examines the Section III requirements for the Certification of Documents, particularly the Design Specification, and reviews the Section III Code Articles of which a working knowledge is required for Canada.

**CONTENTS:** Classroom delivery - A three-day course.  
 Online delivery consists of 4 half-day segments plus 1-full-day.

COURSE CONTENTS	COURSE CONTENTS	COURSE CONTENTS
<b>Introduction</b> <ul style="list-style-type: none"> <li>- Review of participant needs and understanding of Section III</li> </ul> <b>Basic Concepts</b> <ul style="list-style-type: none"> <li>- Structure of B&amp;PV Code</li> <li>- Scope of Section III</li> <li>- Service Loadings and Limits</li> <li>- Code Class</li> <li>- Review of Concepts in the Glossary</li> <li>- Comparison with N285.0</li> </ul> <b>Materials</b> <ul style="list-style-type: none"> <li>- Definition</li> <li>- Control</li> <li>- Concepts of traceability and Certification</li> <li>- Section III Material</li> <li>- Requirements</li> </ul> <b>Components</b> <ul style="list-style-type: none"> <li>- Owner Responsibilities</li> <li>- Manufacturer</li> <li>- Certificates of Authorization</li> <li>- Design Specifications</li> </ul>	<b>Components (cont'd)</b> <ul style="list-style-type: none"> <li>- Certification Requirements of N285.0 and Section III Design Reports</li> <li>- N285.0 Clause 7 Comparison</li> </ul> <b>Quality Assurance, Inspection and Stamping</b> <ul style="list-style-type: none"> <li>- Basic Elements of QA for Section III</li> <li>- Code Requirements for Inspectors</li> <li>- Concepts Behind Stamping and its use in Canada</li> </ul> <b>Design and Overpressure Protection</b> <ul style="list-style-type: none"> <li>- Jurisdictional Boundaries Design by analysis</li> <li>- Design by rule</li> <li>- Discussion of failure mechanisms</li> <li>- Welded vessels</li> <li>- Requirements for overpressure</li> <li>- Comparison with N285.0</li> </ul>	<b>Fabrication, Examination and Testing, and Other Subsections</b> <ul style="list-style-type: none"> <li>- Review of Content</li> <li>- Connection with Design Welded Vessels</li> <li>- Requirements for Temporary Attachments</li> </ul> <b>ASME and Canadian Standards</b> <ul style="list-style-type: none"> <li>- Brief Overview of the Relationship Between Legal</li> <li>- Requirements and Codes and Standards comparing the United States with Canada</li> </ul> <b>Checkout</b>

### WHO SHOULD ATTEND?

This course will introduce the participants to the fundamentals of Section III of the ASME Code. It is an intermediate course directed toward personnel such as Designers, Inspectors, Maintenance and Operations Personnel and Management who need to understand the Code concepts and how they are integrated into the Canadian regulatory system. Minimal experience with the Code and its application is desirable. It will allow persons required to certify Design Documents as required by the Section III, Division 1, to count this course as part of their experience base in accordance with the requirements in Appendix XXIII of Section III, Division 1.

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## EXPECTATIONS:

- At the completion of the training, the participants with adequate experience will have attained the skills to:
1. Understand the concepts used by the Section III, Div. 1 Code to maintain Pressure Boundary integrity and to operate in a safe manner at the design conditions.
  2. Have a working knowledge of the relationship between the various Subsections and Articles of the Section III, Div. 1 Code for Pressure Boundary components and its relationship with the corresponding Canadian Standard CSA N285 and how the Canadian requirements are integrated into the system.
  3. Identify how the various books are structured and to summarize the scope of Section III.
  4. Define the concept of classification with regards to ASME Section III and CSA N285.
  5. Identify the duties and responsibilities for the various parties (Owner, Certificate Holder, etc.).
  6. Identify the specific material requirements associated with the construction class and how to compare material requirements of the current Code with Code editions and Addenda of an earlier Code Edition.
  7. Identify and select the correct QA program associated with the construction of the Pressure Boundary Components.
  8. An overview of the design concepts and their relationship to fabrication, installation, examination.
  9. Understand the testing requirements.

## LECTURERS:

**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 within 3 weeks prior to the start of the course.

**CANCELLATION POLICY:** Cancellation must be received in writing 7 days prior to course start date. You may send a substitute. Notification of a substitute must be received at least **72 hours prior to the commencement of the course to allow time for delivery of course material.** If a substitute is not available, the fee for the course may be used towards another ANRIC course at a later date.

**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. Courses that fail to register a "MINIMUM" of 7 participants will be cancelled. Personnel who require this course to meet qualification requirements should contact the office at [training@anric.com](mailto:training@anric.com) to discuss/arrange other options.**

## INFORMATION ASSOCIATED WITH ON-LINE COURSES FOLLOWS:

### The course is delivered on-line.

The maximum number of people per course is 16 people. This limitation is set because the courses are run with Workshops using Breakout Rooms to provide for maximum interaction and learning experience. This provides an excellent learning opportunity.

All rights, title and content of the course manuals and all other instructional material shall remain the property of ANRIC Enterprises Inc.

The manuals will be delivered to course participants by courier.

The course is run in half day sessions, (e.g., a 2-day course – 4 half-days, a 3-day course – 4 half-days and one full day), to accommodate the ergonomic issues of sitting at a small screen. This course is a 3-day course. An added benefit is that it allows people to cover off other work duties during the course. We have successfully done this for the nuclear power stations in Ontario over the past year and this system has proven to be excellent.

There will be an examination at the end of each course. ANRIC Enterprises Inc. will provide certificates of successful completion for participants that achieve an examination result of 80% or higher.

**NOTE: It is a REQUIREMENT of this course that participants have video and audio capability. If the dates of this course are not available for you, please contact us to arrange for other possibilities.**