



PROFESSIONAL DEVELOPMENT COURSE

your success is our goal

CSA N285 - REFURBISHMENT/MAINTENANCE A WORKSHOP ON REPAIRS, REPLACEMENTS, MODIFICATIONS AND TESTING

LECTURER: Mr. Richard W. Barnes, P. Eng.
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: \$1,645.00 (pp/plus HST)

INTRODUCTION:
 One of the more difficult exercises is the application of pressure boundary Codes and Standards to the issues that arise during refurbishment and maintenance. This course directly addresses the issues that arise and provides an understanding of the concepts on which the Codes and Standards are based and how these concepts can be used to apply the requirements in the code or standard to resolve the issue.

OBJECTIVE:
 To introduce participants to the applicable Codes and Standards and regulatory requirements for replacement, repair, refurbishment, maintenance and modification of systems and components in pressurized systems as specified in the station's Operating License and in the referenced Codes and Standards.

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

<p>DAY 1:</p> <p>Review of basic concepts, principles, regulatory requirements and code requirements that govern in a repair, replacement, and refurbishment and modification activity. This includes:</p> <ul style="list-style-type: none"> • License requirements, definition of repair, replacement and modifications; code classification, effective date; design registration, overpressure protection. • Documentation requirements, design documents, system classification list, design specification, system flowsheets, design reports, instrumentation requirements. • Material reconciliation; Quality Assurance requirements; • Review of CSA N285.0 requirements for, replacements, repairs, refurbishment, modifications and testing. • Question Period. 	<p>DAY 2:</p> <p>WORKSHOP</p> <p>A series of class exercises have been developed based on actual experiences of projects. PARTICIPANTS ARE ALSO INVITED TO PRESENT THEIR OWN CASE STUDIES FOR DISCUSSION IN LIEU OF CLASS EXERCISES</p> <ol style="list-style-type: none"> 1. The methodology consists of establishing discussion groups to discuss and develop resolution to the issues raised. 2. The solutions are then discussed in class and the proposed resolution examined for correctness and completeness. 3. Checkout to establish understanding of the principles discussed during the course.
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WHO SHOULD ATTEND?
 This course will be of interest to personnel working in the maintenance and refurbishment of CANDU nuclear industries. This includes personnel involved in:

- The design and preparation of documentation for repairs, replacements, refurbishment, maintenance and modification
- Maintenance personnel at nuclear power plants including maintenance engineers, maintenance supervisors, procurement personnel.
- Personnel involved in the refurbishment of Nuclear Power Plants
- Manufacturers of pressure vessels and heat exchangers used in nuclear power plants.
- Manufacturers/installers of piping components such as pipe connection, flanges, valves, expansion or flexible joints (bellow and hose), filters, strainers and trap, relief valves or rupture discs for use in the nuclear power plants.

PRE-REQUISITE:

Participants are expected to have completed the CSA N285 (Series) and ASME Section III – An Overview courses, OR at the very least have a solid understanding of the basics concepts covered in these two courses.

EXPECTATIONS:

Course participants should attain the skills to:

1. Identify when an activity is a replacement, repair, refurbishment or modification.
2. Identify approaches to resolving issues based on the Code requirements.
3. How to apply the requirements of CSA N285.0
4. Identify when registration is required for an alteration the scope of the registration requirements.
5. Determine the scope and need for testing.

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.

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.

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 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.