Overview

The purpose of this seminar is to provide an overview of the life-limiting issues in CANDU reactor pressure tubes and how they are managed through a process of inspection, materials surveillance and an emphasis on the assessment of hydride crack initiation risk.

Course Outline

Fuel Channel Basics

- Fuel Channel Design
- Pressure Tube Manufacture
- In-Service Degradation Mechanisms
  - Deuterium Ingress
  - Crack Initiation
  - Deformation
- Inspection and surveillance

CSA N285.8 and Practical Applications

Detail

- Historical Background
- Contents Overview
- Evaluation of Blunt Flaws for Delayed Hydride Cracking (DHC)
- Fatigue Crack Initiation
- Hydride Region Overload
- Probabilistic Assessment
- Leak before Break

Workshop

- Proposed addendum
- Fuel Channel Life Cycle Management

Who Should Attend?

The ideal participants for this seminar include:

CANDU station Technical Staff responsible for:

- Fuel channel life cycle management
- Periodic inspection
- Pressure boundary regulatory interface
- Operations and maintenance

Technical specialists providing:

- Research and Development
- Engineering Analysis support

Key Benefits:

Gain an understanding of:

- CANDU Fuel Channel Technical Issues
- Pressure Tube “fitness-for-service” assessment methodologies

Duration and Price:

3 days: $1,950 + applicable taxes
Complimentary lunch and coffee breaks

Instructors

David Graham, P. Eng, MESc., MBA
Technical Director – Structural Integrity Generation Life Cycle Management

Paula Mosbrucker
Paula Mosbrucker is an engineer at Kinectrics and has years of expertise in advanced materials characterization and testing, zirconium metallurgy and irradiation damage.