

## Course Overview

### *Aim of Course*

The aim of this course is to provide an understanding of the CANDU fuel design, performance and operation, and how the fuel interacts with the interfacing systems. The course will be of great interest to the fuel designers, manufacturers, station operations, fuel channel and fuel handling system designers, safety analysts, performance and inspection staff.

### *Course Outline*

This course will provide an overview of the CANDU fuel design, modelling, performance and operation, with a special emphasis on the systems that interface with it. Fuel, more than any other reactor component, interfaces with many different systems. This course is designed to enlighten those involved in fuel design and performance of the interfaces; and vice versa. The course will describe the design of the bundle, the detailed nuclear physics of its operation, the thermal-hydraulic performance, the fuel handling, fuel and physics of the reactor, the discharge and storage of the fuel.

### Registration

Please register on-line via the link on the CANDU Fuel Technology Course web page, which you can reach directly at

[http://www.cns-snc.ca/events/2017\\_fuel\\_technology\\_course](http://www.cns-snc.ca/events/2017_fuel_technology_course) or via the CNS web site (<http://www.cns-snc.ca>).

The registration fees are shown below, and include HST (HST # 870488889RT)

- CNS Member: \$720 [Must be a CNS member in good standing]
- Non-CNS Member: \$820
- Full-time student (CNS member) or CNS Retiree member: \$300.

For registration information, please communicate with:

CNS Office  
4<sup>th</sup> Floor, 700 University Ave.  
Toronto, ON, Canada, M5G 1X6  
Tel: 416-977-7620  
e-mail: [cns-snc@on.aibn.com](mailto:cns-snc@on.aibn.com)

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**HOTEL ACCOMMODATION**  
Hilton Garden Inn  
500 Beck Crescent, Ajax, ON

Please make accommodation arrangements, if required, directly with the hotel at 1-866-336-8077. A special group rate of \$132 + tax per night is available on the nights of October 11 & 12 if booked before 2017 September 20. Refer to “Canadian Nuclear Society Course” at time of booking. Reserve early to avoid disappointment.

## CANDU FUEL TECHNOLOGY COURSE

Canadian Nuclear Society  
Fuel Technologies Division



**2017 October 12-13**  
**Hilton Garden Inn**  
**500 Beck Crescent**  
**Ajax, Ontario, L1Z 1C9**

**Course contacts (not for registration):**

**Paul Chan, Professor**  
Chemistry and Chemical Engineering Dept.  
Royal Military College of Canada  
Tel: (613) 483-6095 Ext. 6145  
E-mail: [paul.chan@rmc.ca](mailto:paul.chan@rmc.ca)

**Erl Kohn**  
Consultant, Fuel Design  
Amec Foster Wheeler  
Tel: (519) 490-1488  
E-mail: [erl.kohn@acanac.net](mailto:erl.kohn@acanac.net)

**CANDU Fuel Technology Course  
October 12-13, 2017  
Ajax**

**Objectives of the Course**

- To provide the understanding of CANDU fuel design, modelling, performance and safety
- To foster the understanding of the systems that interface with fuel and the effects of fuel on trip setpoint
- To promote knowledge of fuel within the CANDU industry

**Day 1**

08:00	<b>Registration</b>
08:30	<b>Opening Remarks</b> <i>Paul Chan, RMCC</i> <i>Erl Køhn, Amec Foster Wheeler</i>
08:45	<b>Specifying the Design</b> <i>Paul Chan, RMC</i>
09:30	<b>Fuel Design Codes and Predictions</b> <i>Mukesh Tayal, AECL-Retired</i>
10:15	<b>Coffee Break</b>
10:30	<b>Advanced Bundle Design</b> <i>Krishna Chakraborty, SNC Lavalin</i>

11:15	<b>Chemical and Material Requirements</b> <i>John Roberts, Bruce Power – Retired</i>
12:00	<b>Lunch</b>
13:00	<b>Fuel Physics Within the Bundle</b> <i>Ben Rouben, 12 &amp; 1 Consulting</i>
13:45	<b>Reactor Fuel &amp; Physics Operation</b> <i>Charles Olive, Amec Foster Wheeler</i>
14:30	<b>Coffee Break</b>
14:45	<b>Fuel Safety</b> <i>Samir Girgis, AECL- Retired</i>
15:30	<b>Fuel and NOP/ROP Trip Setpoints</b> <i>Wei Shen, CNSC</i>
16:15	<b>Fuel CHF/CCP</b> <i>Glenn Harvel , UOIT</i>
18:00	<b>Dinner</b>

**Day 2**

08:00	<b>Post Irradiation Fuel Examination</b> <i>John Montin, AECL-Retired</i>
08:45	<b>Fuel Defect Detection</b> <i>Eugene Suk, SNC Lavalin</i>

09:30	<b>Defective Fuel Modelling</b> <i>Brent Lewis, UOIT- Retired</i>
10:15	<b>Coffee Break</b>
10:30	<b>Fuel Performance Assessment</b> <i>Paul Gillespie, Amec Foster Wheeler</i>
11:15	<b>Design Overview</b> <i>Erl Køhn, Amec Foster Wheeler</i>
12:00	<b>Lunch</b>
13:00	<b>Conversion Facility - Ceramic UO<sub>2</sub></b> <i>Vanni Iemma, Cameco</i>
13:45	<b>Fuel Manufacturing</b> <i>Thomas Onderwater, BWXT NEC</i>
14:30	<b>Coffee Break</b>
14:45	<b>Fuel Handling</b> <i>Ralph Granz, BWXT NEC</i>
15:30	<b>Long Term Management of Canada's Used Nuclear Fuel</b> <i>Jennifer Noronha, NWMO</i>
16:15	<b>Closing Remarks</b> <i>Erl Køhn, Amec Foster Wheeler</i>