

# UNENE Graduate Course Reactor Thermal-Hydraulics Design

McMaster University  
Whitby

March 1-2, March 15-16,  
April 5-6, April 19, 2008

## Assignments

Dr. Nik Popov

# Assignments

## ■ Assignment 1

- Comparison of thermal-hydraulics design of ACR-1000, EPR-1000, AP-1000, ESBWR, CANDU 6.
  - Group 1: ACR-1000 vs AP-1000
  - Group 2: ACR-1000 vs CANDU 6 (Ontario CANDUs)
  - Group 3: ACR-1000 vs EPR-1000
  - Group 4: ACR-1000 vs ESBWR
  - Group 5: ACR-1000 vs AP-1000
- Use material from UK GDA web site, focus on TH
- Objective: make recommendation which design to recommend for a new build in Ontario based on the following considerations: safety, operability, maintainability, licensing, “cost”, familiarity with new technology, etc.
- Deliverables
  - Presentations – due by April 5-6
  - Paper – due by April 19

# Assignments

## ■ Assignment 2

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- Each student does it separately, selecting reactor design to apply it to
- Takes a design change suggestion, and works out a set of interfacing changes that result from the suggested design change
- Examples
  1. Increase HTS pressure
  2. Replace light water with organic coolant
  3. Use HTS pressure above critical pressure
  4. Introduce cooling towers
  5. Etc, as per student suggestions
- Deliverables
  - Paper – due by April 19

# Questions?

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