APPLIED CANDU DECOMMISSIONING

This one-week course presents a review of the key scientific and engineering principles of nuclear decommissioning technology. Practices and methods for planning, cost estimating and preparing for decommissioning, such as historical data gathering and site characterization, are included. Decontamination technologies, decontamination factors, generation of secondary contamination, will be examined. Dismantling technologies for components and systems and their relationship to waste transport requirements, waste site acceptance criteria will be studied. End states and site release criteria will be discussed.

Learning Outcomes:

On the successful completion of the course, participants will be able to:

- Describe the key elements involved in planning decommissioning activities including historical evaluation, site characterization, cost estimation, regulatory and public impacts.
- Describe current state of decontamination technologies, their effectiveness and impact.
- Describe the use of chemical decontamination techniques, their effectiveness and impact.
- Describe the use of decontamination mechanical techniques, their effectiveness and impact.
- Explain the significance of decontamination factors and secondary contamination.
- Describe current dismantling technology and their effectiveness.
- Explain waste transport methods and current issues for transport to waste sites.
- Describe the use and constraints placed on waste shipping container designs
- Describe the parts of Transport Canada regulations that are applicable to the shipping of radioactive waste.
- Explain the role of public consultation and indigenous engagement in the transportation and storage of radioactive waste.
- Explain the scope of waste site acceptance criteria and its impact on decision making that relates to the transportation and storage of nuclear waste.

The course is organized as a combination of lectures and group exercise sessions, and the presentation of the group work to confirm the level of learning that has been achieved by the participants.

Hard copy of the Lecture Notes that include the presentation slides and relevant reference documents are provided.

A “certificate of completion” will be issued to participants who have achieved the desired mastery of the learning outcomes, as assessed via presentations of the group work by each course participant. A “certificate of attendance” will be issued to participants who are attending the course for the purpose of gaining general knowledge, but who have not made the expected level of contribution to the group work.

This course is offered by the Faculty of Energy Systems and Nuclear Science of the University of Ontario Institute of Technology as part of a program of professional development for people working in, or planning to join, the nuclear industry. Lectures will be delivered on UOIT’s Campus in Oshawa, and will also be available via the Internet to participants for whom the Campus is not readily accessible. Tuition is $1,750 + HST.

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