

CERTIFICATE of COMPLETION

This is to certify that

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has successfully completed

**Nuclear Fuel Engineering, Fabrication and Operation Behaviour
E-learning course**

Module 2: Conventional Nuclear fuel for Thermal reactors

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Subtopics

Learning Objectives

Commercial Nuclear Fuel for Thermal Reactors. Overview

To become familiar with fuel that is used in thermal reactors, with a world overview of thermal reactors, the evolution of Nuclear Power, the description of main type of thermal reactors and fuels, main trends in fuel improvements

PWR Fuel

To become familiar with an PWR fuel design (including MOX and RepU design): fuel rod thermomechanics, fuel assembly mechanics, thermohydraulics and neutronics.

BWR Fuel

To become familiar with fuel that is used in BWR reactors, including a world overview of BWR reactors, BWR fuel design parameters and specifications; types of fuel matrix and cladding materials; fuel performance assessment, parameters affecting fuel performance; fuel failure, irradiation behaviour, fuel behaviour in transient and accident conditions; fuel performance modelling.

PHWR Fuel

To become familiar with fuel that is used in Pressurized Heavy Water Reactors, including design, manufacturing, in-reactor Performance, management of Defective Fuel, performance modelling.