

# Nuclear Lifecycle Hazards and Risks

## Purpose

The course provides students with an overview of the lifecycle of a nuclear power facility, its risks and hazards, risk-related regulations and the standard risk mitigation techniques.

## At the end of the course you will be able to

- 1 Critically review the legal and regulatory obligations placed on the owners of a nuclear plant to demonstrate that the risks posed to people and the environment by operation of their plant are both tolerable and "as low as reasonably practicable"
- 2 Identify and assess the risks associated with nuclear hazards for a process or facility relevant at any stage of the nuclear cycle
- 3 Discuss effective means of avoiding each hazard or mitigating its consequences

## Outline content

- Introduction to the nuclear lifecycle
- Risk and safety regulations in the nuclear industry
- Hazards and controls in fuel manufacture and transport – criticality
- Hazards and controls in reactor operation – overpower/loss-of-cooling/loss-of-containment
- Hazards and controls in transport and storage of irradiated fuel – direct radiation/dispersion
- Hazards and controls in reprocessing irradiated fuel – criticality/loss-of-containment
- Hazards and controls in long term storage of radioactive waste

## Recommended prior study

Education, skills or experience equivalent to undergraduate level

Risktec modules: *Principles of Risk Management; Risk Reduction and ALARP*

## Who should attend

Managers, engineers and HSE professionals who need to lead or undertake risk management processes for their organisation and facilities. Individuals new to the nuclear industry who require an overview of the industry's risks.

## Delivery Methods

Face-to-face, Distance learning, or Blended Learning

## Levels of Assessment

- Attendance only
- Assessment by Risktec
- Postgraduate Qualifications: PgCert, PgDip and MSc

## Assessment details

Postgraduate programmes: activities and assignment (total about 80 hours)

## Module details

Level: Masters  
Duration: 2 days (F2F),  
8 weeks (Postgraduate DL)

## Price

For prices and further information, or to book a course, please contact **Vicky Billingham** at [training@risktec.tuv.com](mailto:training@risktec.tuv.com)

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