A.N.T. International Academy
ONLINE EDUCATION

Fuel Design Review

COURSE DESCRIPTION

The overall objective of the course is to assure that the fuel assembly or fuel reload will perform reliably at or above the contracted conditions with adequate margins to design limits and licensing limits for its intended exposure in the reactor. The course provides guidance for the important aspects of setting up and conducting an effective audit and for handling deviations from the design or design procedures when they occur. The course involves reading technical reports, watching lectures and participating in online assessments (tests).

The course material, including the online content, can be accessed at times convenient for practicing engineers and managers. Assessments are done online, with an understanding of the current material (i.e., 70% required correct answers) needed to proceed to the next part of the course. After passing the final online test, a certificate will be issued to the student.

Background information is provided on coolant chemistry and the degradation of plant materials because the primary coolant chemistry affects fuel performance, but is generally targeted towards minimising corrosion of structural materials and minimising the buildup of plant activity.

The content is described more in the *Appendix*.

COURSE MATERIAL

The course material was developed by A.N.T. International and consists of modified/edited earlier recorded A.N.T. International Seminar and the associated **Fuel Design Review Handbook** (FDRH).

Download product information

AUTHORS/LECTURERS

The authors/lecturers of the reports and lectures, World Class Experts in their fields, are as follows:

Alfred Strasser, Richard Collingham, Kenny Epperson, Jerald Holm, Sten Lundberg and **Peter Rudling.**

Read more about the Experts

COURSE DURATION

- Total time: around 70 hours (approx. 2 weeks for full time studies)
- Reading: 60 h
- Lectures: 7 h
- 2 Tests: 2 h

The listed time for the lectures is the actual running time. More time may be needed to digest the information provided in this course.

TRY THIS COURSE FOR FREE!

All of our currently available courses have selected content you can access completely free of charge. Click the button to the right, select the course you would like to try out and sign up!

CLICK HERE TO SIGN UP

CERTIFICATE

You will automatically receive an email with your certificate that you can print or share on social media. If you need a printed certificate, please don't hesitate to contact us and we can send it to you via regular mail. You reach us at *support@antinternational.com*.

CONTACT

For more information and/or an offer welcome to contact us at *sales@antinternational.com*
Please also visit our website for the latest updated information, *www.antinternational.com*

SUBSCRIBE TO OUR MAILING LIST

No spam, only useful information to our customers about new products, special offers and more!

SUBSCRIBE HERE!

Appendix: Course outline and topics covered

1) INTRODUCTION

1.1 Fuel Suppliers
1.2 Structure and Components

2) AUDIT PROCEDURES

2.1 Utility Audit Procedures
2.2 Design Method Qualification
2.3 US Standards
2.4 Design QA System Audit
2.5 Mechanical Design Review
2.6 Pellets

3) MECHANICAL DESIGN AUDIT/REVIEW

3.1 Rod
3.2 Cladding
3.3 Grid

4) THERMAL HYDRAULIC AND NUCLEAR DESIGN AUDIT/REVIEW

4.1 Thermal Hydraulic Design Audit/Review
4.2 Thermal Hydraulic Fuel Design
4.3 Nuclear Design Audit/Review

5) LOCA/RIA AUDIT/REVIEW

5.1 LOCA/RIA Fuel Design Audit
5.2 Appendix A — Margins
5.3 Appendix B — Treatments of Uncertainties
5.4 Appendix C — PCI Operation Restrictions

A.N.T. INTERNATIONAL®
www.antinternational.com

Advanced Nuclear Technology International,
Spinnerivägen 1, Fack 5035, SE-448 50 Tollered, Sweden. Phone: +46 (0)31-88 16 00.
info@antinternational.com www.antinternational.com