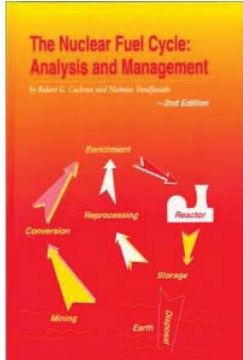


Nuclear Fuel Cycle: Analysis and Management



This 5-day course provides a comprehensive overview of all activities related to the nuclear fuel cycle, not only from a technical point of view, but also with regard to the economic, political, and social impacts. From uranium mining to the disposal of radioactive wastes, this course was developed for engineers who are just starting in the nuclear industry as well for professionals who have been working in areas other than the nuclear fuel cycle. A technical background is desirable but not a prerequisite for this course. The range and depth of subject areas can be adjusted to accommodate the interest and background of the participants.

Course Topics

- General overview of the Nuclear Fuel Cycle
- Nuclear Fuel Resources
- Enrichment and Conversion
- Fuel Design and Fabrication
- Reactor Physics Calculations
- In-core Fuel Management
- Reprocessing and Recycling
- Nuclear non-proliferation issues
- Utility and Nuclear Power Economics
- High Level Waste (HLW) Management
- Low Level Waste (LLW) Management
- Environmental Effects of Electricity Generation



UPON COMPLETION OF THIS COURSE, YOU WILL UNDERSTAND ...

1. Nuclear fuel resources
2. Uranium exploration, mining, and milling methods
3. Basic methods of enrichment; calculate the amount of uranium feed you need for a certain % of enriched product.
4. The meaning of the Separative Work Unit (SWU) and its use for the calculation of the cost of enrichment.
5. The meaning of the terms burn-up, batch, reactivity, capacity factor, availability factor, present worth of money, etc.
6. How to calculate the cost of the nuclear fuel.
7. The main design characteristics and (potential) problems of the nuclear fuel assemblies.
8. How to calculate in-core reactivity, given the appropriate information; recognize the advantages of a single versus multi-batch cores.
9. The activities related to refueling.
10. What is reprocessing and recycling; advantages and disadvantages; economics.
11. Nuclear non-proliferation issues.
12. The particular economic structure of the electric utilities.
13. How to calculate levelized cost of electricity
14. All the issues surrounding radioactive waste disposal; know the basic Congressional Acts relative to this issue.
15. Environmental effects of electricity generation

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THE AMERICAN ACADEMY OF HEALTH PHYSICS (AAHP) HAS AWARDED THIS COURSE 32 CONTINUING EDUCATION CREDITS.
ASSIGNED ID NUMBER: 2011-00-006

FOR FURTHER INFORMATION OR ASSISTANCE, PLEASE CONTACT:

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