

INTRODUCTION TO THE SPECIAL ISSUES ON ADVANCES IN NUCLEAR FUEL MANAGEMENT III

Two special issues of *Nuclear Technology* (July and August 2005) contain 20 expanded and revised papers that were presented at the American Nuclear Society Topical Meeting on Advances in Nuclear Fuel Management III (ANFM-III) held at Hilton Head Island, South Carolina, October 5–8, 2003.

This meeting, focusing on the important yet relatively specialized topic of fuel management, brought together over 200 international experts from academia, research institutes, power utilities, nuclear industry, and vendors. It was the third in a series of very successful meetings, following the first ANFM meeting (Pinehurst, North Carolina, March 2–5, 1986) and the ANFM-II meeting (Myrtle Beach, South Carolina, March 23–26, 1997).

Topics covered at ANFM-III ranged from classical fuel management (including in-core and plant lifetime fuel cycle optimization) to many related areas and issues, such as increased enrichment and burnup, use of plutonium- and thorium-bearing fuel, operational issues, and core monitoring, as well as core physics and fuel management methods, analytic tools, and experiments supporting fuel management needs. While the majority of papers focused on pressurized water reactors and boiling water reactors, non-light-water-reactor types were also well represented, including advanced and Generation IV reactors and their corresponding fuel cycles and possible fuel management strategies.

The selection of the papers included in these special issues is certainly not exhaustive; for practical reasons all the papers that would otherwise be suitable for journal publication could not be included. The selected papers cover main trends and provide an overall overview of the meeting. Since the area of fuel management is essential for the continued safe and economical operation of commercial nuclear power plants, it is hoped that these special issues will provide a useful and accessible reference to many interested readers that were not able to attend the meeting in person.

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