

OPINION FROM AECL

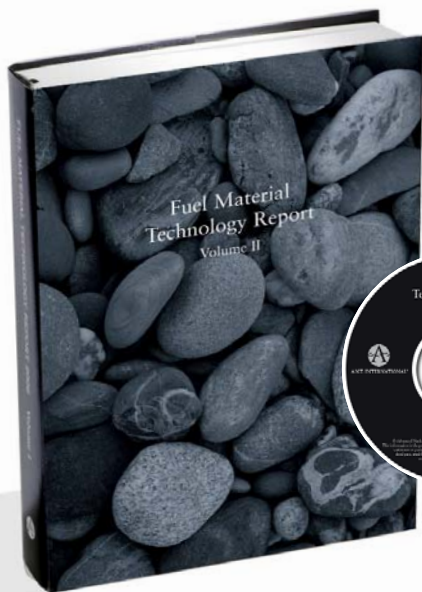
The Fuel Material Technology Report Vol. II “An Excellent Resource and Reference Tool”

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THE FUEL MATERIALS TECHNOLOGY REPORT II provides an excellent advanced summary of the materials issues relevant to nuclear fuels, written by experts in the field. It is well organized, with a wealth of high quality illustrations and insight-ful graphs showing important trends. The report includes a basic, undergraduate level introduction to key concepts in materials science such as: dislocations, crystallographic texture, and corrosion mechanisms. These topics are presented clearly and concisely and are the basis from where fuel material behavior is described. Irradiation effects, influence of water chemistry, high burn-up, and issues impacting safety and used fuel storage are covered in sufficient detail to provide an in-depth perspective

on the current concerns in the field of nuclear fuel design, development, and application. Insights into issues that arise in the field as well as those facing utilities are also provided.

The report is an excellent resource and reference tool for engineers and materials scientists, like myself, who are new to the field. Particularly useful is a glossary covering the terminology and jargon proper to the field. Available in electronic format, it is easy to access and to disseminate. AECL (Atomic Energy of Canada Limited) purchased the report and has made it available across our company via our library server. I have recommended it to engineers and scientists new to the field of fuel materials.



Second Volume Available

The Fuel Material Technology Report contains four separate volumes. The first volume was available in January 2007. Volume two was available January 2008 and can now be purchased.

Volume 3-4 will be published during the coming years with one volume each year. The first two volumes covers fuel assembly performance in water cooled reactors, the third volume contains corresponding information on BWR and PWR control rods while the fourth volume is dedicated to different fuel inspections techniques.

One or two day seminars associated to each volume of the FMTR can be provided by ANT International at your company's site.

[Read more about the FMTR vol II here](#)

WILFRIED RÜHLE

How did you get started as an engineer?
I studied Chemistry at the University of Heidelberg/ Germany. During this time I got special education in Radiochemistry and Radiation Biology.

Your career history?

After my thesis for a Ph.D. on the fields of reprocessing of nuclear fuel in the Nuclear Research Centre Karlsruhe/ Germany, I joined a nuclear power plant operator (KKP) as chemistry section head. First I started there with BWR-chemistry and later, when the BWR was supplemented by a PWR, with PWR-chemistry. As the plant was rather independent from its mother companies, the whole plant chemistry had to be handled on the site. So the tasks of the plant chemist comprised participation in the design of all the water treatment systems and in all surveillance tasks such as water chemistry, radiochemistry, material corrosion, lubrication items, environmental surveillance tasks, etc. Besides this routine work I was engaged in or I initiated several projects for further development of chemistry in NPPs. Examples are implementation of centrifuge systems for laundry water processing, implementation of enriched TOB for chemical shim, dosing of oxygen in the high alkalised steam as a remedy against Flow Accelerated Corrosion in the heating steam of reheaters, using reducing chemicals for reduction of iodine volatility after shut down before an outage, dosing of methanol in the BWR as an alternative to hydrogen, etc.

My external activities concentrated on working within national and international associations like VGB in Germany, responsible among others for the elaboration of guidelines, and IAEA

in Vienna. For the latter organization I was member of four Operational Safety Review Teams.

How did you get introduced to ANT International and the LCC Program?

I was asked by Rolf Riess to contribute to the LCC programme. I know Rolf Riess as a high qualified counterpart from the plant vendors side since my start at the power plant.

How has the field of water chemistry issues changed during your career?

Basically the plants I worked for, were, from the view point of chemistry, optimised by design and chemistry specifications. So many negative experience from international community, such as cracking in reactor internals, cracking in steam generator tubing or AOA did not affect us. So for me, water chemistry has only changed in small details.

What do you foresee for the future in the nuclear industry, and how does the LCC Program fit in?

Although I live in a country which has decided to get out of nuclear energy, I believe in this kind of energy production and I see a great future in it. The LCC programme can contribute to profitability and reliability of the plants.

How do you spend your leisure time?

To compensate my paper work I like working as a handy crafts man but limited to my house and those of my children. The rest is travelling, some sports, gardening as far as it is inevitable, and communication with my family and friends.

[Read more about the Network](#)



Appreciated Seminars - ZIRAT12 and LCC3

Read evaluations and see pictures from Clearwater Beach and Valletta.

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