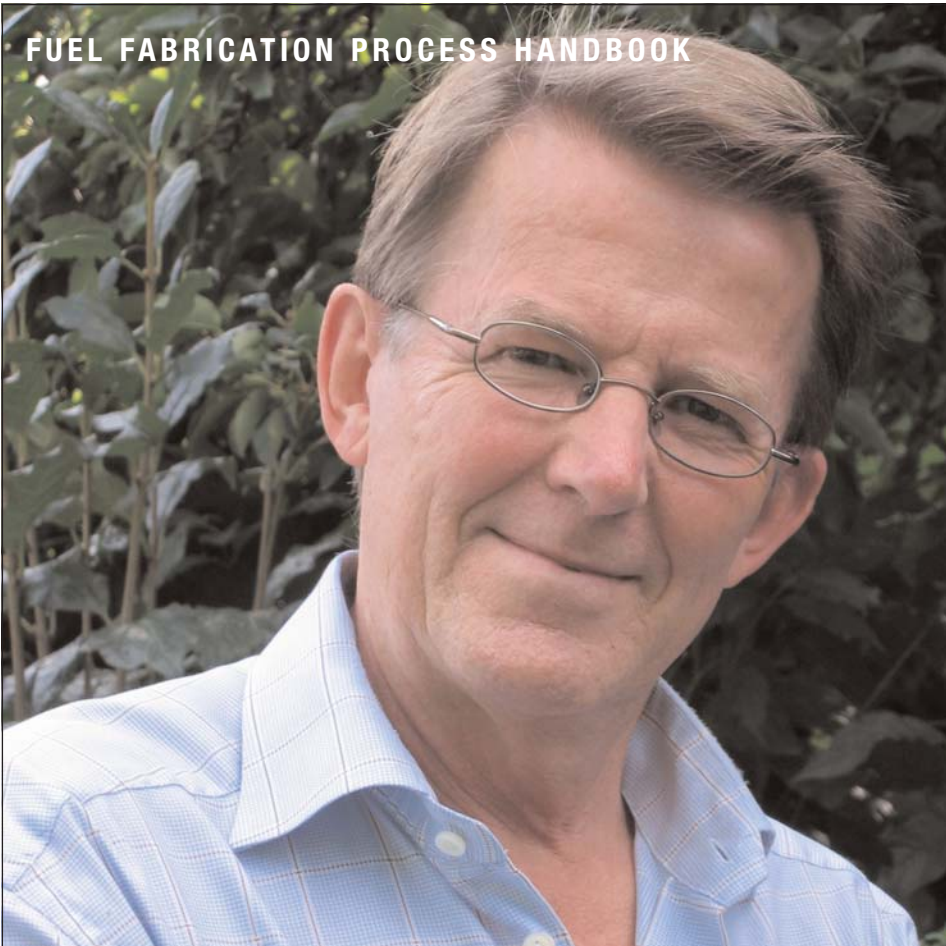


FUEL FABRICATION PROCESS HANDBOOK



“FFPH – readable and useful for engineers in nuclear fuel ”

JAN ALMBERGER, VATTENFALL FUEL

As responsible for the manufacturing follow-up done by Vattenfall Fuel I have been very pleased with the FFPH (Fuel Fabrication Process Handbook) so far, and it is been used actively within our company. It is a very readable textbook for engineers with a basic interest in nuclear fuel. To have it on our computer server gives opportunities for selfstudies.

Introducing new people

We have to introduce new people to the area of fabrication follow-up; the most experienced people are soon retiring or needed for other tasks. In our competence-training program we use the FFPH as well as teaching by fuel vendors and hands on training by our experienced specialists. The FFPH has been a valuable tool because it presents the basic background in a systematic and pedagogical manner. The computer interface has been very practical, because it can serve as an online look up dictionary.

A good reference tool

We have to perform our manufacturing follow-up in a systematic and logical manner. For this reason we have recently made a detailed walk-through of our process descriptions and instructions. The FFPH turned out to be a good reference tool because it already provides the basics for systematism with its checklist type of approach. The experienced and knowledgeable authors are our assurance for the quality and completeness of the material. Nevertheless we had many and vivid discussions on what and how we should actually follow up in order to convince ourselves of the flawlessness of the final products.

People borrow it

My only problem so far is that the attractive layout and the well balanced text and figure material means that people like to borrow the book from my desk. But I decided to live with that.

ANTI CLOSE UP



Brian Cox

Looking back, it comes as something of a surprise to realise what a large role chance (or serendipity) played in my career. Soon after I finished my Ph. D. on “Structural Chemistry of Complex Fluorides” Harwell and Aldermaston made me offers with exemptions. The decision went to the former since I was not enamoured of the idea of developing nuclear bombs.

Introduced to Zr

Harwell introduced me to Zr alloys, since by chance I was put in a group in Chemistry Division studying corrosion problems in watercooled prototype reactors. These went by the acronyms (chronologically) HAR, SCHWR and SGHWR. Only the last of the three got built! Additionally, I became acquainted with the art/science of failure analysis via problems with the cause of the fire in Windscale-1, and with pool storage of Magnox fuel. I soon became clear that there was never going to be an indigenous U.K. water reactor programme, so I started looking for somewhere that did have one. Then serendipity kicked in again and I spent 25 happy years at Chalk River (AECL) researching the basis of Zr alloy corrosion, and trouble-shooting problems such as PCI and DHC that raised there heads.

Al Strasser called

In 1986 AECL decided that it did not need any basic research on materials. My Division (Chemistry and Materials) was dismantled. Serendipity then helped out with a phone call from the University of Toronto who were looking for a Professor of Nuclear Engineering. My association with ZIRAT again came by chance - a phone call from Al Strasser saying that the guys who helped with ZIRAT-1 weren't continuing. Guess I was interested? Later on Peter, whom I knew through EPRI, came along - and now we have a great bunch of guys working together to make the ZIRAT team.

Report from Power Golf at Bjäre Golf Club

Read more and see the pictures at our website
www.antinternational.com

COMING UP

Welcome to ZIRAT10 and LCC1 Marco Island & Nice 2006

We are pleased to invite you to the Annual Zirconium Alloy Technology, ZIRAT10 and the Annual LWR Coolant Chemistry, LCC1 Seminars in Europe and the US. The Seminars will be held on January 30-February 2 2006 in Marco Island, US and on February 7-10 2006 in Nice, France.

You will find the Agenda and further information on the website. You will also be able to notify your participation on the www.antinternational.com

Please observe that hotelreservation must be made by October 15 (Marco Island) and by November 1 (Nice). Please enter the hotel websites for more information.
Hilton Marco Island
www.hiltonmarcoisland.com and
Hotel Sheraton, Nice www.elyseepalace.com

NICE Cent

SUMMING UP BY STIG

“Nuclear power at the turning point”

How many times have we heard this? How many conferences since the mid 80-ies have had this theme? So what is new today?

I think that real life is beginning to creep into the political world with more evidence of climate change, the fact that renewables even after many years of political support play only a marginal role and recently the shocking price increases of oil and gasoline. We do not know which of these factors have been most important but we can already see some very significant decisions:

- China plans for forty new 1000-MWe reactors until 2020
- France has decided to replace her 55 reactors with nuclear power and has decided to construct the first EPR in France.
- Pronuclear legislation is underway in the US
- Finland is constructing the first of the new large EPR's
- Russia, South Korea and Japan have confirmed their strategies to expand nuclear power

So, this time it might well be true – we are at a turning point for nuclear power.

New reactors will be safer, more efficient and more cost-effective. Uranium will be used more efficiently which means that nuclear fuel will operate at high duty with high burnup, new materials will be used and nuclear fuel engineers will face an interesting challenge.

The need for qualified competence at utilities and reactor and fuel vendors is already high today and will increase. At the same time the whole industry faces a generation shift. Older and more experienced personnel are retiring and a new generation will be phased in.

All this means a large challenge to the nuclear industry. I believe that the industry will meet this challenge successfully and we at ANT International are willing and well positioned to assist the industry in this process.

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NEW ANTI STAFF



Introducing Pernilla

We are proud to present a new person in our staff. **Pernilla Cinthio** will be our Communication Manager from the beginning of November.

Her work duties will be launching new projects for ANT Intl. and being responsible for communication matters, such as the Antenna Newsletter and the web site.

Read Pernillas letter to you on www.antinternational.com

Newly married

Our president Mr **Peter Rudling** and Miss **Catrin Abrahamsson** got married a lovely Saturday afternoon in August. After the marriage ceremony they had a delicious wedding dinner with a couple of relatives and friends in Göteborg, Sweden.

The ANT International staff wishes them the best of luck.

