

The Antenna

NEWSLETTER FROM ANT INTERNATIONAL No.24 2013

Time to register for the upcoming ZIRAT18/ LCC9 Seminars

ANT International will not give any LCC Seminar in USA. Therefore we invite all our customers from America to attend the European LCC Seminar. The ZIRAT18 Seminar will be held on February 10–12th 2014 at Sheraton Sand Key Resort, Florida, USA. In Europe, the ZIRAT18/LCC9 Seminars will be held on March 10–12th at Meliá Hotel, Bilbao, Spain.

For all details, please read more [here](#) or make your registration directly [here](#)

Make your hotel reservation prior to December 23 at

Meliá Hotel in Bilbao, Spain

Sheraton Sand Key Resort in Clearwater Beach, USA

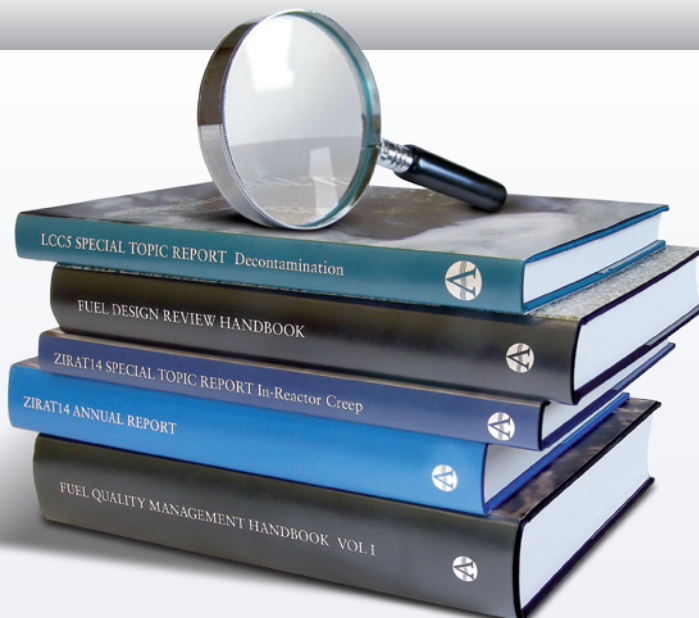


Quick and easy

THE AWIKI (ANT International Nuclear Wikipedia) contains now more than 1 300 articles (over 13 000 pages) on:

- Fuel materials (UO₂, MOX, Zr-alloys, Nickel-base alloys) technology, manufacturing and performance during normal operation, anticipated operational occurrences, design basis accidents and dry storage conditions
- Structural material integrity issues information related to:
 - Low-alloy steels
 - Stainless steels
 - Nickel-base alloys
- BWR/PWR/VVER plant chemistry and corrosion issue information

The AWIKI enables you to quickly find information of interest. It is continuously updated with the most recent information in the nuclear fuel, plant chemistry and structural material integrity areas. The AWIKI contains information published in ANT International reports and has a similar structure as the public Wikipedia, with a powerful search tool to quickly retrieve information of interest. At the moment 16 organisations has signed up for the AWIKI.



“One step further – expanding the nuclear technology knowledge by a nuclear Wikipedia”

Cristina Muñoz-Reja Ruiz,
Fuel Rod Technology Manager at ENUSA, Spain.



[More information about the AWIKI](#)

For further questions and inquiries please contact Lilian Weman; lilian.weman@antinternational.com or phone; +46 (0)70 263 03 42.

NEW HANDBOOKS EARLY 2014

Handbook on Control Rods (FMTR Vol III)

ANT International is publishing a Handbook on Control Rods, authored by Mr. Alfred Strasser, that constitutes Volume III of the Fuel Material Technology Report becoming available during the first part of 2014. The Handbook describes the designs, manufacturing, performance and issues related to BWR/PWR/VVER/CANDU control rods with Ag-In-Cd (AIC), B4C, Hf absorber materials and stainless steel structural materials. The highlights of the current state of technology will be summarized at the ZIRAT 18 Seminar.

[Vol I sample](#) [Vol II sample](#)
[Vol IV sample](#)

Fuel Fabrication Process Handbook (FFPH Revision I)

ANT International is publishing a Handbook on fuel fabrication auditing, with Mr. Alfred Strasser as lead author, becoming available during the first part of 2014. The objective of the Fuel Fabrication Process Handbook is to provide guidance for a cost effective audit which uses audit time on areas which are most likely to affect the performance of the PWR/VVER and BWR fuel. The Handbook focuses on a “Process Audit” procedure, the audit of the fabrication process parameters for making high quality fuel.

Content:

- Structure and components of the fuel assembly

- Utility audit procedures
- Quality assurance systems and standards
- Qualification programs
- Fuel and pellet fabrication
- Zirconium alloy component fabrication
- Fuel rod assembly
- Spacer grid assembly
- End fitting fabrication and assembly
- Fuel bundle assembly
- BWR channel assembly
- Statistical quality control
- Software quality assurance

The Handbook is an updated and expanded version of the previous FFPH published in 2005. The expansion

constitutes two sections on;
1) Statistical Quality Control, and
2) Software Quality Assurance.
Statistical QC is a vital part of
process control, the establishment of
sampling plans and the qualification
of inspection methods. The QA of
software is important for auditing
the software for the expanding auto-
mation of fabrication methods.
A two day Seminar presenting the
key results of the FFPH by Mr.
Alfred Strasser and Mr. Peter Rud-
ling, including a workshop related to
a hypothetical fuel fabrication pro-
cess audit, is given on March 13–14,
2014 in Bilbao, Spain.

Sample of previous edition

Interim Dry Storage Handbook (IDSH)

ANT International is publishing a
Handbook on Interim dry storage,
authored by Dr. David Franklin, Dr.

Charles Patterson and Mr. Friedrich
Garzarolli, becoming available during
the first part of 2014. The Handbook
will focus on fuel issues that may
occur during extended storage of the
fuel, i.e., which issues may arise if
the storage time is extended beyond
the storage time we anticipate today
and how they can be resolved.
The Handbook also summarises the
regulation in various countries.

Content:

- SNF management practices in US,
Europe, and Japan
- Recent reviews and events on
disposition of SNF, with emphasis
on impacts on dry storage.
- High-level general considerations
for dry-storage systems
- Existing dry-storage regulations,
each category to address US,
Europe, and Japan aspects
- Technical issues associated with

extension of dry-storage time
periods and potential impacts on
the existing dry-storage regulatory
bases

- Existing transportation regula-
tions, the regulatory bases that
could be impacted by extended
dry-storage time periods, and the
potential impacts on regulations;
each category to address US,
Europe, and Japan aspects.
- Extending the useful life of dry-
storage containers
- Existing programs to determine
open issues and address them

A two day Seminar presenting the
key results of the IDSH by the authors
is given on March 13–14, 2014 in
Bilbao, Spain.

For further questions and inquiries please
contact Angela Olpretean;
angela.olpretean@antinternational.com
or phone; +46 (0)70 263 13 77.

GOLD MEDALIST

Age is not an obstacle

END OF OCTOBER 2013 the World
Championship in Fitness &
Bodybuilding was held in Ulan Bator,
Mongolia. Peter Rudling was com-
peting in Classic Bodybuilding, +50
years, and came home with the gold
medal. Peter will turn 60 in 2014,
but age is not a disadvantage in this
sport. Peter says: “My physique is
improving every year and at this
world championship I was in my best
form ever. I have done weight lifting
for 30 years and competed for the
last 13 years.”

So what does it take to get in shape?

“Well I start to prepare for the com-
petition at least 5 months in advance,
which means following a strict diet
and train at least 3 hours each day, 7
days a week (weight training but also
stretching, yoga and posing). After a
competition I take ca 2 weeks off and

gain some weight and after that I start
my building up training in order to
focus on improving my weak points.”

Are you satisfied now?

“I still want to improve my physique
and my goal is to defend my gold
medal at the world championship in
2014. As long as I stay healthy I will
keep on competing.”

Peter ends our conversation by
saying: “Everybody can improve by
adequate training and a healthy diet.
No age limit exists. Recently a 90
year old, Swedish man, ex military,
set a new world class record in bench
press by lifting 88 kg (194 lbs).
People like him are an inspiration to
me. If I find the time I would very
much like to publish a book with
the working title ‘How to stay fit
beyond 50’.”



Facts:

Sven Peter Rudling
M.Sc. Metallurgy and Engineering
Founder and managing director of
ANT International
Competing in Classic Bodybuilding, +50 years
Length 174 cm, 5 f. 7”
Weight off season 82 kg, ca 181 lb
Weight at competition 76 kg, ca 167 lb



Register for interesting Seminars

WELCOME TO register for the ANT International Seminars in Bilbao, Spain February 2014. Seating for these Seminars is limited and some are close to fully booked.

The ANTIA Seminars are intended for new engineers and scientists or experienced technical staff that must cover

increasingly broader technical areas and business leaders who would like to refresh or extend their knowledge.

The Fuel Fabrication Process Seminar provides guidance for a cost effective audit which uses audit time on areas which are most likely to affect the performance of the fuel.

Fuel material performance during normal operation and anticipated operational occurrences (ANTIA)

The Seminar is held in March 4–7th by Dr. Charles Patterson, Dr. Ronald Adamson and Mr. Peter Rudling.

[Read more](#)



Interim storage and transport of spent fuel (ANTIA)

The Seminar is given in March 13–14th by Dr. David Franklin, Dr. Charles Patterson and Mr. Friedrich Garzarolli.

[Read more](#)



Materials Degradation in Light Water Reactors (ANTIA)

The Seminar is held in March 4–7th by Dr. Peter Ford, Dr. Peter Scott and Dr. Pierre Combrade.

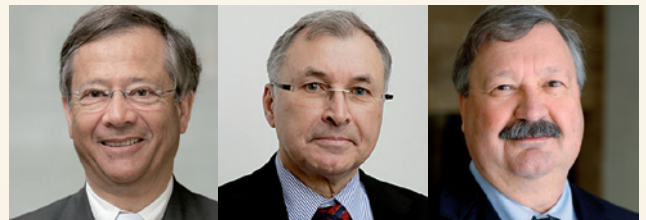
[Read more](#)



PWR/VVER Plant Chemistry and Corrosion (ANTIA)

The Seminar is given in March 4–7th by Dr. Francis Nordmann, Dr. Suat Odar and Mr. Dewey Rochester.

[Read more](#)



Fuel Fabrication Seminar

The Seminar is held in March 13–14th by Mr. Alfred Strasser and Mr. Peter Rudling.

[Read more](#)



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