The Antenna

NEWSLETTER FROM ANT INTERNATIONAL No.19 2011

Welcome to sign up for the upcoming ZIRAT16/LCC7 Seminars

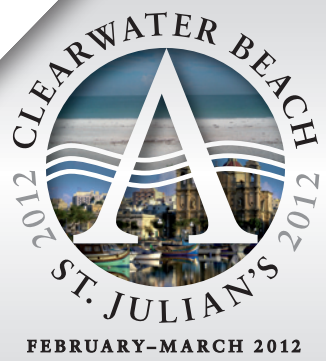
The dates are as follows:

ZIRAT16
- February 6–8, 2012 at Sheraton Sand Key Resort, Florida, USA
- March 7–9, 2012 at Radisson Blu Resort, Malta

LCC7
- March 12–14, 2012 at Radisson Blu Resort, Malta.

For more detailed information please visit ANT International webpage where you can register and book your hotel accommodation.

Looking forward to meeting you at the Seminars,
your ANT International Seminar Team



FEEDBACK ON FUEL DESIGN REVIEW HANDBOOK – FDRH

"Decades of experience in one volume"

**Hajime Fujii, Group Manager,
Fuel System Group, Fuel Designing Department,
Mitsubishi Nuclear Fuel Co. Ltd. Japan.**

Fuel design review handbook (FDRH) is a unique handbook. It contains not only features of various fuel designs but also fuel design fundamentals, design audits and recent topics in nuclear fuel technology. The authors of this handbook have condensed decades of experience in a single volume. I am sure any new engineer who enters the fuel design field will find this handbook very useful. In this regard, it seems quite successful. One specific thing that I would like to mention is the really beautiful and colorful layout of this handbook which also characterizes all ANT deliverables even in the electronic format!

This Handbook provides a guide for reviewing and auditing the fuel design to assist in the assurance that it will perform its design functions adequately.

Read more

For further questions and inquiries on the FDRH, please contact Ida Balog; ida.balog@antinternational.com or phone; +46 (0)70-263 09 36.

Editor & publisher: Peter Rudling

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

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

ANT INTERNATIONAL has developed a new and useful electronic tool and placed it in the hands of the nuclear field. It is continuously updated, technically accurate and intended for technology transfer: the AWIKI.

My company ENUSA placed its confidence again in ANT International, as we have done since 2001, and we said yes to this new product.
As a recent user I'd like to share with others the main aspects in which AWIKI is helping me in my professional performance although I'm sure that I'll find it more and more interesting when gaining experience in its use.

In today's work, time is limited and AWIKI gives me a fast and easy way to find a first approach of a matter I'm interested in. Most of the articles in the AWIKI include references to both ANT International reports and to the public literature so, using the AWIKI in combination with the ANT International reports and with information from the Literature Database, LDB, I can be more effective in my job.

The AWIKI provides a forum wide enough for further developments with other's experiences and knowledge and restricted enough to assure the technical level of all entrances since they exclusively come from professionals in the nuclear industry.

The links already included in the AWIKI are efficient short cuts to other related issues or clarifications of the meaning of terms or concepts. Thus, the way you receive the information is tailored for you and each user can approach a problem from different perspectives according to their starting point.

The AWIKI is a powerful tool from its early days and with a huge potential for growth as the number of users increases. If you have an idea, just publish it in the AWIKI and let us build up the experience and knowledge all together!

ZIRAT/IZNA and LCC Program Members are welcome to try out the AWIKI (ANT International Nuclear Wikipedia) and the LDB (Literature Database) for free during 4 weeks. For a short introduction of the AWIKI please *click here*.

**At our upcoming ZIRAT & LCC Seminars in Clearwater, FL and St. Julian's, Malta a workshop will be held to demonstrate the usefulness of the AWIKI and LDB.
For further questions and inquiries on the AWIKI and LDB please contact Ida Balog; ida.balog@antinternational.com or phone; +46 (0)70-263 09 36.**

Environmentally Assisted Degradation of Nickel-Base Alloys in LWRs – EADN

The objective of the EADN Report is to provide guidance for those needing an introduction to the topic as well as an up to date review and bibliography.
The Report covers the range from basic information to current plant experience.
It is of interest to those who may not be completely up-to-date on;
(**a**) the phenomenology and mechanisms of the various modes of degradation and
(**b**) the effect of various interactions of material, environment and, in many cases, stress on the extent of degradation.
It is a stand-alone Report associated with the LCC6 program by ANT International and authored by Dr Peter Scott, Dr Pierre Combrade and Dr Peter Ford.

More information

Dewey Rochester

Your name, title, where you live

Dewey Rochester, Part time consultant/Retired, 9008 St. Croix Lane, Charlotte, North Carolina, USA, 28277

How did you get started as a chemist?

I graduated from Clemson University in 1973 with a B.S. Chemistry. During graduate school I saw an opportunity to enter the commercial nuclear power industry as a chemist with Duke Energy's (nee Power) Oconee Nuclear Station. I was hired and the rest, as they say, is history.

Your career history?

I started to work in May 1974 at Duke Energy's Oconee Nuclear Station, a three unit site in northwestern South Carolina about ten miles from my birthplace and college. Unit One had received their commercial license only a few months before and Unit Two was not far behind. Unit Three was still under construction but there was tremendous pressure to complete construction and obtain the commercial license before the end of the year. After only two months, I found myself in charge of the preoperational testing of all the chemistry systems, including sampling, chemical addition, condensate polishers, closed cooling water systems and primary demineralizers. I was overwhelmed! With good technical support and a lot of patience from my coworkers, we survived the testing and the startup of Unit Three. No doubt going through preoperational testing for the startup of a unit was probably the best thing that could have happened to me even though it meant long hours, weekend work and no holidays.

In 1978 at a very young age I was promoted to the site Chemistry Manager. I remained in this position until 1984 when I had the opportunity to transfer to the Duke Corporate office in Charlotte, North Carolina. As a Senior Scientist, I was involved in many different projects over the next several years. I was in charge of qualifying the chemical cleaning process and corrosion monitoring equipment to perform the first full bundle steam generator chemical cleaning in the U.S. at Oconee Units 1 and 2. Later, I led teams to investigate the SG corrosion problems at Oconee and Catawba. I also represented Duke on various EPRI and industry committees.

In early 2003, I was promoted to Corporate Chemistry Manager, in charge of all the chemistry programs at the Duke nuclear sites. I remained in this position until I retired in June 2010.

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

While I was with Duke Energy, Chris Wood, an ANT International consultant and a longtime friend who worked at EPRI, sent me some information on ANT International. I already knew several of the consultants, such as Dr. Suat Odar and through him, Dr. Rolf Reiss, during my SG chemical cleaning projects. I met Dr. Francis Nordmann during my industry participation with EPRI. I also met Dr. Peter Scott while investigating SG corrosion issues.

While I was still working with Duke, Francis invited me to make a presentation at the Clearwater and Dubrovnik LCC6 seminars. After attending the seminars, it seemed that continued participation in ANT International was a win-win.

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

When I started working at Oconee Nuclear Station in 1974, plant chemistry operated with minimal guidance from Babcock & Wilcox, the NSSS vendor. There were limits for key contaminants, but other than for the primary system, no time limits existed to inform plant operations. EPRI was only a couple of years old and provided no direct operational

support to the nuclear plants. The chemists had to make judgment calls on how long a secondary parameter could be out of specification and how high it was allowed to get before an immediate shutdown was warranted to prevent steam generator damage. The chemists were focused on maintaining the integrity of plant assets in the long term which was a difficult proposition when the power was needed. There was very little industry operating experience and guidance to assist us. Now, there is a wealth of operating experience, almost too much to keep up with, and industry guidance to assist the plant chemist in controlling water chemistry.

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

After the recent incident in Japan, several countries are rethinking their commitment to nuclear power. As nuclear professionals, what should we do? I believe that our response to this incident and to the future of nuclear power is to ensure that existing plants are safe, reliable, well maintained and cost effective. The ANT International LCC program is in position to provide training, best practices, and knowledge transfer to plant chemists to preserve assets and promote quality operations and reliability.

How do you spend your leisure time?

I enjoy playing golf with my retired friends once or twice a week and fortunately in the southern U.S. we can generally play year round. My Canadian wife and I enjoy traveling. We usually take a SCUBA diving trip once a year to the Caribbean, one or two trips to Europe and visits to see relatives and friends in Canada. I enjoy reading especially nonfiction and history. Our Lhasa Apso, Bailey, takes up the rest of our spare time with frequent walks and play time.

More about ANT International Network Members ***here***

"Our relationship with ANT International goes a long way back"

My background is Chemical Engineering and almost all my professional career I have been linked to Cofrentes Nuclear plant. I participated in the plant's startup tests, and joined the Chemistry group when the plant started its commercial operation. For more than 16 years I was responsible of Chemistry and Radiochemistry. In 2006 I moved to my present position in the Engineering Support Department.

The Iberdrola's relationship with ANT International goes a long way back. It started with our Fuel Department but quickly extended into areas of fuel failure, water chemistry interaction with fuel, chemistry and materials, control rods evaluation etc. by means of seminars, training courses or specific studies.

We were always very satisfied with the results of these activities, as we found a perfect balance between the theoretical knowledge and explanation of the fundamental facts and their practical application. Therefore, when we were offered to participate in the LCC Program we almost joined it without a doubt. The idea of gathering an important family of veteran experts to transmit their knowledge and experience in the areas where they developed the industry advances, and to provide a follow up of these matters, is simply splendid.

After six LCC Program Memberships we have a very positive balance of our participation. We appreciate very much the yearly updates from the international meetings on materials, corrosion and chemistry. It is a very practical way to be informed about new research and experiences

Juan de Dios Sánchez, Aging Management at Iberdrola, Nuclear Support Department, C.N.Cofrentes.

of what has been published. But even more interesting are the Special Topic Reports that are published annually by the LCC experts on different topics. This part of the program provides a thorough approach of the specific matters, from the theoretical basis, its historical development, the application of the results and the most recent approach and, for some technologies it provides an independent view of advantages and disadvantages. The text and the clear and smart graphics make these Special Topics Reports of special value for training new personnel in these times when the plants are incorporating young engineers.

The LWR Chemistry and Component Integrity (LCC) Program is an annual program, focused on reactor coolant and RCS material issues.

Read more

For further questions and inquiries on the LCC Program please contact Ida Balog; ida.balog@antinternational.com or phone; +46 (0)70-263 09 36.