



October 2012

No 18

# *The ANS Globe*

*...e-news from the ANS International Committee*

## **From the editors**

*The ANS Globe* is the Bulletin of the American Nuclear Society's International Committee. *The ANS Globe* has as its mandate the dissemination of news of international interest to International Committee members and to others.

We would like to keep *The ANS Globe* current and relevant. Please send us your letters, articles, news and/or comments for consideration towards the next issue.

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**Acknowledgements:** The editors would like to thank [Dr. Rolland Langley](#) and [Mr. Mike Diekman](#) of the ANS for their invaluable help in stimulating reports and collecting news items for *The ANS Globe*. [Mike Diekman](#) also kindly ensured the correctness of contact information for International Committee members and Agreement Societies.

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## **From the Chair**

Dear Friends,

If you have attended a nuclear conference anywhere around the world over the past year you will probably have noticed two major themes: (1) the accidents in Japan were serious but not serious enough to halt the development of safer nuclear power plants in the future, and (2) public acceptance is again at the forefront, perhaps the single most important issue to nearly every country that is looking to start or expand new build. Our professional societies have played, and will be expected to continue to play a critical role in addressing these issues throughout the world.

“Acceptance through Awareness” was the theme of the ANS India Section’s annual meeting in Mumbai on the 4th anniversary of the Indo-U.S. civil nuclear agreement in October 2012. The ANS sponsored two U.S. public relations experts to conduct a workshop with the spokesman for the Indian Department of Atomic Energy (DAE) and the former head of public affairs for the Nuclear Power Corporation of India Limited (NPCIL). Video of the public affairs workshop and other speakers will be uploaded soon to the ANS India Section website here: <http://local.ans.org/india/>

**NRC Commissioner Svinicki** and **Dr. Patrick Moore**, co-founder of Greenpeace, were the keynote speakers. (See two photographs of the meeting, below.) Dr. Moore conducted several media interviews about the environmental benefits of nuclear power. Video of a national television interview with Dr. Moore can be viewed here:

<http://www.ndtv.com/video/player/we-mean-business/we-mean-business-the-kudankulam-conundrum/252892>

The program was well received by the Indian Nuclear Society and the DAE, who co-organized the program. It was developed as a template for future ANS interactions with other nuclear societies. I ask that each member of the International Committee please review and consider where this program could be replicated with other international public affairs officials. And while we convene for the ANS “winter” meeting in sunny San Diego, let us all keep in our thoughts those who are still without power in the northeast U.S., as well as all of those who suffer for lack of sufficient reliable electricity around the world.

Best Regards,

*Corey McDaniel, PhD*



U.S. Consul General Peter Haas (left) hosted a dinner where ANS VP Donald Hoffman was joined by NRC Commissioner Svinicki (center) and the ANS-IC Chairman McDaniel (right) to present ANS Presidential Citations to Dr. S. Banerjee (center left), former DAE Secretary, and Dr. S. Jain, former head of the NPCIL (received by Dr. Rao, center right).



IC-Chair McDaniel addresses the ANS-IS annual meeting.

## **The ANS International Committee's Web Page**

Visit the enhanced ANS International Committee's Section on the ANS website, located at <http://www.ans.org/const/international>. It includes:

- Background information about the ANS International Committee
- Connections to ANS International Local Sections
- An overview of Society alliances with international organizations (INEA, INSC, and PNC), along with contact information
- Connections to 30 ANS Agreement Societies/Organizations, and
- Current/back issues of *The ANS Globe*, which features ANS International Committee activities and related items.

## **Election of Non-US ANS Board Members**

For the 2013 national election, the IC approved [Odilon Marcuzo do Canto](#) and [Jorge Spitalnik](#) as IC nominees from the Americas (Latin America) to the ANS Board of Directors.

## **News from Sister Societies and International News**

- **Austrian Local Section**

[Dr. Andreas Kronenberg](#), of the Department of Safeguards at the IAEA, sent the following report.

The ANS local section in Vienna, Austria, is not only home to the nuclear engineers at the IAEA, the section is also viewed as a contact/focal point of the ANS towards Eastern Europe nuclear societies. Vienna is also home to one of the three United Nations headquarters along with other important international organizations such as the OSZE, OPEC, and WINS. Some of these organizations are focused on energy, nuclear energy and technology in particular. Thus there are many foreigners living in Vienna with their children visiting the international schools alongside diplomats and international business people, the community of U.S. citizens hereby constituting a big portion.

For these reasons, we identified outreach as a major focus of our work. Therefore, the ANS co-sponsored the INMM "Science Fair" among international schools in Vienna in March 2012. We reached out to international schools in Bratislava and particularly invited to participate. For the first time this year, the International School in Bratislava participated with a dozen students. Our members served as judges and in the organizing committee to the event. ANS-HQ provided financial support for the event. Young people conducting research projects concerning sustainability, physics and engineering for an event that is under the umbrella of the International Atomic Energy Agency (IAEA Deputy Director General for Safeguards handed over the awards) and co-sponsored by the ANS is a good opportunity to introduce nuclear energy and nuclear education, especially since we continue to attend Career Days at the school as well.

In May, some members went to the career day at the American International School to

present and discuss career opportunities in the nuclear field with 8th and 10th grade students. We made the point that nuclear engineering is a wide-ranging field, interdisciplinary and in an international frame and not only focused on reactor operation. The resonance was very good; we had two rounds and they actually asked questions from "what classes do I have to take in high school to study engineering later" to "what will be the future of nuclear after Fukushima".

A few weeks ago, we had the opportunity to meet with [Donald Hoffman](#) during the General Conference at the IAEA. The meeting attracted many of our members and also non-members.

- **[Canadian Nuclear Society \(CNS\)](#) (<http://www.cns-snc.ca>)**

The Canadian Nuclear Society has several major conferences scheduled for the next 2 years:

- 7-9 November, 2nd International Technical Meeting on Small Reactors, Ottawa, Ontario, Canada – organized jointly by the Canadian Nuclear Society and Atomic Energy of Canada Limited - <http://www.cns-snc.ca/events/2tm/>
- 7<sup>th</sup> CNS International Steam Generators to Controls Conference, 2012 Nov.11-14, Toronto, Ontario, Canada - [http://sgc2012.ca/2012sgc\\_html/2012sgc\\_home.html](http://sgc2012.ca/2012sgc_html/2012sgc_home.html)
- 34<sup>th</sup> Annual Conference of the CNS and 37<sup>th</sup> Annual CNS/CNA Student Conference, 2013 June 9-12, Toronto, Ontario, Canada - <http://www.cns-snc.ca/events/2013conf/>
- 12<sup>th</sup> International Conference on CANDU Fuel, 2013 September 15-18, Kingston, Ontario, Canada - <http://www.cns-snc.ca/events/12th-iccf/>
- 10<sup>th</sup> International Conference on CANDU Maintenance, 2014 May 25-27, Toronto, Ontario, Canada - <http://www.cns-snc.ca/events/cmc-2014/>
- And the CNS is excited that it will be hosting the 19<sup>th</sup> PBNC Conference (PBNC-2014), 2014 August 24-28, in Vancouver, British Columbia, Canada - <http://www.pbnc2014.org>. The theme of PBNC-2014 is "Fulfilling the Promise of Nuclear Technology in the Pacific Basin in the 21<sup>st</sup> Century".



- **[France](#)**

**[ANS French Section](http://local.ans.org/france) (<http://local.ans.org/france>)**

[M. Thibaut Marsac](#), in charge of International Relations at EDF, sent the following report on the latest technical tour of French nuclear facilities, organized by SFANS for US Professors. A presentation about the tour was also made at the IC meeting in Chicago. It is reproduced further below in this issue of the *ANS Globe*.

Following the previous ten successful technical tours of French nuclear facilities organized by the French Section (SFANS) for US nuclear engineering professors, the tenth "2012 Nuclear Tour de France" took place from July 8 to 14 under the leadership of [Michel Debes](#) (President of the SFANS, EDF Generation Division) and [Dominique Grenêche](#) (SFANS member) in connection with his American counterpart [Yousry Y. Azmy](#) from North Carolina State University.



Twelve professors of nuclear engineering from ten different universities made the trip to France (see list below the photo).



The US Professors at Melox – *From left to right* : **Pr. Mark Pierson** (VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY), **Pr. Brian Wirth** (UNIVERSITY OF TENNESSEE), **Pr. Eric B. Norman** (UNIVERSITY OF CALIFORNIA at BERKELEY), **Pr. Sukesh Aghara** (UNIVERSITY OF MASSACHUSETTS LOWELL ), **Michel Debes** (President of SFANS), **Luc Van Den Durpel** (AREVA), **Yousry Y. Azmy** (US coordinator, NORTH CAROLINA STATE UNIVERSITY.), **Col. Steven R. Arndt** (U.S. NUCLEAR REGULATORY COMMISSION), **Baptiste Combaluzier** (PR, AREVA), **Pr. Carlos H. Castano** (MISSOURI UNIVERSITY OF SCIENCE AND TECHNOLOGY), **Pr. Daniel G. Cole** (UNIVERSITY OF PITTSBURG), **Pr. Sama Bilbao y Leon** (VIRGINIA COMMONWEALTH UNIVERSITY), **Pr. Timothy A. Devol** (CLEMSON UNIVERSITY). *Sitting*: **Pr. Jasmina Vujic** (UNIVERSITY OF CALIFORNIA at BERKELEY), **Pr. Akira Tokohiro** (UNIVERSITY OF IDAHO), **Thibaut Marsac** (EDF Generation).

Starting on Monday morning at CEA Saclay Research Center, where they had an overview of the French system of education & training in Nuclear Engineering (I2EN, INSTN), this tour led to the CEA Marcoule nuclear site, which includes the Melox plant (MOX fuel fabrication) the CEA ATALANTE facility – main hot laboratories for research on advanced fuel cycles, and the Visiatom Nuclear Information Center. The next day, they went to the AREVA large component fabrication facility in Chalon, where they had the opportunity to see the assembly of Steam Generators, Pressurizers and Reactor Vessel Components. Regarding waste management in France, one major site was scheduled: the Bure Underground Research Laboratory, in the clay formation located 500 meters deep, supervised by ANDRA, the National Radwaste Management Agency.

Then, heading West, they went to the AREVA La Hague Spent Fuel Reprocessing Plant and to Flamanville, where the first French EPR is under construction. The last day was dedicated to the “D-day” landing beaches in Normandy.

The objectives of this “Tour of French Nuclear Facilities” were definitely in line with the chief goal of the French Section of ANS, which is to promote and develop exchanges about the status and knowledge of nuclear development and achievements in France and in the USA in different technical fields (operation and construction of reactors, fuel cycle, R&D).

A few quotes from the professors’ trip reports:

- *“This is a once-in-a-lifetime experience that gave me a comprehensive picture of France’s ambitious and highly acclaimed nuclear program”*
- *“Many thanks go to all the individuals that made this tour a great success. It was an experience that I will bring to the classroom for years to come”*

Among the main achievements of this Tour, US professors enjoyed:

- 1) A “focused, alive and vibrant national nuclear program in action”:  
*« This national nuclear program reminds me of the “golden age” of nuclear power in the US, when nuclear power plants were being built and when “nuclear” was a vibrant research enterprise. “I liked seeing people actively working at the French nuclear facilities. There was activity in every lab and facility that we visited” (Prof. Timothy DeVol, Clemson University).*
- 2) The opportunity to visit “in vivo” research labs and facilities:  
*“I was very impressed with the reprocessing facilities, the swimming pool for cooling, and the longer term storage of vitrified fission products that we saw.”*  
*“It was only in a foreign country where I finally got to see REAL fuel pellets for the first time. And not only pellets, but MOX pellets at that.”*
- 3) Some following Scientific and Academic first Achievements:
  - One nuclear engineering Department Colloquia in fall 2012, organized by Professors Vujic and Norman (Berkeley)
  - One U.S. PhD student is interested in working at Atalante.

In conclusion, we would like to quote some few words about the French fuel cycle:

*“What really hit home was the fact that in France you have thought very hard about the entire nuclear fuel cycle, have made tough decisions about how to deal with the complex issues involved, and are now carrying through on a complete program to address these matters.”*

- [India](#)

The new President of the Indian Nuclear Society (INS) is [Mr. SK Sharma](#), formerly Chairman, Atomic Energy Regulatory Board.

The Secretary of the INS is [Dr. Gursharan Singh](#) (e-mail [gsingh@barc.gov.in](mailto:gsingh@barc.gov.in)).

[INSAC-2012](#)

**Dr. Gursharan Singh** sent notice of INSAC-2012, the 23rd Annual Conference of the INS, to be held in Mumbai from 7 to 9 November, 2012. The theme of INSAC-2012 is “Safety in Design, Construction and Operation of Nuclear Power Plants”. This theme has been chosen with the idea that the nuclear community in India can obtain insights into the extensive work done around the world in the recent past on the safety of NPPs and related areas. The conference will comprise Invited Talks and Panel Discussions.

### **INS Awards**

**R.K. Singh**, Head, Media Relations & Public Awareness Section, BARC, informs that the INS Awards Committee will be conferring the following Awards:

- INS HOMI BHABHA LIFETIME ACHIEVEMENT AWARD: Dr. D.D. Bhawalkar, former Director, RRCAT Dr. R. Gupta, Former CMD, UCIL
- INS OUTSTANDING SERVICE AWARD: Nuclear Reactor Technology, including Reactor Safety: Shri S.A.V. Sathyamurthy, Director, Electronics Instrumentation & Radiological Safety Group, IGCAR & Shri G. Nageshwara Rao, Director (Operations), NPCIL
- INS OUTSTANDING SERVICE AWARD: Nuclear Fuel Cycle Technologies, including Radiation Safety and Environmental Protection: Dr. D.N. Sharma, Associate Director, HS&E Group, BARC
- INS OUTSTANDING SERVICE AWARD: Radiation and Radioisotopes related Technologies and their Applications in different areas including Medicine, Agriculture and Industries: Dr. S.F. D’Souza, Associate Director (A), BMG, BARC
- INS OUTSTANDING SERVICE AWARD: High Technology - Nuclear Related Areas: Shri R.K. Patil, Associate Director ( C ), Electronics & Instrumentation Group, BARC & Shri T.K. Bera, Project Director, RMP, Mysore & Director, Chemical Technology Group, BARC
- INS INDUSTRIAL EXCELLENCE AWARD: M/S/ Vividh Hi Fab, Vadodara
- INS YOUNG SCIENTIST/ENGINEER AWARD: Shri Kumar Vaibhaw, Nuclear Fuel Complex, Shri Hemanth Rao, IGCAR, Kalpakkam, Dr. Vinita Grover Gupta, BARC, Mumbai, Ms. Shamim, NPCIL, RAPS 5&6 & Shri Sachin Tiwari, NPCIL, Mumbai
- INS SCIENCE COMMUNICATION AWARD: Shri R.K. Singh, Head, Media Relations & Public Awareness Section, BARC Shri & T.S. Subramanian, Associate Editor, Frontline Magazine
- NUCLEAR SCIENCE EDUCATION: Prof. H.S. Hans (Retd.)

The Awards will be conferred on November 7, 2012 at Mumbai at the inauguration of INSAC-2012.

### **BARC Outreach Program**

**R.K. Singh**, Head, Media Relations & Public Awareness Section, BARC, also reported on BARC’s massive nationwide Outreach Program. BARC was in Sardarkrushinagar Dantiwada Agricultural University on August 03, 2012, to commemorate foundation day of the College of Basic Science and Humanities. The following Outreach Program was organized:

- Faculty-Scientists-Students-Farmers-Agro Processors Meet National Seminar on “Application of Radiation Technology for Boosting Production and Export Promotion of Agriculture Commodities”



- Exhibition on BARC Technologies
- Famous MRPAS skit played by students-ELECTRICITY KI DUNIYA KA CEO (Clean Energy Option)

**Dr. S. F. D'Souza**, Associate Director, Bio-Medical Group & Head, Nuclear Agriculture & Biotechnology Division, BARC, was the Chief Guest of inauguration function. **Dr. K. Sreedharan**, Honorable Vice-Chancellor, SDAU, Sardarkrushinagar, presided over the inauguration function.



- **International Nuclear Societies Council**

INSC Chair **Bernard Jolly** reports on the 2012 INSC Global Award

I am very pleased to advise you that **Professor Chang Kun Lee**, Republic of Korea, is the 2012 INSC Global Award recipient.

Unanimous approval of Professor Lee's nomination occurred at the Council meeting of June 26, Chicago, Illinois, USA, courtesy of a recommendation from Honors & Awards Chair **Hisashi Ninokata**. Professor Lee is being recognized for his excellent contributions to the global advancement of nuclear science, including his exceptional work in developing nuclear energy technology in the Republic of Korea and for his efforts toward a non-proliferation regime in the Peninsula of Korea. His current affiliation is President, Korea Institute of Nuclear Industry Promotion.

The Council looks forward to celebrating Professor Lee's selection as the recipient of the 2012 INSC Global Award. The venue for presentation of this international award to Professor Lee is the ANS Global Leadership Reception, Saturday, November 10, San Diego, California, USA.

- **Italy**

**Prof. Mauro Bonardi** reports that, unfortunately, the nuclear situation in Italy has not changed from one year ago.

On 16-21 September Prof. Bonardi chaired the 8th International Conference of Nuclear and Radiochemistry (NRC-8), in Como (on the Lake of Como), North-East Italy, <http://nrc8.mi.infn.it>. There were 180 attendees, and 2 sessions were devoted to Gen III and Gen IV, in addition to post-Fukushima scenario and Pb-based Gen IV. New fuel was also discussed.





- **México**

**M. en Ing. Carlos Villanueva Moreno**, Spokesman of the Mexican Nuclear Society, sent the following report on nuclear activities in Mexico:

In the period 2012 July 29-August 2, the Mexican nuclear Society held its 23<sup>rd</sup> Annual Meeting at the Pacific Resort of Huatulco, Oaxaca, México.

The keynote speaker in the opening session was the Secretary of Energy of Mexico, Lic. Jordy Herrera, who presented a review of the outlook scenarios for the diversification of electricity generation in the medium term as laid in the National Energy Strategy 2012-2026, sent for approval to the Congress. The emphasis of the three scenarios is on building additional capacity of wind and nuclear power plants, to contribute to the goal of reaching 35% of electricity generation in 2026 with clean primary energy sources.

Other keynote speakers in Huatulco were **Dr. Donald R. Hoffman**, Vice-President/President Elect of the ANS, who gave the talk “A Perspective of the US Industry’s Exciting Developments”, and **Dr. William C. Ostendorff**, NRC Commissioner, who presented the talk “The Future of Nuclear Power in the United States”.

Another keynote speaker, **Dr. Javier Reig**, Director of the Nuclear Safety Division of the OECD NEA, presented “The Initiatives of the NEA in Response to the Fukushima Daiichi Nuclear Power Plant Accident”.

On the other hand, the uprating of the Laguna Verde Nuclear power Plant, a twin BWR/5 station owned and operated by the national utility Comisión Federal de Electricidad, was presented by the Subgerente de Ingeniería in the talk “Laguna Verde en la actualidad 2012”.

Most of the presentations made at the Annual Meeting have been posted on the Website of the Sociedad Nuclear Mexicana, <http://sociedadnuclear.org.mx/>.

- **OECD Nuclear Energy Agency (<http://www.nea.fr>)**

**Serge Gas**, Head, Central Secretariat, External Relations and Public Affairs of the OECD NEA, has informed us that he has taken the position of Director of the Public Information Division at the IAEA on September 10. His Deputy, **Cynthia Gannon-Picot** ([cynthia.gannon-picot@oecd.org](mailto:cynthia.gannon-picot@oecd.org)), will be acting Head of the NEA Central Secretariat in the coming months. **Serge Gas** also reminded that the ANS-NEA Memorandum of Cooperation will need to be renewed in August 2013. The agreement is aimed at developing friendly exchanges and co-operation between the two parties, and furthering the development of nuclear science and technology for peaceful purposes.

The following articles were gleaned from the OECD NEA’s Monthly News Bulletins.

**BELGIAN SAFETY STRATEGY FOR RADIOACTIVE WASTE SURFACE  
DISPOSAL FACILITY FOUND TO BE “CREDIBLE AND ROBUST”**

The OECD Nuclear Energy Agency (NEA) has just presented to the Belgian authorities the outcome of an international peer review on “Key aspects of the safety case for a radioactive waste surface disposal facility in Belgium”. The review examines the

credibility and robustness of the long-term safety strategy and the long-term safety assessment documented in the draft safety case being prepared by the national radioactive waste management agency, ONDRAF/NIRAS. The draft safety case is being prepared for a license application for the construction and operation of a surface disposal facility for short-lived, low- and intermediate-level radioactive waste in the municipality of Dessel. The review provides the Belgian authorities, the Belgian public and relevant organisations an international view on the maturity of ONDRAF/NIRAS's waste disposal programme and its safety approach vis-à-vis international best practices and recommendations.

The international peer review team, consisting of seven international specialists, has concluded that, from an international perspective, ONDRAF/NIRAS's long-term safety strategy and safety assessment are, in the main, **credible and robust, with sufficient active and passive elements to support long-term safety**. The strategy accounts for defence-in-depth, optimisation of the system design and passive safety principles. The long-term safety strategy follows international guidelines, recommendations and best practices.

### NEA Director-General High-Level Visit to Korea

From 30 August to 3 September, NEA Director-General [Luis E. Echávarri](#) was in the Republic of Korea for a series of high-level visits. On 30 August, he participated in the opening of the Nuclear Science and Technology Festival with the [Korean Prime Minister, Hwang-Sik Kim](#). He thanked the Prime Minister for Korea's active participation in the NEA, highlighting the country's achievements in nuclear science and research, and commending the government for having established the new independent regulatory authority. In subsequent discussions, he recalled the importance of having a technically competent, independent nuclear regulatory body that provides factual information in a timely and transparent manner to all interested parties, including the public. On 31 August, Mr. Echávarri provided the opening speech at the Nuclear Science and Technology Forum and gave a lecture to around 100 of Korea's top undergraduates in nuclear studies. Meetings were held with the Korea Atomic Energy Research Institute (KAERI), the Korea Institute of Nuclear Safety (KINS), the Ministry of Education, Science and Technology (MEST) and the Nuclear Safety and Security Commission (NSSC).



### UAE NUCLEAR REGULATOR JOINS THE MULTINATIONAL DESIGN EVALUATION PROGRAMME (MDEP)

On 24-26 September 2012, the Federal Authority for Nuclear Regulation (FANR) of the United Arab Emirates (UAE) participated in its first MDEP meeting as a new associate member, on the occasion of the MDEP Steering Technical Committee meeting held in Beijing, China.

In commenting on this new membership, [Mr. André-Claude Lacoste](#), MDEP Policy Group Chair and Chairman of the French Nuclear Safety Authority (*Autorité de sûreté nucléaire*, ASN), confirmed that the UAE's national regulator meets the criteria for associate membership in the MDEP, adding that the MDEP reviewed the role of the FANR in carrying out the safety design review of the Korea Hydro & Nuclear Power

Company's (KHNP) advanced power reactor (APR1400), currently under construction at the Barakah site in the UAE.

**Mr. Luis E. Echávarri**, Director-General of the OECD Nuclear Energy Agency (NEA), which acts as the Technical Secretariat for the MDEP, welcomed the FANR's associate membership and looks forward to the mutual benefit that this membership will bring to all MDEP members as they work to ensure the safety of new reactors worldwide.

MDEP associate membership is intended for national regulatory authorities of interested countries that already have commitments for new build or firm plans to have commitments in the near future for a new reactor design. They participate in the working group addressing the specific design and issue(s) of interest and, as approved by the MDEP Policy Group, a representative may attend the Steering Technical Committee meetings.

The Multinational Design Evaluation Programme (MDEP) was launched in 2006 by the US Nuclear Regulatory Commission (NRC) and the French Nuclear Safety Authority (ASN) with the aim of developing innovative approaches to leverage the resources and knowledge of national regulatory authorities reviewing new reactor designs.

The full MDEP membership includes national regulatory authorities from Canada, China, Finland, France, India, Japan, the Republic of Korea, the Russian Federation, South Africa, the United Kingdom and the United States. The FANR will be the first associate member to join the MDEP.

The OECD Nuclear Energy Agency (NEA) acts as the Technical Secretariat for the MDEP. The International Atomic Energy Agency (IAEA) participates in many of the MDEP activities, including harmonisation efforts.

The MDEP pools the resources of these 12 nuclear regulatory authorities for the purposes of 1) co-operating on safety reviews of designs of nuclear reactors that are under construction and undergoing licensing in several countries, and 2) exploring opportunities and potential for harmonisation of regulatory requirements and practices. It also produces reports and guidance documents that are shared internationally beyond MDEP membership (see related links below). The MDEP is a unique forum with growing influence on new nuclear reactor projects.

- **Romania**

**Constantin Milu**, President of the Romanian Society for Radiological Protection, sent the following notice:

The Romanian Society on Radiological Protection, jointly with the Romanian Association of Nuclear Energy (both ANS-associated nuclear organizations), will host the Annual Conference on "Information and Education of the Public for Nuclear Emergencies Situations" on October 25, 2012, in Bucharest, Romania. Additional information is available on [www.srrp.ro](http://www.srrp.ro).

- **Slovenia**

In 2013, the Nuclear Society of Slovenia will organize the 22nd International Conference Nuclear Energy for New Europe. The conference will be held in Bled, Slovenia, September 9-12, 2013.



The conference is a traditional annual meeting of professionals from nuclear research and educational institutions, nuclear vendors, utilities and regulatory bodies. It attracts around 200 participants from more than 20 countries. The topics discussed are general and include reactor physics, thermal hydraulics, probabilistic safety analysis, severe accidents, nuclear fusion, nuclear power plant operation, nuclear materials, waste management and new reactor designs. The leading theme of the conference will be New Generation(s) for Better Future. The conference website URL is [www.nss.si/nene2013/](http://www.nss.si/nene2013/)

- **USA**

**Delegation from the University of Michigan in China**

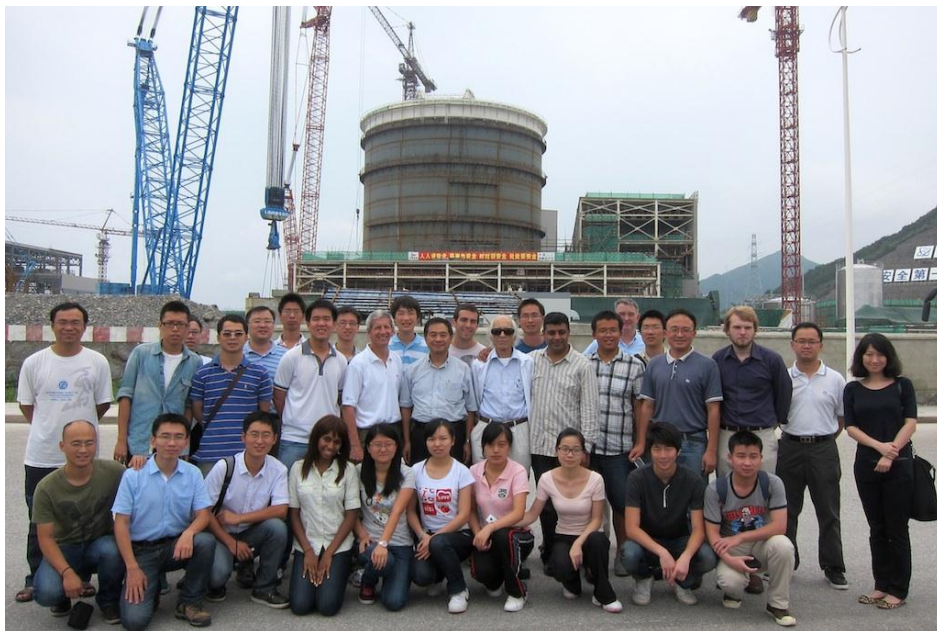
**Prof. Lumin Wang** of the University Michigan tabled a report that he was hosting a student and faculty delegation from the University of Michigan (UM) in China. This was the second summer that Prof. Wang took UM faculty/students to tour Chinese NPP and NPP construction sites. Prof. Wang would like to expand this program to include more US universities with ANS sponsorship in the future. A few photos from the tours are included here.



At Fuqing NPP Construction Site



At Sanmen NPP in Zhejiang



In front of AP-1000 Unit 1 in Sanmen



### ANS Chicago Local Section

The ANS Chicago Local Section and Exelon Nuclear held a Dinner/Meeting on Wednesday, August 29, 2012 at Exelon in Warrentonville, where [Dr. Totju Totev](#) made a presentation entitled “Learn About Spent Nuclear Fuel Management and Fuel Behavior in Dry Casks”.

Dr. T. Totev is a Nuclear Engineer/Manager with professional experience in the fields of licensing and license extension of nuclear power plants, research reactors and installations, development of advanced reactor thermal hydraulics and safety assessment method and codes, advanced nuclear fuels and materials, improvement of plant reliability, and probabilistic risk assessment (PRA).

### News from ANS Divisions

To further the implementation of the Joint Protocol between the IC and the Professional Divisions Committee, we are pleased to include in the Globe some newsworthy Division items. While some items can be gleaned from the Divisions’ web pages, please send us your most up-to-date and timely news to post in the *ANS Globe*!

### Fusion Energy Division (FED)

In the FED June 2012 Newsletter, [Lee Cadwallader](#), then FED Chair (now Past Chair, with [Minami Yoda](#) as the new Chair, reported on the Fusion Energy Division Statement that was sent to key members of Congress on April 10, 2012:

Dear Chairman Inouye, Vice Chairman Cochran, Chairman Feinstein and Ranking Member Alexander:

The Fusion Energy Division of the American Nuclear Society has a Statement on the proposed Department of Energy budget and its adverse effect upon the future of fusion energy research and development:

Research in nuclear fusion represents one of very few options for a long-term effort to provide a major source of energy to replace climate-changing fossil fuels and ensure America’s energy security. Fusion is one of the fundamental energy sources of the universe. Providing energy from fusion is a major scientific and technological challenge – in fact, it is one of the National Academy of Engineering’s Grand Challenges for Engineering – but the rewards of fusion power and the benefits of a sustainable domestic source of energy make it a challenge worth taking.

The FY-2013 budget request by the Administration endangers the United States’ domestic fusion program as well as our country’s scientific contributions to the ITER international project. If implemented, the FY-2013 budget reductions will deal a major blow to the U.S. fusion research program and further erode its leadership position. After years of operating on minimal budgets and essentially level funding, the U.S. fusion program cannot withstand the proposed reductions without significant negative impacts.

U.S. fusion researchers were told a few years ago that there would be some “belt tightening” to divert fusion research funds to ITER construction. Without any quantitative guidance from the DOE on belt-tightening, there was speculation that it might be 1% or perhaps even as much as a 5% budget reduction for a few years. The FY-2013 budget, however, proposes a 16% reduction (\$45 million) of fusion research funds, and DOE officials have given warnings that reductions of up to \$100 million more will be needed in the coming years. If the Administration’s FY-2013 budget is implemented, the DOE will close a unique fusion experiment, the Alcator machine at MIT, and the students and staff there will be dispersed. Deeper cuts in the future will disperse even more staff and students at institutions around the country who would use the ITER results, and greatly reduce the number of American engineers and scientists who will be educated and trained in fusion.

We urge the U.S. to consistently and adequately support the fusion research program as outlined in the Energy Policy Act of 2005 (PL 109-58, sec 971-972) and reverse this position, restoring funds to the domestic fusion program budget and, separately, fully funding this nation’s promised annual ITER contribution.

The path to discover commercially viable fusion energy is one of the grand scientific challenges of our time. With ITER under construction to explore the science of burning plasmas, the world fusion program is poised to enter its final era of research. Other nations, including China, the European Union, Japan, Russia, and South Korea, are forging ahead rapidly, investing heavily in their domestic fusion programs and in educating the next generation of fusion researchers. They are fully supporting ITER as well. The U.S. has consistently led the fusion field and should continue to do so. American leadership in fusion energy would be in the best interests of the U.S. and science itself.

## **Highlights from the 2012 June Meeting in Chicago, IL**

### **ANS Japan Relief Fund**

A special recognition ceremony was held at the President's special session on Monday afternoon. [ANS President Loewen](#) asked [Dr. Kazuaki Matsui](#) (representing AESJ) and [Mr. Kenji Tateiwa](#) (representing TEPCO) to stand together for recognition. Below are 2 photos which Dr. Matsui sent from Japan in an expression of gratitude to the ANS for its Japan Relief Fund established following the Fukushima accident.

**Water coolers and spring water to  
relieve thirst**

**Musts in hot and humid weather  
working environment of Summer**



[Dr. Kazuaki Matsui with water coolers](#)

**Humidifiers to provide moisture in the  
dry season of Winter**

***Thank ANS for JRF***



## SNPTC Welcome Night, June 25, 2012

“ANS is going to continue strengthening its relationship with the Chinese nuclear community,” said the ANS President (then Vice President/President-elect) [Dr. Michael Corradini](#) at the SNPTC Welcome Night on June 25, 2012 during the ANS 2012 Annual Meeting held June 24-28 in Chicago, Illinois. More than 50 ANS meeting attendees participated in this event. The representatives from the State Nuclear Power Technology Corporation (SNPTC) and Xi’an Jiao Tong University briefly introduced the latest status of the nuclear industry and nuclear engineering education in China. It should be noted that China has the largest number of commercial nuclear reactors under construction in the world. Dr. Corradini mentioned that he, as a representative of ANS, will visit China in September this year. During his trip to China, Dr. Corradini will meet his Chinese counterparts from professional societies, nuclear regulators, academia

and industry to promote cooperation in education, research and peaceful utilization of nuclear technology between two important players in global nuclear community. In his speech, Dr. Corradini noted that a visit of SNPTC’s engineers to University of Wisconsin at Madison on the subject of research in passive containment cooling was a good example of potential collaboration between research institutions from two countries. Dr. Corradini also encouraged his audience to work with the ANS to further promote awareness and understanding of civil applications of nuclear science and technology in both countries.



## INSC Meeting in Chicago

The International Nuclear Societies Council held a meeting on June 26 at the Chicago ANS meeting. An opportunity was taken to take the photograph below.

Seated left to right: John Roberts (CaNS, President), Jaime Pahissa-





Campa (AATN, INSC Secretary-Treasurer), Bernard Jolly (ENS, INSC Chair), Gustavo Alonso (MNS, INSC Past-Chair)

Standing left to right: Liangzhi Cao (ChNS), Frank Doyle (CaNS, Past President), Kazuaki Matsui (AESJ), Florence Lowe-Lee (KNS), Fred Boyd (CaNS), Ben Rouben (CaNS, Executive Director), Hisashi Ninokata (AESJ, INSC 1st Vice-Chair), Mike Diekman (ANS, INSC Secretariat), Victor Shian-Shing Shyu (NEST), Bill Burchill (ANS, INSC 2nd Vice-Chair)

Also attending but not in photo: Kiyoshi Yamauchi (AESJ), Corey K. McDaniel (ANS, Chair of IC)

## NUCLEAR ENERGY IN CROATIA

Zdenko Simic, Assistant Professor at the Faculty of Electrical Engineering and Computer Science, University of Zagreb, Croatia, was invited to give a presentation on Nuclear Energy in Croatia. Prof. Simic teaches courses in the field of energy technology and reliability and risk in power systems. In particular, his research is related to the nuclear power and renewable energy sources. Prof. Simic went twice for years-long training in the United States, and he has published more than a hundred scientific papers and articles. Currently he is chair of the Croatian Nuclear Society and the Croatian IEEE Reliability Chapter, and he is also a member of IEEE NPEC from last year. From this July he is going to be visiting scientist at the Joint Research Center Institute for Energy and Transportation related to the Experience European Clearinghouse on NPP Operational Experience Feedback.

The majority of Prof. Simic's presentation is reproduced below.

### NE in Croatia: Research, Operation, and Regulation



**Zdenko Simic**

University of Zagreb,

Faculty of EE and Computing, Croatia

ANS International Committee

June 2012. Chicago, IL, USA





## Croatia - Basic Facts (2009)

- ◊ Total area: 88 kkm<sup>2</sup>  
(55 kkm<sup>2</sup> land)
- ◊ Total population: ~ **4.5 M**
- ◊ GDP : **45 G€, 10 k€/per capita**
- ◊ Installed el. capacity: **4 GWe**
- ◊ Elec. consum.: **17,7 TWh**
- ◊ NPP Krško produces ~**5 TWh**  
(Slovenia & Croatia)

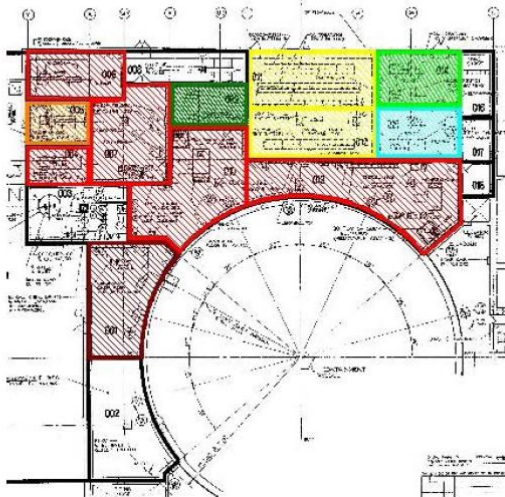


## NE Related Research at Faculty of Electrical Engineering and Computing

(tnx. to Davor Grgić)

## NPP Krsko EQ project

- Equipment selection
- Calculation of thermal-hydraulics and radiation parameters
- Source-term calculation
- Development of EQ zones for RB, AB and IB rooms
- Database with EQ data
- Codes used: RELAP, GOTHIC, ORIGEN, ELISA, QAD, DIDOS

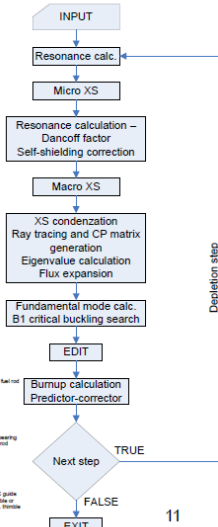


## IRIS activities

- Member since year 2000
- Responsibility for safety analyses coordination
  - Development and maintenance of plant nodalization
  - Coupled R5G SBLOCA calculation
- Support in preparation of SPES-3 testing
- Neutronics calculations/elements of core design

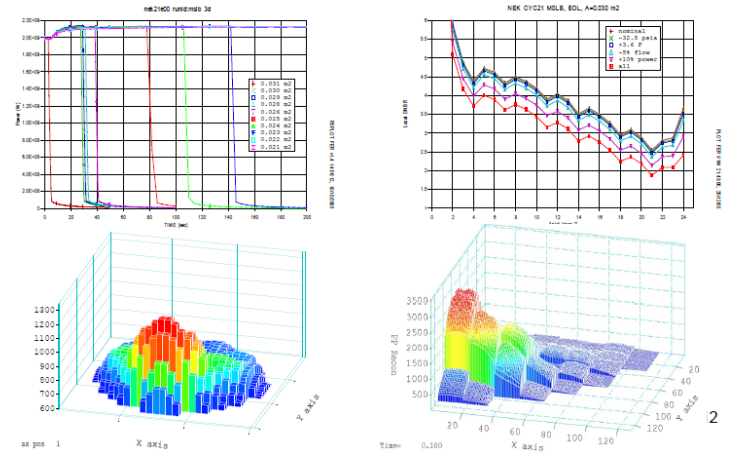
## Code development

- Coupled codes (th.sys+neut., th.sys+cont.)
- Fuel assembly transport code for neutron cross section calculation
- Development of advanced PSA tools and integration of on-line monitoring applications



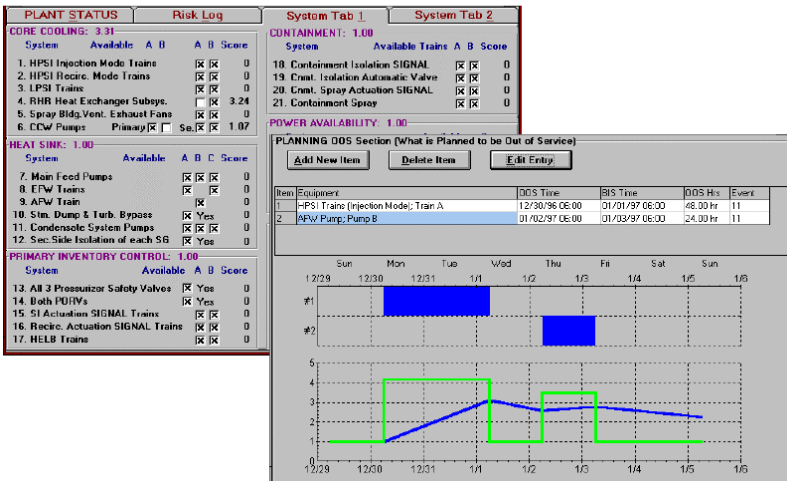
11

## Coupled code calculation



2

## On-line Risk Monitoring



## Probabilistic Safety Assessment (PSA)

- Level 1 i Level 2 support
- On-Line Risk Monitoring
- NEK PSA Supporting Analysis Calculations
- Modeling CCF Groups in NEK PSA Model
- Auxiliary Tool for Level 2 Quantification
- ESW/CCW Fault Tree Model Enhancements
- Other External Events Analysis Update
- NEK LPSA Event Tree Notebook
- Update of System Failure Probabilities for NEK Shutdown Safety Analysis
- Codes (PSA, On-Line RM):
  - RiskSpectrum, RiskMan, CAFTA, RiskWatcher, ...

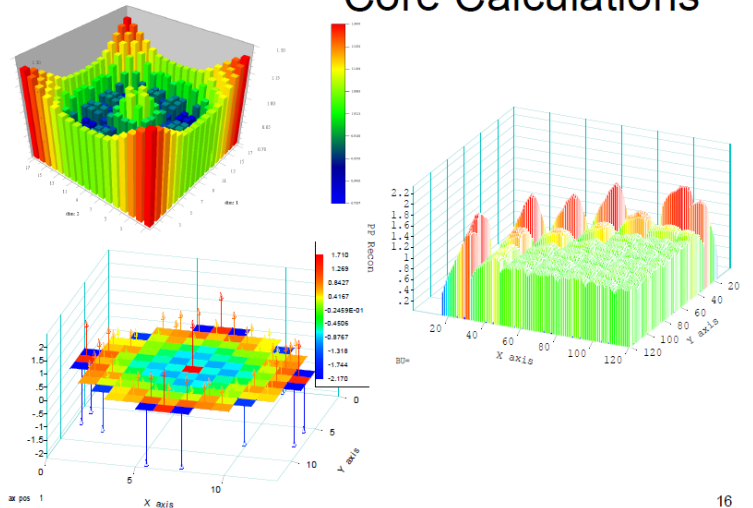
14

## Core design and fuel management

- Generation of XS data
- 3D nodal depletion
- Core limits and RSAC type calculation
- In-core fuel management

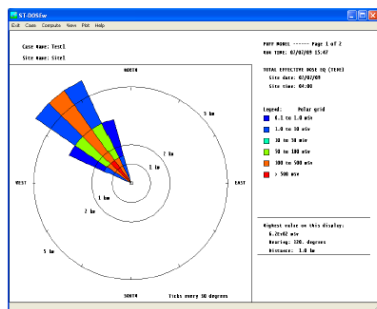
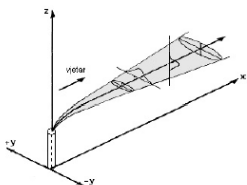
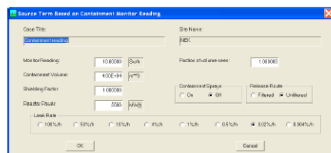
15

## Core Calculations



16

## Emergency Planning – Technical Support



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## Authorized institution for safety reviews

- Croatian State Office for Nuclear Safety
- Slovenian Nuclear Safety Administration
- Activities:
  - NEK TMI action plan
  - FSAR/USAR conversion
  - Safe Shutdown Assessment
  - NPP Krsko modernization – Software services
  - Simulator verification
  - PSR issues resolution
  - Modification reviews

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## International cooperation

- NRC, IAEA, OECD/CSNI
  - International Benchmarks
- University of Pisa, GRS
  - SUNCOP, uncertainty, user effects, scaling, experimental facilities
- POLIMI (IRIS, CFD)
- ISS (SCDAP Development and Training Program), Regional Training Centre
- Westinghouse (IRIS, NPP Krsko)
- Framatome ANP (PSA CCF)

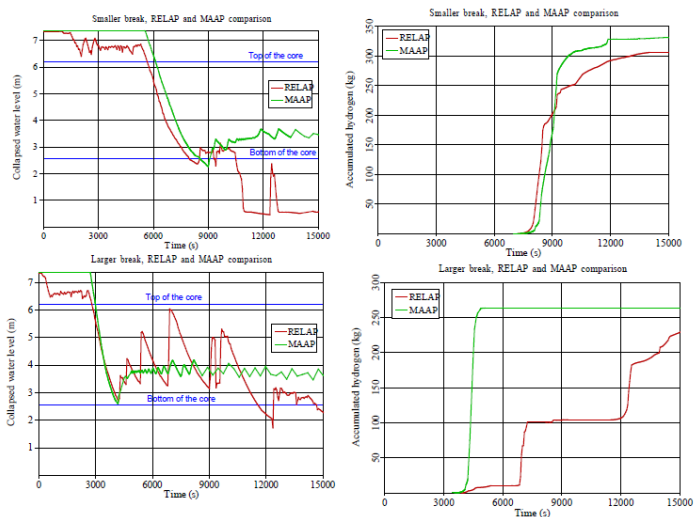
19

## Severe accident analyses

- Started in 2001.
- Participation in OECD/CSNI ISPs and Benchmarks
  - QUENCH and PHEBUS FPT experiments
    - validation of RELAP5/SCDAP code
- Application of SA codes to NPPs
- Recently, usage of MAAP code
- Initial usage of ASTEC code

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## Comparison of SCDAP/RELAP5 and MAAP results



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Nuclear Energy–Global Trends and Perspectives in  
South-East Europe



## CROATIAN ENERGY STRATEGY AND NUCLEAR POWER PROGRAMME

dr.sc. Kristina Čelić

Ministry of Economy, Labour and Entrepreneurship

Republic of Croatia

Podgorica, Montenegro, 10-12 May 2011

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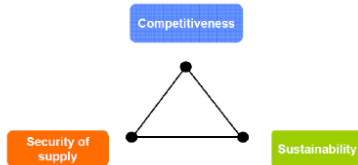




## BASIC CROATIAN ENERGY STRATEGY OBJECTIVES



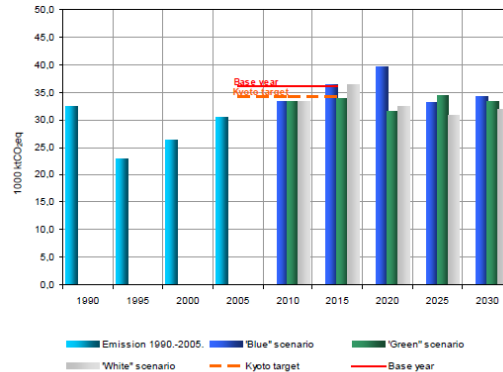
- ◆ National Energy Strategy is adopted by the Croatian Parliament on October, 16<sup>th</sup> 2009.
- ◆ The Croatian Energy Strategy has three basic energy objectives:
  - *Security of energy supply*;
  - *Competitiveness of energy sector*;
  - *Sustainable development*.



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## 3 SCENARIOS AND CO<sub>2</sub> EMISSIONS



- ◆ **Blue** scenario without NPP (gas, coal, RES);
- ◆ **NPP after 2020 in Green** (gas, NPP, RES) and **White** scenario (gas, coal, NPP, RES);
- ◆ After 2020 CCS technology included.

◆ Even with nuclear option Croatia will have difficulties meeting binding targets for CO<sub>2</sub> reduction until 2020 while maintaining security of supply and competitiveness.

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## NUCLEAR - PRESENT NATIONAL POSITION



- ◆ National Energy Strategy is adopted by the Croatian Parliament on October, 16<sup>th</sup> 2009 decided in favour of launching the Croatian Nuclear Energy Program (CRONEP), consistent with the IAEA methodology.
- ◆ Before making the decisions on building the nuclear power plant, it is necessary to perform preparation activities in accordance with the International Atomic Energy Agency (IAEA).
- ◆ Decision on the construction of a nuclear power plant will be taken by the Croatian Parliament.
- ◆ Plan is to decide on building the nuclear power plant by 2012 - not realistic but launching nuclear program has potentials and is in the process.

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## EXPERIENCE IN NUCLEAR



- ◆ The Republic of Croatia has previous nuclear experience and belongs to a group of countries that use nuclear power for energy purposes.
- ◆ Hrvatska Elektroprivreda (Croatian Power Utility) is co-owner of 700 MW NPP Krško in Slovenia.
- ◆ Croatian nuclear experience arises from:
  - more than 10 years of preparations and construction of NPP Krško;
  - 28 years of successful operation of NPP Krško;
  - preparation for construction of the first NPP in Croatia carried out until 1987 (NPP Prevlaka).
- ◆ Positive influence of NPP Krško construction and operation is still present in the Croatian industry.
- ◆ In 1987 NPP Prevlaka project was terminated after Chernobyl accident.

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## ROLE OF CRONEP



- ◆ The launching of the Croatian Nuclear Energy Programme comprises two basic goals:
  - providing for existence (co-existence) in immediate vicinity of two nuclear power plants and five nuclear reactors in NPP Krško and NPP Paks
  - providing for preconditions required for decision making and realization of nuclear power plant construction.
- ◆ Nuclear safety and public awareness will be in the focus of the CRONEP.

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REPUBLIC OF CROATIA  
STATE OFFICE FOR RADIOLOGICAL AND NUCLEAR SAFETY



**LICENSING PROCESS FOR NUCLEAR INSTALLATIONS IN THE REPUBLIC OF CROATIA**

**Saša Medaković,**  
State Office for Radiological and Nuclear Safety

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## 29 National Nuclear Infrastructure

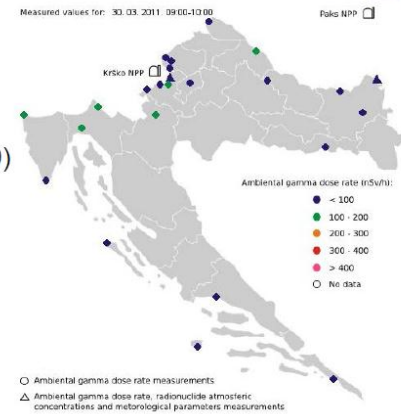
### Strategic Documents:

- **Energy Development Strategy (2010-2020)**
- Strategy implementation program (in preparation)
- Act on Radiological and Nuclear Safety (OG 28/2010)
- Nuclear Energy Act (not exist)
- Strategic decision by Parliament (not later then 2012)

REPUBLIC OF CROATIA  
STATE OFFICE FOR RADIOLOGICAL AND NUCLEAR SAFETY

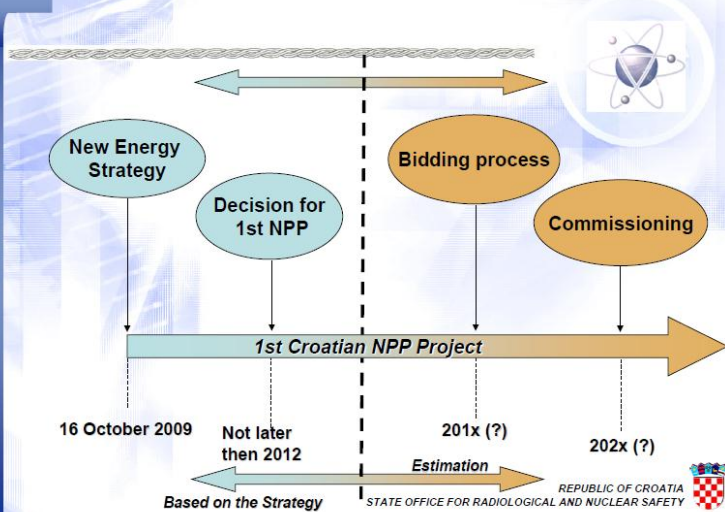
## 30 Updates since Publication of 2008 National Report

- Early warning system upgrade (2010)
- RODOS system instalation (2009)



REPUBLIC OF CROATIA  
STATE OFFICE FOR RADIOLOGICAL AND NUCLEAR SAFETY

## 31 Plans for Nuclear Power Introduction



Zdenko Šimić, HND/CNS President  
Activities and Experience from Media and Public Engagement

## CROATIAN NUCLEAR SOCIETY AND FUKUSHIMA

## Content

- About Croatian Nuclear Society
- Fukushima and CNS
  - Media Experience
  - Public Experience
- Risk Communication Lessons
  - 9<sup>th</sup> Int. Conference in Croatia – June 3-6, 2012

June 2012

Croatian Nuclear Society and  
Fukushima

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## About Croatian Nuclear Society

- Professional and scientific organization established in 1992
  - Almost 200 members
  - Close cooperation with national and international partners
    - IAEA, ENS, ANS, CNS, ...
  - Active with publications, lectures, and web portal
  - Organized 8 international conferences from 1996
  - 9<sup>th</sup> conference is planned for: June 3-6, 2012

June 2012

Croatian Nuclear Society and

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## Fukushima and CNS

The first reaction about tsunami at the Fukushima I NPP was published on CNS web site day after (www.nuklearno-drustvo.hr).

After that the accident progress was followed on daily basis with explanations, opinions, and predictions.

Major effort was to help public understand what is really going on, and what are the risks there, and in Croatia.

Media surprisingly welcomed this.

June 2012 Croatian Nuclear Society and Fukushima



## CNS web portal

Huge potential for new means of communication:

- Polls
- Social network (LinkedIn, Facebook)
- Tweeter
- But huge, and continuous effort is required!

What is changing with the establishment of a power outage at the location of NE Fukushima-Daiichi?

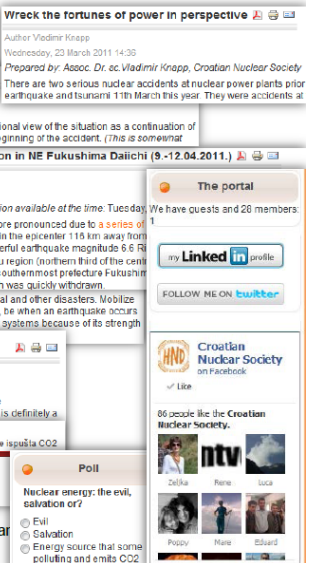
Author Davor Grigić Sunday, 20 March 2011 14:32

One of the first good news for NE Fukushima Daiichi of encountering a tsunami could be news about the preparations for the establishment of the AC power from the external network that is in progress. While it is definitely a step in the right direction should be aware that the ultimate goal is to have a self-sufficient power source.

Fukushima Daiichi after a month (amended)

Written by Zdenko Simić Monday, 11 April 2011 18:39

All have been slowly saturated situation in accidents affected Fukushima after the accident I will try to write something about the conditions and production of nuclear energy. Although a lot of evaluation about what is happening and to predict how Fukushima will develop.



## Media Experience

- Newspapers, radio, and TV networks were very eager to use information from the CNS web and get response from CNS governing board members
  - clarifications, comments, and opinion, about situation in Japan, and consequences to the world
    - Risk and energy related consequences
- Media is sometimes black and white, but if professional response is available they are listening

June 2012 Croatian Nuclear Society and Fukushima

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## Media Experience

TV media was especially interested to provide experts view to the public inside different types of program:

- News
- Various special programs

This is truth for both private and public networks.

It seems that there is potential to follow up on this interest. Especially with web channels.

June 2012 Croatian Nuclear Society and Fukushima

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## Public Experience

- Croatian Nuclear Society has organized public lectures before, but after Fukushima that was much more frequent:
  - Altogether five lectures about Fukushima accident and nuclear energy future, including
  - Ki-Sig KANG, IAEA: "Fukushima Daiichi Sever Accident – Causes and Development", April 21, 2011
- Plan is to continue with this kind of communication

June 2012 Croatian Nuclear Society and Fukushima



## Risk Communication Lessons

- This experience after Fukushima was very successful even without any special risk communication preparation
- Certainly with additional preparation and continuous effort results would be much bigger
- This is very important not only related to the momentary fear from the Fukushima or NPP Krško, but also related to the radioactive waste, and potential future use of NE in Croatia











June 2012 Croatian Nuclear Society and Fukushima

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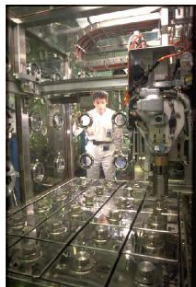
## TOUR OF FRENCH NUCLEAR FACILITIES

**Dominique Grenèche**, member of the ANS French Section, made a presentation on a Tour of French Nuclear Facilities, organised for US Professors. The presentation is reproduced herewith.

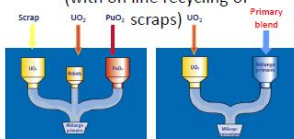
  <div style="border: 1px solid blue; padding: 10px; text-align: center;"> <b>Tour of French Nuclear Facilities For US Professors of Nuclear Engineering</b>              July, 8 – 14, 2012         </div> <p style="color: red;">Presentation to ANS International Committee – Chicago – June 24, 2012</p> <p style="text-align: center;">With the support of</p> <div style="display: flex; justify-content: space-around;">      </div>	<h3 style="text-align: center;">Participants</h3> <ul style="list-style-type: none"> <li>• <b>Yoursy</b> AZMY (North Carolina) US correspondent for the group</li> <li>• <b>Sukesh</b> AGHARA (Texas)</li> <li>• <b>Steven</b> ARNDT ( Maryland)</li> <li>• <b>Sama</b> BILBAO Y LEON (Virginia)</li> <li>• <b>Carlos</b> CASTANO (Missouri)</li> <li>• <b>Daniel</b> COLE (Univ. Pittsburg)</li> <li>• <b>Timothy</b> DEVOL (South Carolina)</li> <li>• <b>Eric</b> NORMAN (Calif. Berkeley)</li> <li>• <b>Mark</b> PIERSON (Virginia)</li> <li>• <b>Akira</b> TOKUHIRO (Idaho)</li> <li>• <b>Jasmina</b> VUJIC (Calif. Berkeley)</li> <li>• <b>Brian</b> WIRTH (Tennessee)</li> </ul> <p style="text-align: right;">+ Guest (accompanying persons)</p> <p style="color: red;">French guides :</p> <ul style="list-style-type: none"> <li>• Dominique GRENECHE (SFANS board member and Consultant)</li> <li>• Michel DEBES (President of the SFANS, from EDF)</li> </ul>
<h3 style="text-align: center;">Overall objectives of the tour</h3> <p>The objectives of this "Tour of French Nuclear Facilities" organized for US nuclear energy professors are in line with the chief goal of the French Section of ANS which is <u>to promote and develop exchanges about the status and knowledge of nuclear development and achievements in France and in USA in the different technical fields (operation and construction of reactors, fuel cycle, R&amp;D...)</u></p> <p><u>In this frame, this tour is intended to :</u></p> <ul style="list-style-type: none"> <li>• Provide to US Professors of nuclear engineering the relevant information on French nuclear programs that they could deliver and dispatch for the benefit of their students in US universities.</li> <li>• Enhance the mutual links between SFANS and ANS through the participation of US professors of nuclear engineering, most of them being active members of the ANS</li> <li>• Organize an <u>exchange views between respective academic programs and engineers training</u> courses in nuclear energy in France and USA.</li> </ul>	<h3 style="text-align: center;">Overview of the program</h3> <ul style="list-style-type: none"> <li>• <b>Monday 9</b> Saclay : INSTN and seismic test facility "Tamaris" + guest tour</li> <li>• <b>Tuesday 10</b> Marcoule : Melox (MOX fuel fabrication plant) and Atalante (hot labs for research on fuel cycle) + guest tour</li> <li>• <b>Wednesday 11</b> Châlon : large LWR components fabrication workshop + guest tour</li> <li>• <b>Thursday 12</b> Bure : deep underground research laboratory for waste disposal (HLW) + guest tour</li> <li>• <b>Friday 13</b> La Hague reprocessing plant and the EPR construction site + guest tour</li> <li>• <b>Saturday 14</b> The "D-day" landing beaches in Normandy</li> </ul> 
<h3 style="text-align: center;">Saclay : the Institute for Nuclear Sciences and technologies (INSTN)</h3> 	<h3 style="text-align: center;">The MELOX Plant (Marcoule)</h3> 



## THE MELOX PLANT



Powder blending is the key to the MELOX process (with on line recycling of scraps)



- Pressing
- Sintering
- Grinding
- Cladding

## The Atalante research laboratory (Marcoule)



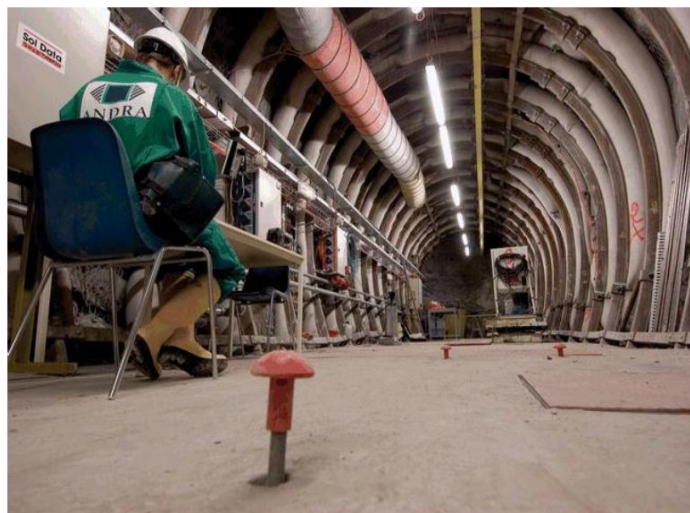
## The large LWR components fabrication facility (Chalon)



## Underground research laboratory for disposal of HLW\* - (Bure, Meuse – Haute Marne) - ANDRA



\* High level radioactive waste





The La Hague plant  
(Near Cherbourg, Manche)



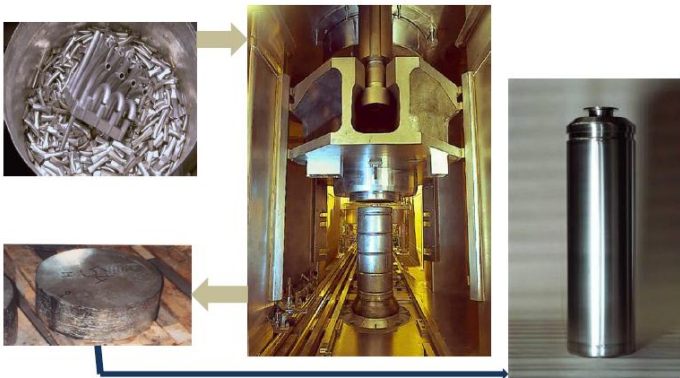
The unloading storage pool



Presentation for US Professors  
- July 2012 - D GRENECHE

## The compacting process

(hulls, end-pieces, technological waste, ...)



Presentation for US Professors  
- July 2012 - D GRENECHE

## Vitrified waste (FP + MA) at La Hague



A robust solution proven with french experience feedback at the former reprocessing plant of Marcoule : 40 years of storage without any safety problem).

Presentation for US Professors  
- July 2012 - D GRENECHE

## The EPR construction site (Flamanville, Manche - Feb. 2010)



## **Societies with Collaboration Agreements with ANS**

The following is a list of nuclear societies with collaboration agreements with the ANS, along with the corresponding website addresses. The Table contains also a few other entries of interest to ANS International Committee members.

<b>Society</b>	<b>Website or E-Mail Address</b>
Asociación Argentina de Tecnología Nuclear	<a href="http://www.aatn.org.ar">www.aatn.org.ar</a>
Associação Brasileira de Energia Nuclear	<a href="http://www.aben.com.br">www.aben.com.br</a>
Association des Ingénieurs en génie atomique du Maroc	-
Atomic Energy Society of Japan	<a href="http://wwwsoc.nii.ac.jp/aesj/index-e.html">wwwsoc.nii.ac.jp/aesj/index-e.html</a>
Australian Nuclear Association	<a href="http://www.nuclearaustralia.org.au">www.nuclearaustralia.org.au</a>
Bangladesh Nuclear Society	-
Bulgarian Nuclear Society	<a href="http://www.bgns.bg">www.bgns.bg</a>
Canadian Nuclear Society	<a href="http://www.cns-snc.ca">www.cns-snc.ca</a>
Chinese Nuclear Society	<a href="http://www.ns.org.cn">www.ns.org.cn</a>
Croatian Nuclear Society	<a href="http://www.nuklearno-drustvo.hr/en/home.html">www.nuklearno-drustvo.hr/en/home.html</a>
Czech Nuclear Society	<a href="http://www.csvts.cz/cns">www.csvts.cz/cns</a>
European Nuclear Society	<a href="http://www.euronuclear.org">www.euronuclear.org</a>
Hungarian Nuclear Society	<a href="http://www.kfki.hu/~hnucsoc/hns.htm">www.kfki.hu/~hnucsoc/hns.htm</a>
Indian Nuclear Society	<a href="http://www.indian-nuclear-society.org.in">www.indian-nuclear-society.org.in</a>
Israel Nuclear Society	<a href="mailto:meins@tx.technion.ac.il">meins@tx.technion.ac.il</a>
Korean Nuclear Society	<a href="http://www.nuclear.or.kr/e_introduce.php">www.nuclear.or.kr/e_introduce.php</a>
Lithuanian Energy Institute	<a href="http://www.lei.lt">www.lei.lt</a>
Malaysian Nuclear Society	<a href="http://www.nuklearmalaysia.org/index.php?id=18mnu=1">www.nuklearmalaysia.org/index.php?id=18mnu=1</a>
Nuclear Energy Society of Kazakhstan	<a href="http://www.nuclear.kz">www.nuclear.kz</a>
Nuclear Energy Society of Russia	<a href="mailto:ns@kia.ru">ns@kia.ru</a>
Nuclear Energy Society of Slovenia	<a href="http://www.drustvo-js.si">www.drustvo-js.si</a>
Nuclear Energy Society of Thailand	<a href="http://www.nst.or.th">www.nst.or.th</a>
OECD/Nuclear Energy Agency	<a href="http://www.nea.fr">www.nea.fr</a>
Polish Nuclear Society	<a href="http://www.ptn.nuclear.pl">www.ptn.nuclear.pl</a>
Romanian Nuclear Energy Association	<a href="http://www.aren.ro">www.aren.ro</a>
Romanian Society for Radiological Protection	<a href="http://www.srrp.ro">www.srrp.ro</a>
Slovak Nuclear Society	<a href="http://www.snus.sk">www.snus.sk</a>
Sociedad Nuclear Española (SNE)	<a href="http://www.sne.es">www.sne.es</a>
Sociedad Nuclear Mexicana	<a href="http://www.sociedadnuclear.org.mx">www.sociedadnuclear.org.mx</a>
Ukrainian Nuclear Society	<a href="http://www.ukrns.odessa.net">www.ukrns.odessa.net</a>
United Kingdom Nuclear Institute	<a href="http://www.nuclearinst.com/ibis/Nuclear%20Institute/Home">www.nuclearinst.com/ibis/Nuclear%20Institute/Home</a>
Women in Nuclear – Global	<a href="http://www.win-global.org">www.win-global.org</a>
<b>Affiliated National Societies</b>	<b>Website or E-Mail Address</b>

Belgian Nuclear Society	<a href="http://www.bns-org.be">www.bns-org.be</a>
<b>Associated Nuclear Organizations</b>	<b>Website or E-Mail Address</b>
International Nuclear Societies Council	<a href="http://insc.ans.org">http://insc.ans.org</a>
Pacific Nuclear Council	<a href="http://www.pacificnuclear.net/pnc/">http://www.pacificnuclear.net/pnc/</a>
<b>Non-U.S. Local Sections</b>	<b>Website or E-Mail Address</b>
Austrian Section	
French Section	<a href="http://local.ans.org/france/">http://local.ans.org/france/</a>
India Section	<a href="http://local.ans.org/india/">http://local.ans.org/india/</a>
Italian Section	
Japanese Section	
Latin American Section	<a href="http://www.las-ans.org.br">www.las-ans.org.br</a>
Korean Section	
Swiss Section	
Taiwan Section	<a href="mailto:u805301@taipower.com.tw">u805301@taipower.com.tw</a>

## Calendar of Events

Some Upcoming International Conferences on Nuclear and Related Topics  
(Please send us information about your upcoming conferences, for inclusion in this space.)

### **Legend:**

✱ **ANS Event**

□ **Non-ANS event co-sponsored by ANS**

o **For all other conferences, ANS is NOT a sponsor, nor are these conferences endorsed by ANS.**

## **2012**

- 25 October, Annual Conference on “Information and Education of the Public for Nuclear Emergencies Situations”, Bucharest, Romania, organized jointly by the Romanian Society on Radiological Protection and the Romanian Association of Nuclear Energy - [www.srrp.ro](http://www.srrp.ro).
- 7-9 November, 2<sup>nd</sup> International Technical Meeting on Small Reactors, Ottawa, Ontario, Canada – organized jointly by the Canadian Nuclear Society and Atomic Energy of Canada Limited - <http://www.cns-snc.ca/events/2tm/>
- 7-9 November, 23<sup>rd</sup> Annual Conference of the Indian Nuclear Society (INSAC-2012), Mumbai, India - [www.npcil.co.in/insac-2012.com](http://www.npcil.co.in/insac-2012.com)
- 11-14 November, 7th CNS International Conference on Steam Generators, Heat Exchangers, Pumps, Valves & Controls and Other Nuclear Plant Components



(SHPVC 2012), Toronto, Ontario, Canada – <http://cns-snc.ca> .

- 11-15 November: ANS Winter Meeting and Nuclear Technology Expo, San Diego, CA, USA – <http://www.ans.org/meetings> ☀
- 5-7 December: “Nuclear Safety Post Fukushima”, Washington, DC – <http://www.informationforecastnet.com/nuke11>
- 9-12 December: European Nuclear Conference 2012 (ENC 2012), Manchester, UK – <http://www.enc-2012.org>




## 2013

- 1-2 February: Severe Accident Analysis and Management Symposium, IIT Kanpur, India - [www.iitk.ac.in/saam](http://www.iitk.ac.in/saam)
- 3-6 February: CONTE Conference on Nuclear Training and Education, Jacksonville, FL, USA – <http://www.ans.org/meetings> ☀
- 17-20 February: Conference on Public Information Materials Exchange (PIME-2013), Zürich, Switzerland – <http://www.euronuclear.org/events/pime/pime2013/index.htm>
- 24-28 February: WM2013 Conference – International Collaboration and Continuous Improvement, Phoenix, AZ, USA – [www.wmsym.org](http://www.wmsym.org)
- 25-28 February: Nuclear and Emerging Technologies for Space 2013 (NETS 2013), Albuquerque, NM, USA ☀
- 13-15 March: 5<sup>th</sup> International Conference on Education and Training in Radioprotection (ETRAP-2013), Vienna, Austria – <http://www.euronuclear.org/events/etrap/etarp2013/index.htm>
- 7-11 April: Decommissioning Challenges Conference, Avignon, France – [www.sfen.fr](http://www.sfen.fr)
- 14-18 April: 2013 International Congress on Advances in Nuclear Power Plants (ICAPP'13), Jeju, Republic of Korea - [http://www.new.ans.org/meetings/m\\_178](http://www.new.ans.org/meetings/m_178) □
- 15-17 April: PSAM Topical Conference in Tokyo, in Light of the Fukushima Daiichi Accident, Tokyo, Japan, <http://www.psam2013.org/>
- 21-25 April: European Research Reactor Conference 2013 (RRFM-2013), Saint Petersburg, Russian Federation

- 28 April-2 May: International High-Level Radioactive Waste Management, Albuquerque, NM, USA ☀
- 5-9 May: Mathematics and Computation 2013, Sun Valley, ID, USA, <http://www.mc2013.org> ☀
- 12-16 May: NURETH-15 (15<sup>th</sup> International Topical Meeting on Nuclear Reactor Thermalhydraulics), Pisa, Italy □
- 27-29 May: 3<sup>rd</sup> Climate Change Technology Conference, Montréal, Québec, Canada – <http://www.CCTC2013.ca>
- 9-12 June: 34<sup>th</sup> Annual Conference of the Canadian Nuclear Society and 37<sup>th</sup> CNS/CNA Student Conference, Toronto, Ontario, Canada – <http://www.cns-snc.ca>
- 16-20 June: ANS Annual Meeting, Atlanta, GA – <http://www.ans.org/meetings> ☀
- 29 July-August 2: 2013 21<sup>st</sup> International Conference on Nuclear Engineering, Cheng Du, China - <http://www.asmeconferences.org/icon21/>
- 11-15 August: 16th Environmental Degradation of Materials in Nuclear Power Systems-Water Reactors, Asheville, NC, USA
- 9-12 September, 22nd International Conference Nuclear Energy for New Europe, Bled, Slovenia, organized by the Nuclear Society of Slovenia - [www.nss.si/nene2013/](http://www.nss.si/nene2013/) □
- 22-26 September: International Topical Meeting on Probabilistic Safety Assessment and Analysis (PSA 2013), Columbia, SC, USA - <http://www.ans.org/meetings> ☀
- 22-26 September: Decommissioning Challenges Conference 2013, Avignon, France (organized by the French Nuclear Society)
- 29 September – 3 October: Global 2013, Salt Lake City, UT, USA □
- 20-23 October: 63<sup>rd</sup> Canadian Chemical Engineering Conference, Fredericton, New Brunswick, Canada – <http://www.csche2013.ca>
- 27-31 October: SNA + MC 2013, Joint International Meeting on Supercomputing in Nuclear Applications and Monte Carlo, Paris, France – <http://www.sfen.fr/SNA-and-MC-2013>



- 10-14 November: ANS Winter Meeting, Washington, DC, USA –   
<http://www.ans.org/meetings>



## 2014

- 25-27 May: 10<sup>th</sup> International CNS Conference on CANDU Maintenance, Toronto, Ontario, Canada (CMC-2014) - <http://www.cns-snc.ca/events/cmc-2014/>
- 15-19 June: ANS Annual Meeting, Reno, NV, USA – <http://www.ans.org/meetings> ☀
- 24-28 August: 19<sup>th</sup> Pacific Basin Nuclear Conference (PBNC-2014), Vancouver, British Columbia, Canada (organised by Canadian Nuclear Society) - <http://www.cns-snc.ca/events/pbnc-2014/>
- 24-28 August: 8<sup>th</sup> International Conference on Isotopes (8ICI), Chicago, IL, USA
- 9-13 November: ANS Winter Meeting, Anaheim, CA, USA – <http://www.ans.org/meetings> ☀

## 2015

- 26-30 April: 2015 International Topical meeting on Probabilistic Safety Assessment and Analysis (PSA 2015), Sun Valley, ID, USA – <http://www.new.ans.org/meetings/> ☀

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\*Co-Editors of *ANS Globe*

## 2013 Elections to ANS Board

### Nominating Committee Selects 2013 Candidates

#### Vice President / President-Elect Candidates

The ANS Nominating Committee has selected as the candidates for Vice President / President-Elect: Michael C. Brady Raap (PNNL) and K. Michael Goff (Idaho National Laboratory).

#### Treasurer Candidates

The Nominating Committee has selected as the candidates for Treasurer (a two-year term): Margaret E. Harding (4 Factor Consulting LLC) and Michael J. Lineberry (Idaho State University).

### **Board of Directors Candidates**

The ANS Board of Directors each serve a three-year term that begins and ends during an ANS Annual Meeting. The ANS Bylaws and Rules require that U.S. and non-U.S. members be proportionately represented; therefore, in the 2013 election, there are four U.S. Director At-Large, and one non-U.S. Director At-Large positions to be filled.

#### **U.S. Director At-Large Position Candidates**

Nominated to run for the U.S. Director At-Large positions are: Yousry Y. Azmy (North Carolina State University), Heather J.M. Chichester (Idaho National Laboratory), Darby S. Kimball (Bechtel National, Inc.), Travis W. Knight (University of South Carolina), Kurshad Muftuoglu (GE Hitachi Nuclear Energy), Paul A. Murray (Areva Federal Services), Mark T. Peters (Argonne National Laboratory), Kenneth S. Petersen (Exelon Nuclear), and Joseph A. Zwetolitz (Westinghouse Electric Company).

#### **Non-U.S. Director At-Large Position Candidates**

Nominated to run for the Non-U.S. Director At-Large – Americas (except US) – position are: Odilon A. Marcuzzo do Canto (ABACC) and Jorge Spitalnik (UPADI).

Directors whose terms will end in June 2013 are: Carol L. Berrigan, Sama Bilbao y Leon, Jack S. Brenizer, Eric P. Loewen, Daniel A. Meneley, Amir Shahkarami.

In addition to Chair Eric P. Loewen, members of this year's Nominating Committee included: Local Sections Committee Chair Robert Penn, Professional Divisions Committee Chair Hans Gougar, Todd Allen, Shannon Bragg-Sitton, Peter Caracappa, Jeff Halfinger, Sandra Sloan, and Paul Wilson.

#### **Nominating by Petition**

Members have the option to Nominate by <Petition>. Candidates, other than individuals on the Nominating Committee's slate, may be nominated by petition for Officer and Director vacancies. Acceptable petitions must:

- \* Be signed by 200 or more ANS voting members;
- \* Contain the original signature of each petitioner;
- \* Have the nominee's written consent; and
- \* Be in the Office of the ANS Executive Director at least 22 weeks prior to the Annual Meeting.

Petitions for the 2013 national election are due at ANS Headquarters no later than January 14, 2013 (no extensions).

#### **Voting**

Ballots for the 2013-2014 election will be mailed on March 4, 2013. As ratified by the ANS membership in June 1997, there is no longer balloting at the Annual Meeting. Therefore, the mail ballots for the Board of Directors election must be returned and received no later than 12 noon on Tuesday, April 16, 2013.