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NUCLEAR AUSTRALIA

**NEWSLETTER OF THE
AUSTRALIAN NUCLEAR ASSOCIATION**

EDITORIAL

New CEO at ANSTO – Dr Ziggy Switkowski, Chairman of the Australian Nuclear Science and Technology Organisation (ANSTO) announced in December that Dr Adrian Paterson had been appointed as the new CEO to commence on 1 March 2009. Dr Paterson is currently the General Manager, Business Development and Operations, at the Pebble Bed Modular Reactor Company in South Africa. He has a BSc in Chemistry and a PhD in Engineering from the University of Capetown.

Dr Paterson worked at the Department of Science and Technology from 2001 to 2006 in various science policy roles including the development of national innovation instruments and R & D strategy. From 1984 to 2001, Dr Paterson worked at the Council for Scientific and Industrial Research (South Africa's equivalent to CSIRO), rising through a number of assignments to the position of Executive Vice-President and Chief Information Officer. Dr Paterson therefore brings strong scientific credentials, especially in the fields of materials science, wide experience in working with government and contributing to national policy development, attractive partnering and commercialization skills and a successful history of technical leadership and organizational change. Dr Paterson is 52 and married with two sons who are presently studying at university. He will relocate with his wife to Sydney.

Dr Switkowski also thanked Dr Ron Cameron, ANSTO's Acting CEO since May 2008, for his contributions through a period of organizational restructuring combined with budget and operational challenges.

Provisional Technical Program for 2009 – The ANA Committee will be meeting on 15 January to complete the program of technical meetings for 2009 in association with the Nuclear Panel of the Sydney Branch of Engineers Australia. Therefore the program listed on page 3 is a provisional program. However, the first meeting known as the Four Societies Meeting is firm and will be held at the Engineers Australia lecture theatre in Chatswood on 25 February and details are given on page 3. Also the next ANA National Conference, ANA 2009, is firmly booked for 2 October, and the ANA Committee will start planning the technical program for this conference at its meeting on 15 January.

WNA Nuclear Fuel Cycle Conference – The World Nuclear Association (WNA) has announced further details of its World Nuclear Fuel Cycle Conference (WNFC 2009) held in association with the NEI (Nuclear Energy Institute) and which will be held in Sydney at the Sheraton on the Park Hotel from 22-24 April 2009. There will be meetings of the WNA's Working Groups on 19-21 April, General Technical Sessions on 22-23 April, and post conference visits to ANSTO, the Olympic Dam mine and the Ranger mine from 24-28 April. For additional information contact the WNA website at: www.world-nuclear.org

RECENT AUSTRALIAN AND INTERNATIONAL NEWS

Australian News

(Sources: World Nuclear News Weekly Digests – Nov./Dec.2008)

Western Australia opens the door to uranium development following the election in September of a new Liberal-National Party government in the state which covers nearly one-third of the country. The previous government was ideologically opposed to uranium mining.

BHP Billiton announced in November 2008 that it is commencing a new drilling program to re-define the ore resource at Yeelirrie in WA, as well as starting community discussions on its development. Yeelirrie was discovered in 1972 and is the world's largest shallow calcrete uranium deposit with a previously indicated resource of 44,000 tU.

Energy Resources of Australia (ERA) outlined its developments at the Ranger site in the NT in announcements in November 2008. ERA is commissioning its laterite treatment plant to treat 1.6M tonnes of stockpiled ore with too high a clay content to be used without pre-treatment. The A\$44M plant is expected to add 340tU/year to production for seven years. ERA is also commissioning a new A\$19M radiometric ore sorter which will increase the head grade treated by the main plant. A feasibility study is also underway into a major heap leach operation for low grade ore with the prospect of recovering up to 17,000tU. ERA has been drilling for two years to identify a possible extension of its No.3 orebody. It has defined a Ranger 3 Deeps exploration target in the range of 15-20M tonnes, potentially containing up to 34,000tU. The mineralised zone has a strike length of about 1.2km between 250 and 550m deep, immediately east of the present pit.

Uranium One (based in Canada) has committed to begin production at its Honeymoon deposit in South Australia in 2010. The company has entered into an engineering, procurement and management contract with Ausenco for the in-situ leach project.

International News

(Sources : ANS Nuclear News, WNA News Digests, Nuclear Engineering International)

South Africa – The contract to undertake the engineering, procurement and construction management services for the 165MWe demonstration Pebble Bed Modular Reactor (PBMR) at Koeberg was awarded to the joint venture company Murray & Roberts SNC- Lavalin Nuclear Pty Ltd in August 2008. The value of the contract is US\$244M. Start of construction is scheduled for 2010 with completion in 2014. The start of production of the graphite feedstock to support the core for the plant by SGL Carbon of Germany was approved by South Africa's nuclear regulator.

Vietnam – Plans to build the first two nuclear stations of 1000MWe each in the southern province of Ninh Thuan were discussed by the country's Ministry of Industry and Trade at an international forum in Hanoi in October 2008. Commercial operation of the two units is scheduled for 2020 and 2021, with the possibility of a further two stations operating in 2021 and 2022. In 2007, the Prime Minister approved a national energy strategy that foresaw nuclear power accounting for 15-20% of Vietnam's total power output by 2050. It is interesting to note that the Vietnam Atomic Energy Society recently joined as a full member of the Pacific Nuclear Council.

USA Progress Report – The WNA reported in Dec. 2008 that the USNRC had received 17 applications for combined Construction and Operating Licences (COLs) to build 26 new nuclear reactors, plus a number of applications to extend operating lifetimes for existing plants from 40 to 60 years. The COLs cover five types of reactor, eg. AP1000, USAPWR, ABWR, ESBWR, and USEPR (based on the French-designed EPR). The USNRC has taken on a large number of new staff to evaluate these proposals, many of which have requested US government loan guarantees.

ANA NEWS

PROVISIONAL TECHNICAL PROGRAM FOR 2009

The details of all of the technical talks in the combined program of the ANA and the Nuclear Panel of the Sydney Branch of Engineers Australia for 2009 have not yet been finalised so the program opposite is a provisional program. Further information will be provided in the next Newsletter.

The Four Societies Meeting

25 February 2009, 5.30 for 6.00pm at
Engineers Australia Lecture Theatre,
8 Thomas St, Chatswood, NSW

“An industry update on global nuclear power and the opportunities for Australia” by Dr Selena Ng, AREVA

Countries worldwide are committing to nuclear power as part of their future energy mix as they struggle to meet increasing electricity demands in a competitive and secure way while reducing their carbon emissions. In Australia, nuclear power, uranium mining, nuclear weapons, and radioactive waste make appearances on the public and political agenda from time to time, although the issues are often confused, and clouded by conflicting "facts". This talk will aim to set the record straight from an industry perspective, covering some of the long-argued topics such as proliferation, safety, and waste. It will also look at projected industrial developments over the coming decades, and the opportunities for Australia to get involved.

Dr Selena Ng is responsible for developing AREVA's nuclear activities in Australia. Prior to returning to Australia in 2007, she spent a number of years at AREVA's headquarters in Paris, dealing with the recycling of used nuclear fuel and waste management, as well as nuclear non-proliferation about which she has presented papers at various international forums. She holds a BSc (Hons) from Monash University, a PhD in theoretical physics from the University of Cambridge, and a diploma in management from the Collège des Ingénieurs.

25 March (Wednesday) Host: Nuclear Panel at 5.30 for 6.00pm at Engineers Australia Lecture Theatre, 8 Thomas St, Chatswood, NSW.

“The Nuclear Education Program for Schools”
by speaker from ANSTO to be advised.

24 April (Friday) Host: ANA at the AINSE Theatre, Lucas Heights, at 12.30pm.
Topic and speaker to be advised.

27 May (Wednesday) Host: Nuclear Panel at 5.30 for 6.00pm at Engineers Australia Lecture Theatre, 8 Thomas St, Chatswood, NSW.

“The Japanese Nuclear Power and Fuel Cycle Programs” by Dr Clarence Hardy, ANA.

25 June (Thursday) Host: ANA at the AINSE Theatre, Lucas Heights, at 12.30pm.

“ANSTO’s Environmental Program”
by speaker to be advised.

22 July (Wednesday) Host: Nuclear Panel at 5.30 for 6.00pm at Engineers Australia Lecture Theatre, 8 Thomas St, Chatswood, NSW.

“The ITER Fusion Program”
by speaker to be advised.

28 August (Thursday) Host: ANA at the AINSE Theatre, Lucas Heights, at 12.30pm.

ANNUAL GENERAL MEETING
followed at 1.00pm by **“Risks and Benefits of Low Level Radiation”** by Dr Don Higson, ANA.

23 September (Wednesday) Host: Nuclear Panel at 5.30 for 6.00pm at Engineers Australia Lecture Theatre, 8 Thomas St, Chatswood, NSW.
Topic and speaker to be advised.

2 October (Friday) Host: ANA for **ANA 2009 National Conference**, Mechanics Institute, Pitt St, Sydney, 9.30 to 5pm.

30 October (Friday) Host: ANA Annual Lunch and Award Presentation, Vamps Restaurant, Paddington, 12.30pm

REPORTS ON MEETINGS

Progress Report on PNC and 17PBNC

The last meeting of the Pacific Nuclear Council (PNC) at which Dr Hardy completed his two-year term as President, was held in Aomori, Japan, on 13 Oct. 2008 in association with the 16PBNC. The next two meetings of the PNC under the Presidency of Professor Kang of Korea will be held in Seoul on 8 April 2009 in conjunction with the Korea Atomic Industrial Forum, and in Washington on 15 November 2009 in conjunction with the ANS Winter Meeting. The next PBNC, the 17th, will be held in Cancun, Mexico, in October 2010, when Professor Francois of the Mexican Nuclear Society will become the PNC President.

Legalwise Seminar, Sydney, 12 November 2008

This Seminar with the theme “**Putting a Price on Carbon: Implications for the Legal Industry and Greater Business World**” was held at the Radisson Plaza Hotel, Sydney. The ANA was invited to put forward a speaker on nuclear energy and Dr Don Higson volunteered to speak on: “**The Option of Nuclear Power as a Carbon Control Strategy**” to an audience mainly of lawyers. Dr Hardy and Dr McDonald also attended and can report that Dr Higson’s presentation was well received.

Obituaries

The ANA regrets to have to inform members of the recent deaths of two of its long-standing members, Mr Ken Horlock and Mr Bill Wiblin. Mr Horlock died in a car accident near his home on 3 December, and Mr Wiblin died on 29 November after a long illness. Both were long time staff of the Australian Atomic Energy Commission and ANSTO. Mr Horlock made a major contribution to Australian Radioisotopes and to the HIFAR and OPAL reactors, even after “retirement”, while Mr Wiblin had a long career in the applications of radioisotopes in many important fields. The ANA’s condolences are expressed to their families.

Report on Nuclear Panel Meeting, 26 November, Engineers Australia Lecture Theatre, Chatswood

Professor V.G. Agelidis, Professor of Power in Engineering, University of Sydney, spoke on Modernising Education in Power Engineering. He included comments on education in nuclear engineering which he considered was essential to enable people to make informed decisions and to understand the impact of the many factors involved.

When he joined the University of Sydney in 2007 he saw his objective as modernising education in power engineering for the 21st Century. The university then had a basic undergraduate program, and he introduced a Master’s program in 2008 and aims to produce high quality graduates and post graduates to fill the expanding needs of industry in this field, especially in intelligent grid infrastructure, renewable energy systems, energy efficiency and sustainable energy. He has worked internationally in these fields for many years,

He saw the need for education in power engineering in the real world, not with lecture courses full of equations. So he set about gaining sponsorships to set up a real power engineering laboratory with help from Energy Australia which endowed his Chair.

Professor Agelidis commented that at present half the world’s population, ie. over 3.5B, live on less than \$2/day, and 1.6B have no access to electricity. Many live in extreme poverty. Many are very reliant on fossil fuels for energy. We live in a very affluent world and can improve not only our own living standards but that of many of those billions overseas. We need education in general and education in energy efficiency and alternatives to fossil fuels, of which nuclear energy is just one of a mix needed for the 21st Century. He sees his role as an educator providing engineering education with real laboratory equipment not just the classical tools of universities in past ages.

The attendees were stimulated to ask a lot of questions. Good luck to Professor Agelidis’ success.