



European Nuclear Society
e-news Issue 7 Winter 2005

In this issue

As the tide of public opinion continues to turn, gradually but noticeably, in favour of nuclear energy, Issue N° 7 of ENS News kicks off the New Year with a bulletin that reflects the industry's current mood of optimism. It is also an issue full of poignant contrasts. While its main focus is on the challenges that lie ahead, it also takes time to reflect on the past, following sad news of the recent death of an old friend, former President of the Slovak Nuclear Society and champion of the nuclear cause, Jiri Suchomel.

So, what can we expect in 2005? Well, it promises to be an interesting one. For example, 2005 is "Physics Year" - an occasion that could provide us with a springboard for increasing the visibility and credibility of the nuclear industry. 2005 will also reveal whether the recent favourable reappraisal of nuclear energy - and its growing acceptance among Europe's citizens - will continue to gather momentum. By the summer, EU-25 will have been in existence for a year and the new European Parliament will have completed the first twelve months of its mandate. We will be able to take stock and assess whether and how enlargement has effected the nuclear industry. 2005 could prove to be a watershed year.

The ENS News section begins with a message of best wishes for the New Year from the President. It also includes an obituary in honour of Jiri Suchomel, written by NucNet. The regular *Listening to Others* feature has been renamed *Tapping Unusual Sources*, in order to better reflect the kind of offbeat subjects it has always covered.

The ENS Events section features a look back at the successful European Nuclear Assembly (ENA), organised by Foratom, that took place last November, and a look forward to the main ENS events in 2005, i.e. PIME, RRFM and ETRAP and ENC 2005 in Paris.

News from the member societies in Germany is followed by YGN reports on their current activities and on the Belgoproccess visit in November 2004.

The European Institutions section focuses on the outcome of the November Energy Council, the High Flux Reactor Seminar (that took place in Petten, in December) and the Joint EC/EURELECTRIC/FORATOM seminar on nuclear waste, which will take place in Brussels on 28 February.

Finally, there will be a round-up of relevant world news, with bulletins from NucNet News and Global 2005.

We hope you enjoy reading Issue N°7 of ENS News.



Peter Haug
Secretary General



Andrew Teller
Editor-in-Chief

<http://www.euronuclear.org/library/public/eneews/ebulletinwinter2005/best-wishes.htm>

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Best Wishes for 2005 from ENS President



Bertrand Barré

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I would like to take this opportunity to wish you and your families all the very best for 2005.

I guess, like me, you are still in a state of shock following the catastrophic events which recently devastated southern Asia. However, I think we can take heart from the wave of worldwide sympathy and solidarity that these tragic events have generated. Many lessons can be learned; it's up to each of us to decide which of those lessons we need learn.

Personally, I choose to retain two lessons that I believe are especially relevant to our Societies: Firstly, the urgent need to speed up development in this region of the world, where all too often it is the poorest who suffer the most. We cannot ignore the huge need for energy which this region will continue to experience in the coming decades. Secondly, to remember the awesome power that this planet can suddenly

unleash. When we witness the biblical scale of the damage that natural disasters like the tsunami can have upon mankind, we realize how foolish it would be to disregard the threat posed by events that we ourselves can trigger if we continue to meddle with the planet's climate. This is why we must continue to strive to make abundant supplies of sustainable, carbon-free nuclear energy available to all the world's citizens, while at the same time seek to conserve energy and promote renewables too.

<http://www.euronuclear.org/library/public/enews/ebulletinwinter2005/suchomel.htm>

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Obituary: Jiri suchomel

**Nuclear Community Mourns Death Of
Jiri Suchomel**



The world nuclear community is mourning Jiri Suchomel – the past chairman of the Slovak Nuclear Society (SNUS) and a vice-president of NucNet who died last week.

Dr Suchomel died unexpectedly from a heart attack while on his way to work in Slovakia on the morning of 4th January 2005. His funeral was held in his home town of Piestany, near Bratislava, on 8th January 2005 – on what would have been his 66th birthday.

He was general secretary of the SNUS having served as chairman from 1998 until September 2004. SNUS president Vladimir Slugen, said Dr Suchomel had been the “engine” of many activities and the society had lost a “big heart”.

Dr Suchomel became Slovakia’s representative on the NucNet board in 1994 and he was elected unopposed to serve as one of NucNet’s two vice-presidents in May 2002.

NucNet president Juhani Santaholma said: “We have lost a dear friend and someone who did so much for the development of nuclear in the former Czechoslovakia and then in Slovakia itself – which of course joined the EU just last year. I recall the international conference I attended in Bratislava last year just after the country joined the EU. Jiri and his colleagues hosted the conference. It was very well organised, productive and a tribute to the hard work of Jiri and his colleagues.”

The secretary-general of the European Nuclear Society (ENS), Peter Haug, told NucNet: “ENS has lost a very close friend. Jiri Suchomel was one of the most active and supportive partners ENS had east of the former iron curtain. Besides that, Jiri impressed us all by his unsurpassed hospitality, friendliness and willingness for cooperation and coordination.”

Dr Haug added: “He was also the mastermind behind an unforgettable ENS board and general assembly meeting in Bratislava at the end of 2002.

“Personally, I was very much moved by the news of his early and very unexpected death. I will keep a kind memory of him.”

Other tributes to Dr Suchomel from around the world included that of the ENS president Bertrand Barré who expressed condolences on behalf of the ENS board.

The former ENS secretary-general and executive director of NucNet, Konrad Hädener, said: “I treasure my memories of Jiri as the incarnation of the original spirit of the European Nuclear Society, aimed at bringing together East and West, enthusiastically fostering the training and education of a younger generation and developing a reliable network of contacts among nuclear professionals.”

Dr Hädener added: “Jiri was probably the most sincere, helpful, selfless and noble person I had the pleasure of working with in all of nuclear Europe. To NucNet, Jiri was not only the voice of Slovakia, but of central Europe altogether, and also a long-time member of the board. We valued – and honoured – him as the single most dependable national correspondent, translator and quality guardian in the history of the network.”

Source: SNUS / Various

Editor: John Shepherd

<http://www.euronuclear.org/library/public/eneews/ebulletinwinter2005/listening.htm>

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TAPPING UNUSUAL QUARTERS

Cognitive Dissonance and the Nuclear Debate

The concept of cognitive dissonance was introduced by Leon Festinger in a book titled *A Theory of Cognitive Dissonance* published in 1957, almost fifty years ago. The focus of this book was on a psychological condition that has certainly been experienced by all of us: receiving a piece of information that contradicts previously-held beliefs. Cognitive dissonance is the state arising from the realisation that one is now faced with an inconsistency in one’s system of beliefs. How serious is the feeling of unease resulting from cognitive dissonance and what individuals do to remove this feeling are the main subjects of interest of this book and of a lot of ensuing research. One example will at the same time make the concept clearer and



Leon Festinger

show what it can be used for. Let us consider a customer who purchases, say, an electric appliance. This very act is liable to arouse dissonance: the negative aspects of the action taken, as well as the positive aspects of alternatives (not purchasing, or purchasing something else) is dissonant with the decision. The purchaser will have to do something to reduce the ensuing psychological discomfort. In this context, one would conjecture that the effort exerted to reduce the tension should be proportional to the discomfort experienced¹.

Many experiments designed to investigate such situations in controlled conditions have confirmed this hypothesis². The concept of cognitive dissonance does not just apply to the understanding of individual reactions in everyday situations. It can also be used to analyse cases where the dissonance comes from a discrepancy between an accepted theory and the occurrence of new facts that seem to give the lie to the said theory. It can be confidently predicted that, here also, cognitive dissonance reduction mechanisms will come into play.

These ideas can be usefully applied to the controversy surrounding the peaceful use of nuclear energy. Both the supporters and the critics of nuclear energy have encountered states of cognitive dissonance. Let us call them Pronukes and Antinukes respectively for short and give two examples:

- The Pronukes gave assurances that the operation of nuclear reactors would be perfectly safe but were nevertheless faced with a number of accidents, the most serious of them being Three Mile Island (for its potential impact) and Chernobyl (for its actual consequences). Their early response to the accident argument consisted of compiling risk compendia³ showing that other industrial activities entail much larger risks. As for Chernobyl, the standard answer, in the West at least, is that this accident is linked to a technology and a safety organisation that are not relevant anymore.



- The Antinukes have always claimed that even low-level radiation is harmful but have not succeeded in providing unambiguous evidence for their claim. They answer that the needed evidence would be forthcoming if further research was undertaken.

Is one entitled to see in the responses of both parties mere attempts to reduce their respective states of cognitive dissonance? Third parties could be tempted to say yes and hence consider that the Pronukes' and Antinukes' positions are actually symmetrical. Such an attitude would apparently be justified as it would conveniently explain why the nuclear controversy has been inconclusive for so long.

One additional consideration can help to clarify the issue raised above. When an individual (or a group) is faced with a discrepancy between theory and observations, two options are available. One can either adjust/reject the theory to take account of the new observations or question the validity of the said observations because they do not fit the theory. In principle, both options have some value; they are complementary and in their judicious use resides the essence of scientific progress. In practice, how have the Pronukes and Antinukes dealt with their respective problems? By and large, the Pronukes have adjusted their theories and the Antinukes have questioned the observations. To come back to the examples provided above,

- TMI and Chernobyl were not simply explained away. TMI was followed by the implementation of post-TMI measures on all operating PWRs; Chernobyl elicited the creation of the World Association of Nuclear Operators (WANO) in order to leave no part of the world outside the reach of important safety information. These practical measures amount to recognising that the "theory" regarding the state of operational safety needed adjustments.



Three Mile Island

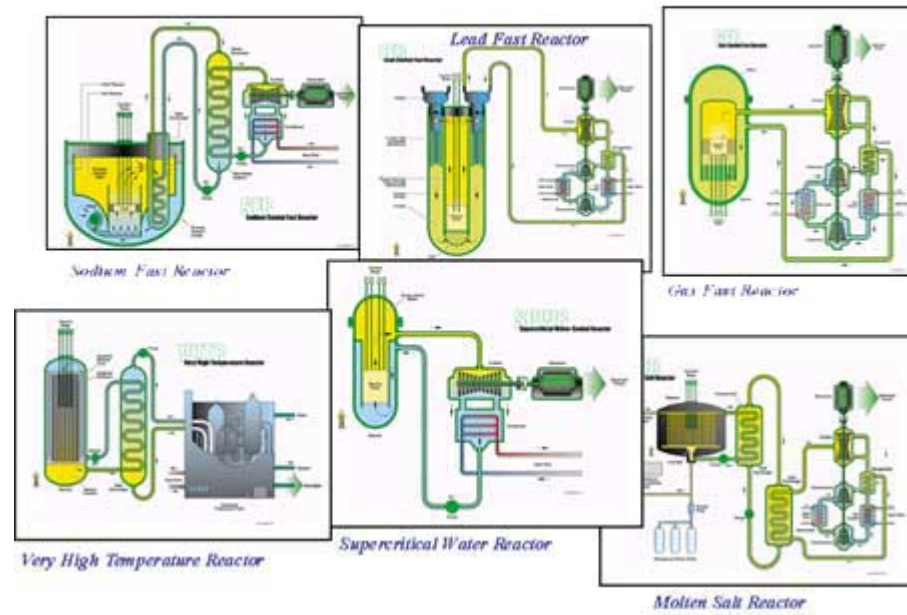


Chernobyl

- Claiming that further research will highlight detrimental effects of low-level radiation boils down to simply questioning the observations available. Why do so if not because they do not fit the Antinukes' theory on low-level radiation?

These two examples are typical of what the two parties usually do. On the one hand, the Pronukes adjust their theories most of the time through the implementation of practical measures; additional examples are Generation III reactors, the Generation IV project, the study of ageing mechanisms, etc. In one area at least, economics, the Pronukes' attack has been two-pronged: new reactor designs feature lower costs and the way costs are computed has evolved to take a fuller account of the externalities. On the other hand, the Antinukes systematically question the validity of figures or observations that do not support their basic tenets. They have done so regarding the economics of nuclear energy, uranium reserves, the amount of CO₂ generated by nuclear power plants, the environmental impact of reprocessing. They have done so each time a quantitative assessment relating to nuclear energy was publicised. What should raise eyebrows is that they always manage to counter the assessments made by the Pronukes. No human being is right all the time. This is where the purported symmetry breaks down: the Pronukes demonstrate their human nature occasionally, while the Antinukes never go wrong.

Generation IV : six innovative systems



Oh, by the way, there's one thing I almost forgot to mention. The philosophy of knowledge has given names to the two approaches for dealing with discrepancies between theory and observations: adjusting theory to facts is called the *critical* approach and questioning the facts that do not support the theory is called the *dogmatic* approach.

¹ This, by the way, is the reason why seasoned sales attendants will always endorse your choice whenever they notice that the decision was difficult.

² See for instance the first chapter of *Cognitive Dissonance: Progress on a Pivotal Theory in Social Psychology*, edited by Eddie Harmon-Jones and Judson Mills, APA Books.

³ For risk compendia, see [ENS NEWS issue no 2](#), autumn 2003.

<http://www.euronuclear.org/library/public/enews/ebulletinwinter2005/pime.htm>

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PIME 2005: Putting communications excellence centre stage

**17th Topical Meeting on Public Information Media Exchange
13-16 February 2005, Maison de la Chimie, Paris, France**

PIME is unique: it is the only conference in the world for communications professionals working for nuclear power plants, research institutes, nuclear authorities, and companies. They address a very varied audience including the general public, local communities, youngsters, green parties, NGOs and state authorities. The conference in Paris aims at broadening the PIME platform for exchange between nuclear professionals, offering new horizons and a wider range of learning opportunities.

PIME participants are invited to join in debates of great interest on nuclear communications issues:

- Using the power of television to promote public awareness and debate
- Lessons learned from other sectors (Exxon Mobile) and other regions (China and Japan)
- Impact of nuclear communications: A view from the media
- A fresh look at the dialogue with the Greens, the NGOs and the European Union
- French experiences in nuclear communications including EPR, waste management solutions and EURODIF

Experiences can be shared in interactive workshops:

- Seven workshops with state-of-the-art presentations, including best practices and new strategic approaches
- An IAEA organised workshop on crisis communications

- An IAEA organised hands-on training session for selected PIME participants on best practices

New this year is the competition for the very first PIME Award for Communications Excellence!

Communicators can present a successful communications campaign that they have recently run: an advertising campaign, a film, a CD-ROM, a brochure or an interactive website. This is a chance to get the international visibility and credit the campaign deserves.

Please refer to <http://www.pime2005.org> for the Preliminary Programme and registration form.

PIME 2005 is organised in cooperation with the IAEA, OECD/NEA, SFEN and CEA

<http://www.euronuclear.org/library/public/eneews/ebulletinwinter2005/rrfm.htm>

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RRFM 2005: A quality update on fuel cycle developments relating to research reactors

**9th Topical Meeting on Research Reactor Fuel Management
10-13 April 2005, Hilton WestEnd Hotel, Budapest, Hungary**



Organised by the European Nuclear Society since 1997, RRFM is a well-established name in the field of the fuel cycle of research reactors. The 2005 preliminary programme again covers issues of specific interest to all members of the research reactor community:

- **Progress in the new very-high density fuels (U-Mo) development, both monolithic and dispersed**
- **International initiatives to address proliferation concerns: GTRI (including scope of the take-back programme and its financial implications for research reactors)**
- **Implications of future nuclear options for research reactor infrastructure**

under the IAEA's INPRO

- **European initiatives: The European Fusion Programme and Jules Horowitz Reactor**
- **Fuel management for new-built reactors (FRM-II and RRR)**

The industrial exhibition organised alongside the conference offers a perfect platform for companies to reinforce and develop their market position in the field, reaching a highly targeted audience.

The Preliminary Programme, the registration form and the invitation to exhibit are available on <http://www.rrfm2005.org>.

RRFM 2005 is organised by in cooperation with the IAEA

<http://www.euronuclear.org/library/public/enews/ebulletinwinter2005/etrap.htm>

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ETRAP 2005: Spotlight on education and training in radiological protection

3rd International Conference on Education and Training in Radiological Protection 23-25 November 2005, Metropole Hotel, Brussels, Belgium

The conference is jointly organised by the Belgian Nuclear Research Centre (SCK-CEN) and the Belgian Federal Agency for Nuclear Control (FANC), in cooperation with ENS who acts as the Conference Secretariat.

ETRAP 2005 aims to reinforce the contacts between organisations and individuals dealing with education and training in radiological protection on national and international level. In addition to experience sharing and mutual learning, the conference intends to contribute to a better harmonisation of training practice and of skills recognition. Special attention will be paid to the networks currently emerging at the European and global level. Both ETRAP 2005 and subsequent ETRAP conferences will provide the necessary platform for a comprehensive and trans-disciplinary approach to education and training in radiological protection.

If you wish to be part of the ETRAP programme, please send your proposal by March 1st, 2003 to etrap2005contributions@uronuclear.org.

Visit <http://www.etrp.net> for the Preliminary Programme, registration form, Call for Papers and abstract form, and general information.

<http://www.euronuclear.org/library/public/enews/ebulletinwinter2005/ena.htm>

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ENA: a high-level summit



The European Nuclear Assembly that took place in Brussels on 25 & 26 November 2004 was a great success. Attendance at this inaugural biannual event, which is organised by FORATOM, was impressive. 219 high-level delegates, of whom 25% were from the European institutions, took part in the Plenary Sessions and Parallel Workshops.

More than 20 journalists from the specialised press, national dailies and news wires attending sessions and took part in the press conference, which was chaired by Gert Maichel, CEO of RWE and ENA Conference President. Some journalists moderated sessions and sat on panel discussions. Subsequent press coverage was widespread (*for articles concerning ENA, contact Mark O'Donovan, Manager, PR and Media Relations at FORATOM at: mark.odonovan@foratom.org*).

The main theme of ENA - a summit for senior industry representatives, high-ranking officials from the European institutions, MEPs and lobbyists - was "**Nuclear: An essential option for Europe.**" The conference agenda centred on key topics, including the economic and environmental dimensions of nuclear energy and the importance of a pan-European approach to safety.



Among the highlights were presentations given by Terry Wynn, an MEP from Cumbria (UK) who spoke passionately about the state of the industry in the UK and the need to keep nuclear at the top of the political debate in Europe; Anne Lauvergeon, Chairman of the Executive Board of Areva, who highlighted the current situation and future role of the nuclear industry in France and Bruno Lescoeur, Group Executive Vice President of EDF, who explained why EDF has invested so heavily in the EPR project.

The main outcome of ENA was the publishing of a "**Declaration on Europe's future use of nuclear energy for power generation,**"

([download](#)) which was signed by the leaders of Europe's major power-generating companies. Essentially, the Declaration reiterated how nuclear energy is the largest and most secure and dependable supplier of electricity, is economically viable when compared with the price of gas and contributes to environmental integrity by providing a non-CO₂ emitting source of electricity. The Declaration also underlines the European nuclear industry's shared conviction, solidarity and optimism about the future.

Day one concluded with a gala dinner, during which a guest speaker, Dr. Akira Omoto, of the IAEA, spoke about the current status and future prospects for the industry and gave an overview of the Agency's activities. For more information, including downloadable copies of most of the speakers' presentations, visit the ENA website at: (<http://www.foratom.be/ENA/Programme1a.htm>).

The next ENA will take place on 11&12 April 2006.

<http://www.euronuclear.org/library/public/enews/ebulletinwinter2005/ktg.htm>

MEMBER SOCIETIES
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KTG reviews state of nuclear energy in Germany and awards honorary membership to two retired MEP



Wolf-Dieter Krebs
Past KTG President and
ENS Board member



The board of the German Nuclear Society KTG met in Berlin on October 19, 2004 to review trends in the German nuclear energy policy and to discuss further KTG actions.



NPP Stade

In the German media and public at large there is an increasing awareness and debate on the future structure of the energy supply. The present red-green government still has no conclusive answer to the simple question – “What to phase-in when the phase-out of nuclear energy as pushed by the government really starts?”. The agreement between the German government and the electric utilities limits the lifetime of a German NPP to about 32 years (expressed in still to be generated kWh). Under that agreement the NPP in Stade (640 MWe net)



NPP Obrigheim

terminated operation in November 2003 and the NPP in Obrigheim (340 MWe) will follow in about April 2005. But due to high capacity factors the 18 NPP operating in 2004 are expected to generate another record sum of electricity close to 170 TWh. Thus up to now the phase-out does not really hurt the utilities and their customers, since the first two NPP to go out of operation are small and less economic than the newer bigger ones. The effect on the CO₂ balance is almost negligible since this is balanced by the other NPP.

However the association of German power plant owners and operators (VGB) stresses that there is no way to replace the portion of electricity generated by nuclear power in Germany's energy-mix that would also allow the country to reduce sufficiently its emission of greenhouse gases, like CO₂. The ambitious CO₂ targets under the Kyoto Protocol cannot be reached under the given conditions in general – despite the big efforts being made. Despite the increase in renewable energy, especially windpower, this non-baseload power source cannot replace nuclear power which generates more than 50% of baseload electricity in Germany. Replacing nuclear generation with coal- or gas-fired generation would produce significantly more CO₂.

In order to promote the use of renewables the Renewable Energy Law (EEG) forces the utilities to buy wind, solar, biomass and small hydro generated electricity at much higher prices than market price. Legally this is not a subsidy since it is not paid by the state, but by the end-consumer. In 1998 this burden to all electricity consumers was 0.3 billion EUR, in 2001 it increased to 1.2 billion EUR and in 2004 the amount is expected to be 2.2 billion EUR. In the present rather bad economic and financial situation in Germany the Association of German Industry (BDI) calls for a real and fair competition in the energy market and a cutback of the distortion of competition by “political” burdens on energy prices. Energy intensive industries consider energy as a raw material and can only remain in Germany if they can rely on a long-term supply security with competitive prices; this is especially necessary in the electricity sector. The BDI demands that all technological options be kept open.



Various representatives of the opposition parties, the industry and the unions recently challenged the isolationist German phase-out of nuclear energy and demanded a lifetime extension of the operating plants. Polls in recent years also show that public opinion about the phase out of nuclear energy is slowly but steadily changing. Asked which electricity generation mode they prefer or like most, the overwhelming majority answers “renewables”. Asked whether they consider the nuclear phase-out as realistic, half of the people say this will not be implemented.

In German newspapers and on TV increasingly positive reports on the future role of

nuclear energy can be found. The triggers or catalysts are probably, the decision to build an EPR, as well in Finland, as in France, the constantly high oil prices and last but not least a new generation of journalists who reconsider the issues free of ideology. The green party and other anti-nukes are alarmed and react with articles on the limited availability of uranium for just a few more decades besides other well known arguments. The German section of IPPNW for example promotes besides other things, not to invest into new NPP which will run out of fuel before the end of their lifetime, but rather go for 100% energy from solar, wind, hydro and biomass. The board of KTG decided to prepare a position paper on those issues for publication on the KTG website (www.ktg.org).



EPR - European Pressurized-water Reactor system

During a dinner after the KTG board meeting the president of KTG Dr. Ralf Gldner awarded the honorary membership of the German Nuclear Society in the year 2004 to **Dr. Rolf Linkohr** and **Dr. Peter M. Mombaur**. Both are long serving German members of the European Parliament who retired from the EP in 2004. They were honoured for their commitment to, and promotion of, a balanced and pragmatic energy policy. Rolf Linkohr presented a very interesting after dinner speech "How compatible are national and European energy policies?". In his opinion the EU Member States still have a long way to go to really reach a harmonised European energy policy. All energy options including nuclear and renewables are necessary if the European Union wants to come even close to its Kyoto commitments. Anticipated post-Kyoto further CO₂ reductions will have no chance without a significant nuclear contribution to the electricity generation mix.

<http://www.euronuclear.org/library/public/enews/ebulletinwinter2005/current-activities.htm>

MEMBER SOCIETIES



ENS YGN

The ENS YGN is very active at the moment planning its 10th anniversary that will be celebrated in Zagreb, Croatia in June later this year. There will be a three-day event with a technical program focusing on waste issues as well as technical and social tours. In parallel with these celebration the global umbrella organisation for Young Generations worldwide, IYNC, will have a regional, i.e. European event. Programs and registration information will follow during the spring.

Apart from that the ENS YGN will have a session at PIME in Paris with several interesting presentations on our activities. So if you are at PIME, do not miss out the opportunity to mingle and exchange with the future!

The global umbrella organisation mentioned above is called International Youth Nuclear Congress, thus the acronym, IYNC. It is an organisation with by-laws registered in California, USA. The aim is to provide a network between national Young Generations worldwide and to act as a focal point for these to interact. The IYNC has a homepage that is updated continuously that can be found on www.iync.org where more information about the organisation can be found. The IYNC, as the name implies, provide its members with the opportunity to meet at different congresses. The first such congress was held in Bratislava, Slovakia, in 2000 and the success that it proved to be laid ground for a continuation and survival of IYNC. Two years later the second congress, IYNC2002 was held in Daejeon, South Korea attracting hundreds of young and enthusiastic people from all over the world and two years after that the turn went to Toronto, Canada to host IYNC2004. And the story goes on! In June 2006 all young professionals and students with relevant interest are welcome to Sweden and Finland for IYNC2006. ENS YGN plays a vital part in the preparations for IYNC2006 together with people from all other continents and together we shoulder the responsibility to ensure the continuation of this truly dynamic global network.



The IYNC2006 will start with a welcome reception on June 18 in one and a half year. The welcome reception will be held in the city hall of Stockholm where the Noble Banquet annually takes place. After that a technical program with four parallel tracks will occupy delegates for three days before everybody goes on a technical tour to Finland where a visit to Olkiluoto takes place. As you all know, the site where the world's first EPR is under construction.

One of the basic ideas of IYNC is also to make sure that there is a knowledge transfer. Not only the senior management of companies have noticed that some are retiring pretty soon. The young community worldwide recognise this as well. Our contribution to combat potential problems imposed by this fact is to provide a platform where contacts between generations can be established. Face to face. The upcoming congress in 2006 will act as such a platform. Book your calendar already now and make sure to come to Sweden and Finland between 18 and 23 June 2006! The organising committee of IYNC2006 can, to a certain extent provide meeting rooms in parallel and in conjunction with the congress. These rooms could be used by working groups from different organisations from all over the world to have their respective meetings serving as a dual purpose and cost effective way of planning.

Please do not hesitate to contact the ENS YGN if you have any wonders or comments. In the coming E-bulletins we will further describe the upcoming congresses and yes, why not, if you have something that you wishes to have our view on this could be a good forum for that...

Contact for issues regarding ENS YGN:
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<http://www.euronuclear.org/library/public/enews/ebulletinwinter2005/yg.htm>

MEMBER SOCIETIES
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Report of the ENS YGN activity in Dessel-Brussels

21-22 of Nov 2004

The ENS YGN Core was invited to visit the site of Belgoprocess on the 21st of November. Belgoprocess is the company in Dessel, Belgium that treats all the radioactive waste generated in Belgium. This can vary from hospitals, over nuclear power plants to the dismantling of decommissioned nuclear installations. The waste is treated in various ways, depending on its nature (liquid, solid, low, medium or high level) and conditioned in a form that is suitable for disposal. As no decision on the final disposal site has been taken yet, the waste is temporarily stored in large storage buildings on site.



A second activity consists of dismantling decommissioned nuclear installations. The former Eurochemic reprocessing plant ('66 - '74) is due to be returned to green field from 2006 on.

After a first introduction on what Belgoprocess is and does, together with a visit of the permanent exhibition on site, the group was taken to visit the installation for the treatment of low level solid waste (CILVA), the storage halls for the conditioned low level waste and long lived waste (operation due early 2005), the storage building for the vitrified waste generated by the reprocessing of COGEMA and finally one of the dismantled cells of the former Eurochemic reprocessing plant.

The visit gave a short but complete overview of the activities of Belgoprocess in particular and of the waste treatment in Belgium in general.

On Monday, 22nd of November, the ENS YGN Core Meeting was organised in the

offices of FORATOM in Brussels. A couple of issues had to be discussed and taken decisions upon as the ENS GA and Board meeting took place Tuesday the 23rd of November.

In the late afternoon the Core met a Finnish Member of the European Parliament Piia-Noora Kauppi. Briefly the situation of nuclear energy in political Europe (Commission and European Parliament) was discussed and the conclusion led us to say that the position of nuclear in Europe is not that bad after all.

greetz

Bart Wellens
Belgoprocess NV
Afdeling Veiligheid Gezondheid en Milieu

<http://www.euronuclear.org/library/public/enews/ebulletinwinter2005/energy-council.htm>

EUROPEAN INSTITUTIONS

November Energy Council



On Monday 29 November 2004, Energy Council reached a political agreement on the Draft Directive on security of electricity supply and infrastructure investment, which was first submitted by the Commission to the Parliament and Council in December 2003.

The proposal's primary objective is to ensure that Member States develop an effective policy for guaranteeing security of electricity supply and to promote extra electricity capacity, something that previous Directives failed to do.

At the same time, it allows Member States considerable flexibility when deciding what final form the policy should take.

The European Parliament voiced its doubts about whether the proposal would provide added value compared to existing legislation, and released a Working Document asking the Commission a number of key questions. So far, no answers have been received.

The Council found the proposal's central objective of promoting efficient management of supply and demand in the internal market acceptable, but thought the

measures proposed to achieve it were too complex and controversial. So, under the impetus of the Dutch Presidency, Council made significant amendments to the Commission's Proposal. These amendments, which were agreed at the Energy Council of 29 November 2004, aim to reduce the Commission's power on decisions regarding infrastructure and investments.

While the Energy Council was going on, a public hearing organised by the Parliament's ITRE Committee also took place. During the hearing, energy experts generally agreed with the Council's conclusions, but official reactions from MEPs will be articulated in a new Working Document to be released in 2 or 3 months. This document will take into account the comments made by all participants in the public hearing.

For more details concerning the November Energy Council and subsequent Energy Committee Meetings, you can surf the Dutch Presidency website on <http://www.eu2004.nl>

<http://www.euronuclear.org/library/public/enews/ebulletinwinter2005/petten.htm>

EUROPEAN INSTITUTIONS

The HFR: a key research reactor for Europe

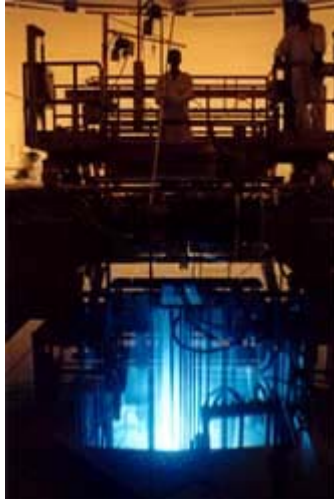
In the context of the Dutch Presidency of the European Union, a timely seminar was held on 16th December 2004 at the Institute for Energy (IE) of the Joint Research Centre (JRC) of the European Commission at Petten, the Netherlands, with the title: "The HFR: a key research reactor for Europe". The HFR is the High Flux Reactor, located at the JRC site at Petten. The HFR is one of the most powerful, multi-purpose, research reactors in its field, which, amongst others, currently produces over 50% of the European production of radioisotopes, an irreplaceable product in the field of nuclear medicine.



Participants at the HFR Seminar

The seminar was organised for members of the European Commission's Joint Working Party on Research and Atomic Questions and members of the Atomic Questions Group, as well as a number of representatives from the Dutch Ministry of Economic Affairs and the Ministry of the Environment, each of which has responsibilities towards the HFR, with respect to licensing and regulatory affairs.

A number of speakers, specialists in their area of expertise, were invited to present important topics on nuclear research, with a view to emphasising the importance of the HFR for the European research and radioisotope production needs of the future.



View of reactor from the poolside

The acting Director General and Deputy Director General of the JRC, Roland Schenkel, welcomed the audience. A brief introduction to the HFR, its organisation and the close cooperation between IE and NRG (Nuclear Research and consultancy Group), both the hosting Petten organisations, was given by Kari Törrönen (Director IE) and Rob Stol (Director NRG). JRC is the owner and currently, licence holder of the HFR, with NRG as the operator, but who will shortly themselves take over the licence from JRC. The reactor is funded by the so-called, Supplementary Programme with contributions there to from the Dutch and French authorities, from Shared Cost Actions, which are partly funded by the Commission's Framework Programmes,

and from Third Party contracts. Irradiation experiments in the reactor cover materials and fuel irradiation testing (HTR, generation IV, fusion, transmutation studies), medical irradiations (BNCT, radioisotope production) and nuclear techniques (SANS, neutron diffraction). The HFR has currently a technical life-time limit to 2020. Hence, its future role in the nuclear community, as well as its future funding, all need to be addressed accordingly. Beyond 2020, plans to construct a new reactor are also a topic under consideration.

The seminar continued with presentations by six specialists in the following fields:

- Reactor Safety Studies and Life Management (Jean-Pierre Hutin, EdF, France)
- Transmutation – A Possibility to Burn High-Level Nuclear Waste (Joachim Knebel, Forschungszentrum Karlsruhe, Germany)
- Materials Research for Future Thermonuclear Fusion Reactors (Eberhard Diegele, EFDA, Germany)
- Medical radio-isotopes (Henri Bonnet, IRE, Belgium)
- Advanced Medical Radiotherapy (Wolfgang Sauerwein, Duisburg-Essen University, Germany)
- Training and Knowledge Management in the Nuclear Field (Frans Moons, SCK/CEN, Belgium)



Outside view of the HFR Petten at night

During the afternoon, a tour took place on-site to the HFR, including the BNCT facility, and to the Molybdenum Plant (Tyco). Thereafter, participants re-assembled back in the conference room for a session of Q&A. Firstly, Marc Becquet (JRC, Brussels) gave a brief presentation of the intended Joint Undertaking (JU), which will replace the HFR Supplementary Programme. The JU will be in the form of a member's club or association of entities, composed of the principal users of the HFR. In the first instance, JRC, NRG and also some of the current customers of the HFR will join. Partners may join and resign anytime, whilst the method of payment could be via financial contracts or work-in-kind. The JU is still only a proposal, but is one of the highest priorities to be addressed in the next 12 months.

(Courtesy of the Joint Research Centre)

<http://www.euronuclear.org/library/public/enews/ebulletinwinter2005/nuclear-waste.htm>

EUROPEAN INSTITUTIONS



Joint European Commission, EURELECTRIC and FORATOM Workshop

'Nuclear Waste: Facts and Choices'

28 February 2005 (from 14:00 to 18:30), Brussels

This **joint European Commission, EURELECTRIC and FORATOM half-day workshop** will provide a comprehensive overview of the facts about nuclear waste and the technological and political choices to be made for its management.

Key topics to be described and discussed at the workshop will include:

- the reality of nuclear waste and its various forms,
- the different options for the back-end of the nuclear fuel cycle, and
- technical issues and political questions surrounding underground disposal.

The target audience includes Members and officials of the European Parliament, the European Council and the European Economic and Social Committee, managers and senior staff from electrical utilities, and high-level representatives of the nuclear industry and environmental organisations and groups.

This event is a 'must' for anyone who is interested in the current status and future of the European nuclear energy industry. It will be an excellent opportunity to contribute to a lucid and transparent debate on this highly sensitive policy issue influencing the future of nuclear energy in Europe.

**This is a chance not to be missed –
so mark your diary now!**

Programme

Session I

Co-Chairs:	Eduardo GONZALEZ GOMEZ President FORATOM N. N. EURELECTRIC
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14h00	Welcome and introduction	Mr. Andris PIEBALGS (tbc) Commissioner for Energy European Commission
14h10	Nuclear waste in general	Mr. Christian WAETERLOOS Director European Commission DG TREN
14h25	Questions & answers	
14h35	High level wastes	Mr. Bertrand BARRÉ President European Nuclear Society
14h55	Questions & answers	
15h05	Sustainable long-term disposal	Dr. Bruno THOMASKE Member AkEnd Committee
15h30	Questions & answers	
15h40	Alternatives for long-term management of radioactive waste	Mr. Gordon MACKERRON Chairman Committee on Radioactive Waste Management
16h00	Questions & answers	
16h10	Coffee break	
16h40	Siting of waste repositories from the regulator's point of view	Mr. Claes THEGERSTRÖM President SKB
17h00	Siting of waste repositories From a municipality's point of view	Ms. Margareta WIDÉN BERGGREN Chairlady of Municipal Council City of Östhammar
17h20	Questions & answers	

Panel discussion

17h30

Moderator:

Ms. Vera ECKERT
Reuters

Panellists:

Mr. Derek TAYLOR
European Commission

Mr. Alejo VIDAL-QUADRAS ROCA
Vice-President and Member of the European Parliament

Ms. Romana JORDAN CIZELJ
Member of the European Parliament

Mr. Eero PATRAKKA
TVO, Finland

François LEBARS (tbc)
Andra, France

Mr. Mark JOHNSTON
Friends of the Earth

18h30 Cocktail

<http://www.euronuclear.org/library/public/enews/ebulletinwinter2005/neptuno.htm>

EUROPEAN INSTITUTIONS



NEPTUNO Project

Training Course on Nuclear Safety

Saclay, France

April 4th - 22nd, 2005

Within the 6th Euratom research and training programme on nuclear energy (2002-2006), the European Commission supports the project “Nuclear European Platform of Training and University Organisations”, NEPTUNO.

NEPTUNO integrates European education and training in nuclear engineering, nuclear safety and other nuclear disciplines with the major objectives to secure qualified curricula in nuclear education at European universities according to the Bologna declaration and to harmonize professional training and

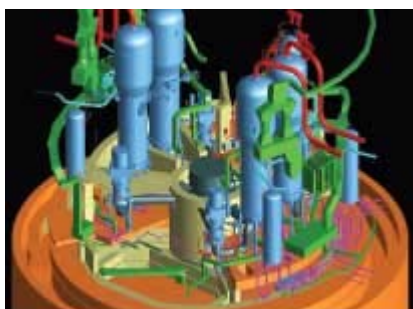
accreditation schemes.

The **NEPTUNO project** builds on the achievements of the 5th European Framework Programme, which led to the establishment of the **European Nuclear Education Network - the ENEN Association**. The NEPTUNO project will enhance the harmonization of professional accreditation criteria and the associated training programmes across the European Union. The “International Seminar on the Nuclear Fuel Cycle” is a pilot training course planned for this purpose.

The expected result is:

- an operational network of institutions for academic education at the Master, doctoral and postdoctoral level;
- complemented with research organizations, regulatory bodies and industrial partners supporting research and development, bench-training and continual learning schemes.

The project is carried out under the coordination of the French National Institute for Nuclear Sciences and Technology (INSTN) by a consortium of 35 partners, including 25 universities and 10 research institutes or private companies from 19 countries. Twenty-six partners are also members of ENEN.



Websites / Contact Persons

NEPTUNO Project

<http://www.sckcen.be/neptuno/>

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ENEN Association

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Training course on nuclear safety

This course is organized as a part of the Nuclear European Platform of Training and University Organizations (NEPTUNO) within the framework of the 6th Euratom research and training programme on nuclear energy (2002-2006). It will be held at the INSTN (National Institute for Nuclear Sciences and Technology), a higher education institution established within the French Atomic Energy Commission (CEA).

A second edition of this course will be organized in 2006 by the European Nuclear Education Network (ENEN Association) at the Technische Universität München (TUM).

Public

The course participants are expected to be professionals currently employed by regulatory bodies, reactor operators and technical support organizations.

They will be expected to fit at least one of the following criteria :

- Have at least a university degree in engineering or science related to nuclear technology;
- Have two to three years successful professional experience beyond university in the nuclear field;
- Be in a first or second-level supervisory position or in a working level position with potential promotion.

Objectives

The course is focused on PWR type reactors and includes some specific presentations on BWR and VVER reactors.

After following this course, the participants should be able to describe:

- The basic safety-related characteristics of nuclear reactors such as the high inventory of radioactive nuclides;
- The defense-in-depth concept with its levels of defense, such as the successive physical barriers, the protective safety systems of high reliability and the accident management procedures;
- The need for a clear definition of responsibilities concerning the reactor operator and regulatory body as well as the necessity for a constructive interaction between them;
- The principles of safety culture, in which each safety-related issue receives the priority commensurate with its importance;
- The human performance as determined by, among others, a well-designed

manmachine interface, clear operating procedures and well focused training programmes;

- The principles of deterministic and probabilistic safety analysis;
- The principles of quality assurance and quality control in all phases of the design, construction and operation of a nuclear reactor.



Programme

1. Design of a Nuclear Power Plant
2. Basic principles of nuclear safety
3. Radiation protection in nuclear facilities
4. Safety classification of structures, systems and components
5. Internal and external hazards
6. Deterministic accident analysis
7. Probabilistic safety analysis
8. Human performance
9. Operational safety
10. Surveillance programmes - Maintenance
11. Severe accidents
12. Plant renewals, modifications and upgrades
13. Regulatory control
14. Emergency preparedness and response
15. Safety culture

Methods

Conferences, courses.
Working groups.
Emergency exercise.
Visits.

Place: Saclay, France
Duration: 3 weeks
• April 4th - 22nd, 2005

Registration deadline:
• February 25th, 2005
Registration fees:
• 3 000 €

Information:
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<http://www.euronuclear.org/library/public/enews/ebulletinwinter2005/nucnet-news.htm>

ENS WORLD NEWS NEWS

NUCNET NEWS

Swedish Report Highlights Benefits Of ‘Sustainable’ Uranium

A new report published in Sweden says that uranium should be regarded as a “long-term sustainable resource” that has an important role to play in the sustainable development of future energy sources.

Known uranium reserves will last for “hundreds of years with present-day technology”... and “can be expected to last for thousands of years” as new reactor types are developed, says the report, published in December 2004 by the Analysis Group of the Swedish Nuclear Training and Safety Centre (KSU)*.

The report acknowledges “uncertainties” in the economics of some future types of reactors, but says: “It is already clear that there is a considerable development potential for nuclear power technology, following several lines of development, so that much better use can be made of the fuel raw material than in present-day reactors. There is therefore justification for the claim that the world’s uranium resources can suffice for increased nuclear power production for thousands of years.”

Discussing estimates of how long uranium reserves will last, the report argues that present economically viable deposits are regarded as being those with concentrations of at least 0.1% uranium, and on that basis “available reserves would last for 50 years at the present rate of use”.

However, the report argues, “doubling the price of uranium, which would have only little effect on the overall cost of nuclear power, would increase reserves to hundreds of years”.

By way of example, the report looks at Sweden where it says, “in rough figures”, nuclear power costs not more than 20 Swedish öre per kilowatt hour (kWh) to produce (100 öre being equivalent to 0.11 euros) – inclusive of the costs of capital, modernisation, operation and maintenance, fuel disposal, taxes and levies.

“Nuclear power generation in Sweden today pays all its own costs, including those of future waste disposal, and receives no public subsidies. In fact, if anything, it is a golden-egg-laying goose for the state,” says the report. It also points out that Swedish nuclear power utilities pay the equivalent of more than 221 million euros a year in total under levies imposed by Sweden’s special nuclear power tax and electricity tax [see also News No. 91, 3rd March 2003].

The report says that almost 3 öre of nuclear’s variable cost of 3.5 öre per kWh in Sweden is for the fuel. “This means that a doubling in the cost of natural uranium, from 1 öre per kWh to 2 öre per kWh would increase the total cost of nuclear power from 20 öre per kWh to 21 öre per kWh (a 5% increase).”

If the price of natural gas was doubled, the cost of gas-fired power would increase by about 60%, while doubling the price of coal would increase the cost of power production in a large coal-fired power station by about 30%, the report claims.

Swedish Report Highlights Benefits Of ‘Sustainable’ Uranium

In terms of the “sustainability” of uranium, the report describes a “classic definition” of sustainable development as that formulated by the former Norwegian prime minister, Gro Harlem Brundtland. (Dr Brundtland chaired the World Commission of Environment and Development – the Brundtland Commission – when it published a report in 1987 that said: “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”)

The Swedish report says: “No parts of the nuclear fuel cycle emit significant quantities of carbon dioxide. It has been claimed that enrichment of uranium requires large quantities of electricity, most of which is produced in coal-fired power stations, and therefore contributes to the greenhouse effect. This is a distorted picture, as the amount of electricity required by a modern enrichment facility to produce a given quantity of enriched uranium is about one-thousandth of the amount of electricity that that quantity of uranium will subsequently generate.”

In terms of nuclear waste, the report points out that all the costs of future safe waste storage are paid. It refers to the waste from planned Swedish nuclear power production – 12 units with an installed capacity of 10,000 megawatts – that “could be held in a single deep repository” about the size of an indoor sports arena. The report adds : “Nuclear power does not, in other words, leave any problems for coming generations”. The 12 units include unit one of the Barsebäck nuclear power plant that was shut down in 1999 [see also News No. 217, 17th December 2004].

In conclusion, the report says nuclear power does not necessarily need to become a

“dominant” energy source in the long term, although “there is a need for society today to accept nuclear power as one of many energy sources that will make it possible to continue to produce the electricity required and to reduce dependence on fossil fuels and their climate effects”.

*The Analysis Group’s latest report – “Uranium - a sustainable energy source” – is available in printed form in Swedish and English, and can also be downloaded in pdf format from the Group’s website (www.analys.se).

Source: Analysis Group / KSU

Editor: John Shepherd

Climate Of Opinion Puts Nuclear Back On Poland’s Energy Agenda

More than a decade ago, nuclear energy specialists in Poland warned political leaders about the environmental and economic risks of the country turning its back on nuclear power.

Their warnings about the threat to the environment of heavy domestic dependence on burning fossil fuels [see Background No. 37, 15th July 1993] were lost in the fog of political debate and, in 1990, the development of nuclear power in Poland was halted by a parliamentary decision.

However, the present day government has now embraced nuclear again – largely due to environmental concerns. In the energy policy document accepted by the cabinet on 4th January 2005, the government acknowledged that Poland would need a nuclear power plant to be in commercial operation within the next 17 years [see News No. 3, 5th January 2005].

When the country’s earlier nuclear programme was halted, construction work was 60% completed on what was to be Poland’s first nuclear power plant – the two-unit Zarnowiec plant on the Baltic coast. The National Atomic Energy Agency said later that financial difficulties prompted the decision to stop building.

Although nuclear plant construction ended, statistics continued to show that Poland needed to have nuclear as part of its future energy mix if the country was to help combat climate change. In 1999, the Polish national committee of the World Energy Council said the country would almost certainly have to develop a nuclear power programme within the next 20 years in order to meet its international commitments on stabilising greenhouse gas emissions [see News No.283, 5th July 1999].

In 2002, a report by the International Atomic Energy Agency – “Comparative studies of energy supply options in Poland for 1997-2020” – said although no new nuclear capacity was forecast in any scenario over the period under study: “It should be emphasised that beyond 2020 the prospects for nuclear energy (or some new technology) might be brighter, taking into account that domestic coal production will be limited and the import of natural gas is constrained by the existing and presently planned pipeline infrastructure as well as for energy security reasons.”

Also in 2002, the European Electricity Market Outlook report published by the

Finnish federation of energy industries, Finergy, said between 60,000 and 70,000 megawatts of additional installed electricity production capacity would be needed in several countries – including Poland – over the next 10 years.

The Finergy report took no position with regard to energy policy options, but highlighted the fact that Europe as a whole would soon have to come to terms with the same supply and demand fundamentals that led to Finland's decision (in May 2002) to construct a new nuclear power unit [see News No. 275, 26th August 2002].

Although Poland has no nuclear plants in operation at present, the country is successful in the use of radioactivity and radioisotopes in medical diagnosis and treatment, agriculture and industry.

Source: Polish Council of Ministers / Various
Editor: John Shepherd

<http://www.euronuclear.org/library/public/enews/ebulletinwinter2005/global.htm>

ENS WORLD NEWS

GLOBAL 2005



The GLOBAL series has successfully provided a global forum for discussions about the future nuclear energy systems with emphasis on the advancement of the nuclear fuel cycle technologies. Based on this traditional principle of GLOBAL conference, GLOBAL 2005 will cover a wide range of subjects related to the advancement of nuclear technologies, providing up-to-date information. This conference will concentrate on advanced nuclear technologies, such as advanced system concepts, reactors, reprocessing, fuels and materials, partitioning and transmutation, waste management and repository, advanced and expanded nuclear utilization, and other related innovative nuclear technologies. Special emphasis will be placed on the status and results of the international studies for developing the next generation systems. It will also be a good opportunity for review and discussion of the related national policies, plans and status, international cooperation, as well as the common world issues, such as the assurance of non-proliferation, prevention of nuclear terrorism, achieving favorable public perception, public education, and fostering of next generation technical experts.

The Atomic Energy Society of Japan, in cooperation with the American Nuclear Society, European Nuclear Society, and other distinguished nuclear organizations, welcomes attendance and contributions to GLOBAL 2005 from all over the world.

The 7th International Conference GLOBAL 2005, organized by Atomic Energy Society of Japan (AESJ), will be held at Tsukuba International Congress Center, Tsukuba, Ibaraki-ken, Japan.



Tsukuba International Congress Center

Key Dates

March 31, 2005 Submission of abstracts

May 16, 2005 Author notification of acceptance

August 31, 2005 Submission of full papers

October 9-13, 2005 GLOBAL 2005 Conference

For further details, please visit the Global 2005 web site: www.global2005.org where those considering answering the call for papers will find all necessary information.

<http://www.euronuclear.org/library/public/enews/ebulletinwinter2005/psa-05.htm>

ENS WORLD NEWS



International Topical Meeting on Probabilistic Safety Analysis, PSA'05

11-15 September 2005

Sir Francis Drake Hotel, San Francisco, California, USA

www.ans.org/meetings/psa

The 2005 ANS International Topical Meeting on Probabilistic Safety Analysis (PSA'05) is a major meeting for discussing PSA issues, including methods, applications, and risk-informed regulation for advanced reactors and other nuclear installations. The meeting will not be limited to nuclear applications since the technology developed by the nuclear industry has spread far beyond that limited application. The meeting will present contributed and invited papers, invited speakers, and panel discussions. Readers are reminded of the many recreational opportunities in and around beautiful San Francisco. Papers are solicited in the technical subjects listed. Authors are requested to suggest an appropriate technical

subject but there is no requirement that it match one of those I listed.

 [Download Call for Papers \(546 kb\)](#)

<http://www.euronuclear.org/library/public/enews/ebulletinwinter2005/member-societies.htm>

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NV Elektriciteits-Produktiemaatschappij Zuid-Nederland EPZ (Electricity Generating Co. Ltd in the Southern Netherlands) http://www.epz.nl	EnBW Kraftwerke AG http://www.enbw.com
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Siempelkamp Nukleartechnik GmbH E-mail: wolfgang.steinwarz@siempelkamp.com http://www.siempelkamp.de/flash_intro.html	SKB (Swedish Nuclear Fuel and Waste Management Company) E-mail: info@skb.se

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