# ISOE European Symposium 20-22 June 2012



Faculty of Nuclear Sciences and Physical Engineering Prague, Czech Republic



Prague, 20-22 June 2012

The European Technical Centre of the Information System on Occupational Exposure (ISOE) is pleased to organize, with the collaboration and the support of the Czech nuclear operator – ČEZ –, the 2012 ISOE European Symposium on Occupational Exposure Management at Nuclear Facilities. The Symposium will be held in Prague, Czech Republic, from the 20th to the 22nd of June 2012. It is co-sponsored by the OECD Nuclear Energy Agency (NEA) and the International Atomic Energy Agency (IAEA).

The Symposium is targeted at all those concerned with radiological protection at nuclear power plants: radiation protection managers and staff members, maintenance and operation planners, contractors, exposed workers, regulatory body representatives and international organisations. It is also opened to research reactors and professionals from other nuclear fuel cycle installations sharing common radiological protection issues.

Dealing with occupational radiation protection at the design, operation and decommissioning stages of installations, as well as accident situations, this new meeting point of radiation protection professionals under the heading of ISOE will be a great opportunity to share, at the international level, experiences and practices favouring a continuous improvement of radiation protection.

Prior to the Symposium, on the 19th of June 2012, three meetings devoted to specific audiences have been organised:

- A radiation protection managers meeting
- A senior regulatory body representatives meeting
- A topical session on the use of the CZT for source term management



Furthermore, the accompanying Technical Exhibition will give participants the opportunity to see the latest developments from industrial and commercial companies active in fields of radiation protection.

Finally, this meeting will give us the occasion to celebrate together the 20th Anniversary of ISOE, notably through the organisation of a special cruise dinner on the Vltava River.

We look forward to welcoming you in Prague, in the Faculty of Nuclear Sciences and Physical Engineering, hoping that the beauty of this historical city will contribute to the success of this Symposium.

Caroline SCHIEBER Head of ISOE-ETC On behalf of the Programme Committee

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#### **PROGRAMME COMMITTEE MEMBERS**

Gonzague ABELA	EDF DIN – France
Lucie D'ASCENZO	ETC, CEPN – France
Laure-Anne BELTRAMI	ETC, CEPN – France
Olivier COUASNON	ASN – France
Ľubomír DOBIŠ	Bohunice NPP – Slovak Republic
Monika FÁRNÍKOVÁ	Temelin NPP – Czech Republic
Dagmar FUCHSOVÁ	SÚJB – Czech Republic
Olvido GUZMÁN	ASN – France
Lena JENTJENS	VGB PowerTech e.V. – Germany
Karla PETROVA	SÚJB – Czech Republic
Guy RENN	Sizewell B Power Station – United Kingdom
Borja ROSELL HERRERA	Almaraz NPP – Spain
Caroline SCHIEBER	ETC, CEPN – France
Torgny SVEDBERG	Ringhals NPP – Sweden
Thomas TAYLOR	Mühleberg NPP – Switzerland

### **CONFERENCE LANGUAGE**

The conference language will be English

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#### **DEDICATED MEETINGS**

#### **TUESDAY 19 JUNE 2012**

The ISOE Symposium will be preceded by three dedicated meetings devoted to specific audience.

If you wish to participate to one of those meetings, please contact the relevant person as indicated below in order to register to one of these meetings.

The registration to these meetings is free of cost.

Radiation P	Radiation Protection Managers Meeting	
09:00 - 17:00	Location: Faculty of Nuclear Sciences and Physical Engineering Address: Břehová 7, Praha 1 Meeting room: 115	
	Contact-persons: Guy RENN, Sizewell B NPP, Email: guy.renn@edf-energy.com Gonzague ABELA, EDF, Email: gonzague.abela@edf.fr	

Regulatory I	Regulatory Body Representatives Meeting	
09:00 - 17:00	Location: SÚJB Address: Senovážné náměstí 9, Praha 1 Meeting room: Club of SÚJB (meeting room at floor -2)	
	Contact-persons: Dagmar FUCHSOVÁ, SÚJB, Email: <u>Dagmar.Fuchsova@sujb.cz</u> Swen-Gunnar JAHN, ENSI, Email: <u>Swen-Gunnar.Jahn@ensi.ch</u>	

Meeting on the Use of CZT	
17:00 - 18:00	Location: Faculty of Nuclear Sciences and Physical Engineering Address: Břehová 7, 115 19 Praha 1 Meeting room: 115
	This meeting is opened to any interested participant. <i>Contact-person:</i> Gonzague ABELA, EDF, Email: gonzague.abela@edf.fr

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#### PROVISIONAL PROGRAMME

### WEDNESDAY 20 JUNE 2012

08:00 - 08:30	Registration
08:30 - 09:00	Opening Ceremony (ISOE, ČEZ, SÚJB)

Session 1. Chairpersons	Regulatory Aspects K. Petrova (SÚJB, Czech Republic), G. Abela (EDF, France)
09:00 - 09:15	Regulatory Approach to Radiation Protection in New NPPs V. Riihiluoma (STUK, Finland)
09:15 – 09:30	Radiation Safety as an Object of Licensing of New Nuclear Units in the Czech Republic L. Urbančík (State Office for Nuclear Safety, Czech Republic)
09:30 – 09:45	Dose Constraints and Other Policy and Practical issues in Occupational Radiation Protection G. Frasch (BfS, Germany), M. Pinak (OECD/NEA, France), T. Lazo (OECD/NEA, France)
09:45 – 10:00	Ongoing Efforts of HERCA on the Harmonisation of the Radiological Monitoring Systems for Outside Workers A. Fremout (FANC, Belgium), I. Amor Calvo (CSN, Spain), B. Griciene (RSC, Lithuania), G. Frasch (BfS, Germany), R. Havukainen (STUK, Finland), M. Lehtinen (STUK, Finland), S. Léonard (FANC, Belgium), S. Mundigl (EC, Luxembourg), M. Nettleton (HSE, United Kingdom), ML. Perrin (ASN, France), I. Petkov (ABV, Bulgaria), M. Skarzewski (PAA, Poland), N. Svilicic (DZRNS, Croatia), C. Thijssen (SZW, Netherlands), S. Walker (HSE, United Kingdom)
10:00 - 10:15	Definition and Access to Restricted Areas Regarding Radiation Protection Issues - The Innovative Expertise Process Launched by the French Safety Authority N. Saâd, ML. Perrin, JL. Godet, O. Couasnon (ASN), C. Schieber (CEPN), France
10:15 - 10:30	Full Session Discussion
10:30 - 11:15	Coffee-break, Visit of Exhibition Booths, Posters

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### WEDNESDAY 20 JUNE 2012

Session 2.	Accident Management
Chairpersons:	B. Le Guen (EDF, France), G. Renn (Sizewell B NPP, United Kingdom)
11:15 – 11:30	Status of the Fukushima NPP Accident T. Linnemann (VGB PowerTech e.V., Germany)
11:30 - 11:45	Reactions on Lessons Learned from Fukushima in Switzerland S.G. Jahn (ENSI, Switzerland)
11:45 - 12:00	Procedure for Dose Management at Forsmark NPP During Severe Conditions S. Hennigor (Forsmark NPP, Sweden)
12:00 - 12:30	Full Session Discussion

12:30 – 14:00

Lunch

Session 3. Chairpersons:	RP Management T. Zodiates (EDF Energy, United Kingdom), D. Fuchsová (SÚJB, Czech Republic)
14:00 - 14:15	Occupational Exposure in German Nuclear Power Plants J. Kaulard, C. Schmidt, E. Strub (GRS), J. Junkersfeld (Federal Ministry for The Environment, Nature Conservation and Nuclear Safety), Germany
14:15 – 14:30	Analysis of the Main Source-Term Reduction Efforts During the Planned Maintenance Works at Russian VVER (PWR)-1000 Reactors V. Glasunov, Y. Yanchenko and others (VNIIAES, Russian Federation)
14:30 - 14:45	Dose Reduction Actions for the Exposed Persons with Highest Individual Doses in EDF NPP P. Le Genti, R. Masin, C. Marcillet (EDF UTO), M. Michelet (CEPN), A. Riedel (EDF UNIE/GPRE), France
14:45 - 15:00	Inside and Outside - a Review of the RCA Boundary I. Stalder, A. Ritter (Leibstadt NPP, Switzerland)
15:00 - 15:15	Full Session Discussion
15:15 – 16:00	Coffee-break, Visit of Exhibition Booths, Posters

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#### WEDNESDAY 20 JUNE 2012

Session 4.	Source-Term Management
Chairpersons:	F. Kamping (Borssele NPP, Netherlands), D. Miller (ISOE NATC, USA)
16:00 – 16:15	Radiation Protection Aspects of Water Chemistry and Source-Term Management with a View of an ISOE Expert Group A. Rocher (EDF UNIE), L. Vaillant (CEPN), G. Ranchoux (EDF SEPTEN), H.B. Okyar (OECD/NEA), France
16:15 – 16:30	Impact of Operational Events on Particulate Transport and Radiation Fields D. Wells (EPRI, USA)
16:30 – 16:45	EDF Source Term Reduction Project - Main Outcomes and Further Developments G. Ranchoux, J. Bonnefon, M. Benfarah (EDF SEPTEN), M. Wintergerst, F. Gressier, P. Varry (EDF CEIDRE), S. Leclercq (EDF R&D), S. Blond (EDF DPN/EM), G. Cordier (EDF DPI), France
16:45 – 17:00	BWR System Surface Contamination: Three Decades of Nuclide Specific Measurements <i>M. Olsson (Forsmark NPP, Sweden)</i>
17:00 – 17:15	CZT Technology Application at EDF for Better Radiation Protection and Nuclear Plant Surveillance J. Bonnefon, G. Ranchoux, L. Guinard (EDF SEPTEN), A. Rocher (EDF UNIE), L. Piotrowski (EDF R&D), S. Blond (EDF DPN/EM), G. Cordier (EDF DPI), France
17:15 – 17:30	EPR™ Reactor Activity Management: Design Performances and Chemistry Program MH. Clinard, P. Jolivet, N. Engler, F. Chahma (AREVA NP, France)
17:30 - 18:00	Full Session Discussion

18:30 – 19:30 **Prague City Walking Tour** along the Vltava River (*will bring you to the Conference Dinner*)

19:30Conference Dinner at Žofín PalaceAddress: Slovanský ostrov 226, Praha 1 (metro B "Narodni trida" + 10 min. by walk)

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### THURSDAY 21 JUNE 2012

00.00 00.20	
08:00 - 08:30	Registration
Session 5.	Large Job Experiences
Chairpersons:	D. Steinel (Philippsburg NPP, Germany), O. Couasnon (ASN, France)
08:30 - 09:00	Ringhals 2 Fire in Containment & Lessons Learned T. Svedberg (Ringhals NPP, Sweden)
09:00 - 09:15	ALARA in Practice - Reactor Internal Parts Repair at the Temelín NPP M. Hort (State Office for Nuclear Safety), J. Koc, O. Kvasnička (Temelin NPP), P. Zapletal (Škoda JS), Czech Republic
09:15 – 09:30	Operational Experience of the Replacement of Pressuriser Heaters during a Forced and a Planned Refuelling Outage <i>M. Lunn, G. Renn (Sizewell B NPP, UK)</i>
09:30 – 09:45	Primary System Decontamination of the German PWR Grafenrheinfeld - Process Application and Recontamination Experience B. Stellwag (AREVA NP GmbH), S. Schütz, A. Jacob (Grafenrheinfeld NPP), C. Stiepani, C. Topf (AREVA NP GmbH), Germany
09:45 - 10:00	System Decontamination of Two BWRs J. Brunk (Forsmark NPP, Sweden)
10:00 - 10:15	Full Session Discussion

10:15 – 11:00 Coffee-break, Visit of Exhibition Booths, Posters

Session 6. Chairpersons:	Instrumentation and Measurements <i>S. Hennigor</i> (Forsmark NPP, Sweden), <i>L. Jentjens</i> (VGB PowerTech e.V., Germany)
11:00 - 11:15	An Overview of Electricité de France Research and Development Projects in the Field of Occupational Radiological Protection <i>E. Gaillard-Lecanu, S. Jahan, R. Kutschera, I. Fucks, E. Courageot (EDF R&amp;D, France),</i> <i>H. Mohand-Kaci (CS), G. Cordier (EDF DPN), France</i>
11:15 – 11:30	Underwater Diving Remote Monitoring Implementation M. Leasure (Braidwood NPP, USA) - 2012 Ft. Lauderdale distinguished paper
11:30 - 11:45	Lowering the Radioactive Aerosol Emission from Forsmark 1, 2 and 3 R. Schmocker, T. Björkman (Forsmark NPP, Sweden)
11:45 – 12:00	Research and Development of Gas and Aerosols Dispersion in the RB at EDF Nuclear Power Plants <i>M. Lestang (EDF UNIE), H. Mohand-Kaci (CS), J. Fazileabasse (EDF UNIE),</i> <i>L. Ricciardi, C. Prevost, L. Bouilloux (IRSN), S. Jahan (EDF R&amp;D), G. Cordier (EDF DPN), France</i>

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#### THURSDAY 21 JUNE 2012

12:00 - 12:15	Supervision of Portable Ventilation Unit (PVU): a Way of Defense to Control the Habitability of the Reactor Building during Outage in EDF Nuclear Power Plants J.E. Maurer (Tricastin NPP), P. Bignon, G. Foy (Delta Neu), M. Lestang (EDF UNIE), H. Salmon, A. Sevenier (Tricastin NPP), P. Oleksy (EDF UTO), S. Marques (EDF UNIE), M. Boissout (Tricastin NPP), France
12:15 - 12:30	Full Session Discussion

12:30 – 14:00 Lunch

Session 7. Chairpersons:	<b>Decommissioning</b> <b>T. Svedberg</b> (Ringhals NPP, Sweden), <b>T. Taylor</b> (Mühleberg NPP, Switzerland)
14:00 - 14:15	Radiation Protection during Decommissioning of Nuclear Facilities - Experiences and Challenges J. Kaulard, C. Schmidt, E. Strub (GRS), Germany
14:15 - 14:30	Radiation Protection at Decommissioning Stage R. Buckermann (AREVA NP GmbH, Germany)
14:30 - 14:45	Shovel Monitor for Sorting of Loose Decommissioning Materials from NPP A. Slaninka, O. Slávik, M. Lištjak (VUJE, Slovakia)
14:45 - 15:00	Radiation Area Classification and Sizing of the Storage buildings of used-up steam generators - Practical application <i>T. Canal, J. Routtier, X. Michoux (EDF CIPN, France)</i>
15:00 - 15:15	Full Session Discussion
15:15 – 16:00	Coffee-break, Visit of Exhibition Booths, Posters
16:00 - 16:15	Conclusions from Radiation Protection Managers and Regulatory Body Meetings

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### THURSDAY 21 JUNE 2012

Session 8. Chairpersons:	Internal Contamination Management A. Ritter (Leibstadt NPP, Switzerland), M. Fárníková (Temelin NPP, Czech Republic)
16:15 – 16:45	EPRI Alpha Guideline Update P. Tran, D. Perkins (EPRI, USA)
16:45 – 17:00	Internal Dosimetry Monitoring: A Comparative Study of the Effectiveness of Bioassay, Nose-Blow and Personal Air Sampling Measurements <i>R. K. Bull, G.A. Roberts, R. Talbot (Nuvia Ltd, UK)</i>
17:00 – 17:15	Occupational Exposure in a CANDU NPP: Management of the Risk for Internal Alpha Contamination <i>C. Chitu, I. Popescu, M. Baraitaru, A. Nedelcu, V. Simionov (Cernavoda NPP, Romania)</i>
17:15 – 17:30	Tritium in German LWRs - Relevance on Radiation Protection W. Schwarz (formely Isar NPP, Germany)
17:30 - 17:45	Full Session Discussion
17:45 - 18:00	Distinguished Papers and Closure of the Symposium

#### 20:00 – 23:00 **Celebration of the 20<sup>th</sup> Anniversary of ISOE System:** Boat Tour with Dinner on the Classic River boat

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### FRIDAY 22 JUNE 2012

Visit of Nuclear Power Plants	
08:00	Bus Departure to Temelin NPP Bus Departure to Dukovany NPP
	Visit of Temelin Nuclear Power Plant Visit of Dukovany Nuclear Power Plant
17:00	Return to Prague (arrival approx. at 20:00)

Note: The participants to the NPP visit are invited to schedule their return flight on Saturday.

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#### **SOCIAL EVENTS**

Costs of Social Events are included in Registration Fees.

#### Walking Tour along the Vltava River – Wednesday 20 June – 18:30-19:30

This short walking tour will start at the Faculty of Nuclear Engineering and will lead you along the embankment of the river Vltava with panoramic view of the Prague Castle and Lesser Town. You

will pass along the picturesque Gothic Charles Bridge with a mighty Old Town tower, the monumental building of the Klementinum – University Library, St. Salvator church and Knights of the Cross church. Shortly you will get to the historical building of the National Theatre which was erected in the 19th century and finally to the Zofin Island with Žofín Palace which has been a leading centre of cultural and social life in Prague since 1837. Includes: English-speaking guide



#### Conference Dinner at Žofín Palace – Wednesday 20 June – 19:30

In 1835, when Václav Novotný decided to build the first brick building on Slavonic Island (or Dyers' Island as it was then called), he had no idea that the one-storey neoclassical building named after

the mother of Emperor Franz Joseph I, Princess Sophie (or Žofie in Czech), would become one of the most important cultural and social centres in Prague and the Czech Lands as a whole. In 1884 the municipality bought the whole island, including Žofín, and over the next two years it converted the building into the present neo-renaissance palace with richly decorated interiors and fine halls.



### Celebration of the 20<sup>th</sup> Anniversary of ISOE System: Boat Tour with Dinner on the Classic River Boat – Thursday 21 June – 20:00-23:00

An excellent opportunity to relax on fresh air, listen to nice music and enjoy delicious meals while admiring the beauties of the Prague city centre. Embark one of the boats cruising on the Vltava

river just round the city centre, passing by the main sights. You will sail under the Charles Bridge with enormous open air gallery of Baroque statues and along the amazing Panorama of Prague Castle, romantic Kampa Island as well as other remarkable sights such as National Theatre, Vysehrad



legendary hill etc. During the cruise you will listen to the pleasant music playing popular melodies and the guide's description on the main sights passing by and the Prague history in general.

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#### **GENERAL INFORMATION**

#### **Symposium Venue**

The Symposium will be held at the **Faculty of Nuclear Sciences and Physical Engineering** in the centre of Prague. Address: Břehová 7, Praha 1

#### **Hotel Information**

Room pre-reservations have been made in 9 hotels for the period of 19-21 June 2012 with possibility of additional nights on request (see map). Capacity in all hotels is limited. Therefore it is recommended to fill in the Accommodation Booking Form as soon as possible and to send it back to CBT Agency at <u>stehnova@cbttravel.cz</u>. The booking deadline is the 2<sup>nd</sup> of May 2012.

Documents (registration form, accommodation form...) can be downloaded on the ISOE Network website (<u>http://www.isoe-network.net/</u> menu: Symposium > Upcoming).



For more information, please contact: Lucie D'Ascenzo, Email: lucie.dascenzo@cepn.asso.fr

