



ISOE European Symposium

Rotterdam, 4 – 6 June 2024



Programme



Supported by





ISOE European Symposium

Rotterdam, 4-6 June 2024

The European Technical Centre of the Information System on Occupational Exposure (ISOE) is pleased to organize, in collaboration with and the support of Elektriciteits Produktiemaatschappij Zuid-Nederland (EPZ) and Authority for Nuclear Safety and Radiation Protection (ANVS), the 2024 ISOE European Symposium on Occupational Exposure Management at Nuclear Facilities.

The Symposium will be held in Rotterdam, Netherlands, from the 4th to the 6th of June 2024. 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.

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.

Prior to the Symposium, on Monday 3 June 2024, two meetings devoted to specific audiences have been organised:

- A Radiation Protection Managers meeting
- A Regulatory Body Representatives meeting

We are looking forward to welcoming you in Rotterdam,

Caroline SCHIEBER

Head of ISOE-ETC

On behalf of the Programme Committee



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PROGRAMME COMMITTEE MEMBERS

Patrick ARENDS	ANVS – Netherlands
Lucie D'ASCENZO	ISOE ETC, CEPN – France
Laure-Anne BELTRAMI	ISOE ETC, CEPN – France
Borut BREZNIK	Krško NPP – Slovenia
Johannes ISOKIVELÄ	Forsmark NPP – Sweden
Monika FÁRNÍKOVÁ	Temelín NPP – Czech Republic
Timo KONTIO	Loviisa NPP – Finland
Hans MEIJER	Borssele NPP – Netherlands
Guy RENN	Sizewell B NPP – United Kingdom
Andreas RITTER	Leibstadt NPP – Switzerland
Caroline SCHIEBER	ISOE ETC, CEPN – France
Thorsten STAHL	GRS – Germany
Philippe WEICKERT	EDF UNIE-GPEX – France

CONFERENCE LANGUAGE

The conference language will be English.

SYMPOSIUM VENUE

The Symposium will take place at:

Van Nelle Fabriek

Van Nelleweg 1

3044 BC Rotterdam (Netherlands)

The Symposium will take place in the Koffiefabriek building (Entrance 3).



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DEDICATED MEETINGS – MONDAY 3 JUNE 2024

The ISOE Symposium will be preceded by two 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 Protection Managers Meeting

10:00 - 17:00

Location: Van Nelle Fabriek

Room: Arabica

You can reach the room via entrance 2.

Please take the stairs or elevator to the third floor and follow signs for *vergadercentrum*.

Contact-person:

Hans MEIJER, Borssele NPP – j.meijer@epz.nl

Regulatory Body Representatives Meeting

09:30 - 17:00

Location: Van Nelle Fabriek

Room: Virginia

You can reach the room via entrance 2.

Please take the stairs or elevator to the third floor and follow signs for *vergadercentrum*.

Contact-person:

Patrick ARENDS, ANVS – patrick.arends@anvs.nl



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PROGRAMME

TUESDAY 4 JUNE 2024

08:30 - 09:00	Registration
09:00 - 09:20	Opening Ceremony (ETC, EPZ, ANVS)
Session 1. RP Management Chairpersons Monika Fárníková (Temelin NPP, Czechia), Ignacio Calavia (CSN, Spain)	
09:20 - 09:40	Highlights on RP Activities at OECD NEA Ye Zhang (NEA)
09:40 - 10:00	ALARA Planning for the Opening and Closing Activity of Angra 1 Reactor during Maintenance Shutdown and Refuelling at Angra 1 Fernando Mendonça Soares Filho (Angra NPP, Brazil)
10:00 - 10:20	RP Highlights from Vogtle 3 Startup Victoria Messenger (Vogtle NPP, USA)
10:20 - 11:05	Coffee-break, Visit of Exhibition, Posters
Session 2. RP at Design Stage of NPPs Chairpersons Richard Parlone (Sizewell B NPP, UK), Liisa Salminen (Loviisa NPP, Finland)	
11:05 - 11:25	Lessons Learned from UK Generic Design Assessment of New Reactors, Past and Present Stuart Johnson (ONR, UK)
11:25 - 11:45	Radiation Protection Aspects for Advanced Reactors David Perkins, Rodolfo Vaghetto (EPRI, USA)
11:45 - 12:05	Designer/Operator Work Program for the Radiation Protection Design of EPR2 Sébastien Poirrier, Matthieu Longeot (Edvance, France)
12:05 - 12:25	Radiological Protection Considerations of SMRs Rahil Mashhadi (ONR, UK) 🏆
12:25 - 12:45	Decision-Making Method for the Installation of Valves Remote Controls at the Design Stage of a NPP Sébastien Poirrier (Edvance), Caroline Schieber, Eymeric Lafranque (CEPN), France
12:45 - 14:00	Lunch Break



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Session 3. Update on Health Effects associated with Occupational Exposure Chairpersons Patrick Arends (ANVS, Netherlands), C. Schieber (ISOE ETC – CEPN, France)	
14:00 - 14:40	Results of the Epidemiological Study “INWORKS” David Richardson (University of California, Irvine, USA)
Session 4. Use of Gamma Camera/CZT Chairpersons Annika Ljungberg (Ringhals NPP, Sweden), Charles Peretti (EDF DIPDE, France)	
14:40 - 15:00	An Efficient Bayesian Algorithm for Localizing Contaminants in Nuclear Waste: Application on 3D Imaging of Waste Drums Nhan Le, Hichem Snoussi (Troyes University of Technology), Alain Iltis (Damavan Imaging), France
15:00 - 15:20	Gamma-camera: An Innovative Tool for Limiting Dosimetry and Contribute to the Operational Performance of Radiation Protection Rémi Bourdeleioie, Marc Lestang (EDF UNIE-GPEX, France)
15:20 - 15:40	Pixelated CZT Spectra Real-Time Monitoring during PWR CRUD Burst & Operation Failed Fuel Episode Brian Eick (Point Beach NPP), David Nestle (H3D), USA
15:40 - 16:25	<i>Coffee-break, Visit of Exhibition, Posters</i>
Session 5. Exposure Management Chairpersons Veli Riihiluoma (STUK, Finland), Charlotte Guenault (ASN, France)	
16:25 - 16:45	The UAE Nuclear Legislation Framework and Oversight for Internal and External Dose Management in Nuclear Facilities Edward Deogracias, Mariam Alzaabi (FANR, UAE)
16:45 - 17:05	Digital Radiological Passbook Application Ignacio Calavia (CSN, Spain)
17:05 - 17:25	Dose Registration System in The Netherlands and Europe Govert de With (NRG, The Netherlands)
17:25 - 17:45	Electronic Dosimetry Management System Replacement at Temelín NPP - Challenges and Solutions Ondřej Kvasnička (Temelín NPP, Czechia)



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WEDNESDAY 5 JUNE 2024

Session 6. Job Experiences	
Chairpersons Stuart Johnson (ONR, UK), Hans Meijer (Borssele NPP, Netherlands)	
09:00 - 09:20	Repair of Welds with Degradation due to Stress Corrosion in Primary Circuit Piping: Operational Insights from 2023 Charles Peretti (EDF DIPDE, France)
09:20 - 09:40	Krško NPP Slovenia 2023 Projects Maja Kozole, Jan Jamnik Srpčič (Krško NPP, Slovenia) <i>NATC Young Health Physicists Distinguished Paper Award</i>
09:40 - 10:00	Watts Bar Unit 2 SGR Outage ALARA Experience Brad Boyer (Watts Bar NPP, USA)
10:00 - 10:20	Synthesis of RPM and RB Meeting days
10:20 - 11:05	<i>Coffee-break, Visit of Exhibition, Posters</i>
Session 7. Waste Management	
Chairpersons Laure-Anne Beltrami (ISOE ETC, France), Jan Jamnik Srpčič (Krško NPP, Slovenia)	
11:05 - 11:25	The UAE Regulatory Framework and Oversight for Radiation Protection and Waste Management Edward Deogracias, Mariam Alzaabi (FANR, UAE)
11:25 - 11:45	High Activity Radioactive Waste Disposal in the Netherlands Michiel de Nood, Ewoud Verhoef (COVRA, Netherlands)
11:45 - 12:05	NPP Krško – Spent Fuel Dry Storage Project (SFDS) Daniel Novak, Marjan Pavlin (Krško NPP, Slovenia)
12:05 - 12:25	Use of a Robot for the Treatment of High Dose Rate Waste at the Tihange NPP Benoit Lance (Tihange NPP, Belgium)
12:30 - 14:00	<i>Lunch Break</i>



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Session 8. RP at Decommissioning Stage	
Chairpersons Thorsten Stahl (GRS, Germany), Johannes Isokivelä (Forsmark NPP, Sweden)	
14:00 - 14:30	Radiation Protection Issues in the Decommissioning of Nuclear Facilities: Lessons Learned from the ISOE WGDECOM Laure-Anne Beltrami (ISOE European Technical Centre – CEPN, France)
14:30 - 14:50	Measures to Prevent Internal Contamination by Alpha Emitting Aerosols during Decommissioning and Dismantling NPP with Highly Contaminated Internals Martin Listjak, Pavol Pajersky, Jana Vajdova, David Bednar (VUJE, Slovak Republic)
14:50 - 15:10	ALARA Approach for Decommissioning of Components Outside of Reactor Vessel of Saint-Laurent A2 Graphite-Gas Reactor Pierre Dumontier (EDF DP2D - Structure Déconstruction SLA)
15:10 - 15:30	Radiation Related Event Associated with Dismantling of a Reactor Pressure Vessel Ünal Ören (Barsebäck NPP), Nikola Markovic (European Spallation Source ERIC), Erik Pärson (Barsebäck NPP), Sweden

15:30 - 16:15	<i>Coffee-break, Visit of Exhibition, Posters</i>
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Session 9. Source-Term Management	
Chairpersons David Perkins (EPRI, USA), Rémi Bourdeloie (EDF UNIE-GPEX, France)	
16:15 - 16:35	Radiological Consequences of Accelerated BWR Fuel Spacer Corrosion Mattias Olsson (Forsmark NPP, Sweden)
16:35 - 16:55	Ag-110m: An Improved Shutdown Strategy to Optimize Radiation Fields on Low Temperature Primary Systems Edgar Moleiro (EDF UNIE-GPEX, France)
16:55 - 17:15	Combined Non-Aggressive Technology Utilization for Source Term Management of Ag-110m, Co-60, Co-58 that Results in Substantial Decline in Plant Dose Rates and Refueling Outage Collective Radiation Exposure Derek Hultquist (Cook NPP), Phil Mora (Salem NPP), Patricia Robinson ((n,p) Energy), Paul Skinner (Consulting NPP Chemist), Dave Nestle (H3D), USA

19:00	<p>Symposium Dinner at Wereldmuseum Rotterdam</p> <p>Address: Willemskade 25 3016 DM Rotterdam</p>	
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THURSDAY 6 JUNE 2024

Session 10. Events	
Chairpersons	Timo Kontio (Loviisa NPP, Finland), Benoit Lance (Tihange NPP, Belgium)
09:00 - 09:20	At the Interface of the Healthcare System and a Nuclear Power Plant – Reflections following a Local Event Stephanie Nyström, Dick Skattberg (Forsmark NPP, Sweden) 🏆
09:20 - 09:40	Near Miss Event of an Almost Unnoticed FME Event during Scaffolding Works above Reactor Parts Liisa Salminen (Loviisa NPP, Finland) 🏆
Session 11. Education and Training	
Chairpersons	Timo Kontio (Loviisa NPP, Finland), Benoit Lance (Tihange NPP, Belgium)
09:40 - 10:00	Opportunities and Challenges in Integrating AI for Radiation Protection Education and Training Lily Ranjbar (Oregon State University, USA)
10:00 - 10:20	The Benefit of Practical RP Simulation Training to Improve Safety Performance Richard Parlone, Josh Say (Sizewell B NPP, UK)
10:20 - 11:05	<i>Coffee-break, Visit of Exhibition, Posters</i>
Session 12. Monitoring Devices	
Chairpersons	Philippe Weickert (EDF, France), Fernando Mendonça Soares Filho (Angra NPP, Brazil)
11:05 - 11:25	Roadways Controls: A New Device that guarantees Measurements and Contamination Detection Marc Lestang, Charlotte Dabat-Blondeau, Maxime Karst (EDF UNIE-GPEX), Adrien Sponem (Bugey NPP), France
11:25 - 11:45	Application of New Techniques (such as Robots or Drones) used at the Fukushima Daiichi Nuclear Power Station to ALARA Toshikazu Suzuki (Fukushima Daiichi NPP, Japan)
11:45 - 12:05	Innovative Alpha-Detection System based on Radiochromic Diacetylenic Monomer Valentina Desgranges, Catherine Monier, Adrien Guimet (EDF R&D, France)
12:05 - 12:30	Distinguished Papers and Closure of the Symposium



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FRIDAY 7 JUNE 2024

Technical Visit

A visit to the research reactor from Delft Technical University is arranged from 09:30 to 14:00. Registration needed, using the registration form (limited to 25 participants).

NB: The visit to the Borssele NPP, which was originally on the programme, has been cancelled.

HOW TO GET TO ROTTERDAM?

By Plane

- Rotterdam The Hague Airport (no intercontinental flights available)
Bus 33 departs every 10 minutes towards Rotterdam Centraal
- Amsterdam Schiphol Airport
Direct train service to Rotterdam Centraal (approximately 30 min)

By Train

- Rotterdam Centraal railways station

HOW TO GET TO VAN NELLE FABRIEK?

The Symposium will take place in the Koffiefabriek building (Entrance 3) of Van Nelle Fabriek.

By Bus

- Bus 38 (every 10 min): from Rotterdam Centraal to “Beukelsbrug/Van Nelle Fabriek”.
Travel time: 8 minutes. From the bus stop, go down the stairs and stay on the left.
About 7-minute walk to Entrance 3.

By Tram from Downtown Rotterdam City

- Tram 8 towards Spangen and get off at “Spartastraat”. About a 15-minute walk to Entrance 3.

REGISTRATION TO THE SYMPOSIUM

	Registration Fees	Online Registration
Participant	470 € (VAT Reverse charge)	Registration form
Commercial Booth	1700 € (VAT Reverse charge)	Booth Registration form

Payment of the fees must be done after online registration and receipt of the invoice.

Information can also be found on ISOE website: www.isoe-network.net