

2025 ISOE INTERNATIONAL SYMPOSIUM ON OCCUPATIONAL EXPOSURE MANAGEMENT AT NUCLEAR FACILITIES

WEIHAI, CHINA, 22-24 OCTOBER 2025

PROGRAMME & BOOK OF ABSTRACTS



ORGANIZED BY

- IAEA Technical Centre of the Information System on Occupational Exposure (ISOE)

CO-SPONSORED BY

- International Atomic Energy Agency (IAEA)
- OECD Nuclear Energy Agency (NEA)

HOSTED BY

- Nuclear and Radiation Safety Centre, Ministry of Ecology and Environment of China

COOPERATED AND SUPPORTED BY

- Huaneng Shandong Shidao Bay Nuclear Power CO., LTD.
- China National Nuclear Corporation
- China General Nuclear Power Group
- Chinese Society of Radiation Protection
- China Chamber of International Commerce Weihai Chamber



The IAEA Technical Centre of the Information System on Occupational Exposure (ISOE) is organizing the 2025 ISOE International Symposium on Occupational Exposure Management at Nuclear Facilities in Weihai, China from 22 to 24 October 2025.

The Symposium will be hosted by the Nuclear and Radiation Safety Centre (NSC), Ministry of Ecology and Environment of China in cooperation with the China Huaneng Group Co., Ltd. (CHNG), co-sponsored by the International Atomic Energy Agency (IAEA), the OECD Nuclear Energy Agency (NEA), supported by the China National Nuclear Corporation (CNNC), the China Nuclear Power Group (CGN) and the Chinese Society of Radiation Protection (CSR).

The Symposium is targeted at all those concerned with radiation protection at nuclear facilities, from utilities, contractors, regulatory bodies as well as international organizations.

The main objectives of the Symposium are:

- to provide a forum of information exchange on occupational exposure concerns in nuclear power plants (practices, management and procedures, dose results and reduction, improvements of techniques and tools, etc.),
- to provide an opportunity to transfer the knowledge and experiences on occupational radiation protection accumulated in the ISOE system to newcomers and embarking countries of NPP.
- to allow vendors to present their recent experience and developments in radiation protection (measurement techniques, operating and plant design improvements, ALARA practices during operation and outages, etc.) in a commercial exhibition.

The Symposium will provide an opportunity for the participants to take part in discussions during plenary sessions and presentations of posters.

A technical visit will be organized on the last day of the Symposium.

We are looking forward to welcoming you in Weihai, China.

Jizeng MA

*Head of ISOE IAEA Technical Centre
On behalf of the Programme Committee*



PROGRAMME COMMITTEE MEMBERS

Duanjie YANG	<i>NSC, China</i>
Junwu YANG	<i>CGN, China</i>
Chuan WANG	<i>CNNP, China</i>
Jizeng MA	<i>ISOE IAEA TC</i>
Hidenori YONEHARA	<i>ATC, Japan</i>
Laure-Anne BELTRAMI	<i>ETC, CEPN, France</i>
Lucie D'ASCENZO	<i>ETC, CEPN, France</i>
Caroline SCHIEBER	<i>ETC, CEPN, France</i>
David W. MILLER	<i>NATC, USA</i>
Benjamin CHUI	<i>Darlington NPP, Canada</i>
Hans MEIJER	<i>Borssele NPP, the Netherlands</i>
	<i>ISOE Chair</i>
Akiko SUZUKI	<i>NRA, Japan</i>
	<i>ISOE Vice-Chair</i>
Toshikazu SUZUKI	<i>TEPCO, Japan</i>
	<i>ISOE Chair Elected</i>
Ye ZHANG	<i>OECD/NEA, France</i>
	<i>ISOE Secretariat</i>

SYMPOSIUM VENUE

The Symposium will take place at the Rongcheng Shidao Hotel, Weihai, China.

WORKING LANGUAGE

The symposium will be held in English.



2025 ISOE INTERNATIONAL SYMPOSIUM
22-24, OCTOBER 2025, WEIHAI, CHINA

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PROGRAMME OF THE SYMPOSIUM

WEDNESDAY 22 OCTOBER 2025

08:30 – 09:00	Registration
09:00 – 09:50	<p>Opening Ceremony</p> <ol style="list-style-type: none"> 1. Opening remarks <i>by Youcai Feng from NSC</i> (Detupy director General of NSC) 2. Opening remarks <i>by Miroslav Pinak</i> (Head, Radiation Safety and Monitoring Section, IAEA) 3. Opening remarks <i>by Mr. Huaquan Lv</i> (Deputy General Manager of CHNG) 4. Opening remarks <i>by Akiko Suzuki</i> (ISOE Vice Chair) 5. Briefing on logistical information <i>by the host organization</i> 6. Group Photo
SESSION 1. <i>Chairpersons</i>	<p>RADIATION PROTECTION MANAGEMENT (1) <i>André Theune (N.V. EPZ (Borssele NPP), the Netherlands), Duanjie Yang (Nuclear and Radiation Safety Center, China)</i></p>
9:50 – 10:50 (60 min)	<p>Radiation Protection Management System, Dose Management and Performance Indicators at CNPGS <i>Iftikhar Ahmad Rana (Chashma Nuclear Power Generating Station, Pakistan)</i></p> <p>Dose Optimization of Overhaul Critical Work Order: A Pilot Study and Risk Assessment <i>Zhao Jiang (China General Nuclear Power (Shenzhen) Operational Technology & Radiation Monitoring Co., Ltd, China)</i></p> <p>Analysis of Occupational Exposure Status and Good Practices in Operating Nuclear Power Plants in China <i>Yuan Fang (Nuclear and Radiation Safety Center, China)</i></p>
10:50 – 11:20 (30 min)	Coffee-break, Visit of Exhibition, Posters



<p>SESSION 2. <i>Chairpersons</i></p>	<p>COMPREHENSIVE APPROACHES TO RADIATION PROTECTION <i>Benedicte Clement Walschaerts (Belgium), Xueming Ren (Taishan Nuclear Power Joint Venture Co., Ltd)</i></p>
<p>11:20 – 12:40 (80 min)</p>	<p>Radiation Protection at the Design Stage of Nuclear Installations <i>Caroline SCHIEBER (CEPN, France)</i></p> <p>Application of ALARA Principle in the Radiation Protection Design of HPR1000 Nuclear Power Plant <i>Qianqian Huang (China Nuclear Power Engineering Co., Ltd, China)</i></p> <p>The Application of Virtual Reality Technology in Radiation Protection Training <i>Yanyun Shen (CNNP Nuclear Power Operations Management Co., Ltd, China)</i></p> <p>Strengthening Occupational Radiation Protection in Nigeria Through Effective Regulatory Oversight <i>Godwin B. Ekong (Nigerian Nuclear Regulatory Authority, Nigerian)</i></p>
<p>12:40 – 14:00 (80 min)</p>	<p>Lunch Break</p>
<p>SESSION 3. <i>Chairpersons</i></p>	<p>RADIATION PROTECTION MANAGEMENT (2) <i>Iftikhar Ahmad Rana (Chashma Nuclear Power Generating Station, Pakistan), Hua Li (China Institute for Radiation Protection, China)</i></p>
<p>14:00 – 15:40 (100 min)</p>	<p>Radiation Protection Performance Indicator System of CNNP <i>Quanli Chen (CNNP Co., Ltd. Jiangsu Nuclear Power Corporation, China)</i></p> <p>Radiation Protection – Self-Protection vs. Service-Protection <i>Loc Nguyen (-, Canada)</i></p> <p>Discussion on Analysis and Optimization of Collective Dose in China National Nuclear Power Company <i>Bing Dong (Nuclear Power Operations Research Institute, China)</i></p> <p>Surface Contamination Control Practices and Refined Management of the Cleanliness Radiation Controlled Area (CRCA) Mode at Taishan Nuclear Power Plant <i>Xueming Ren (Taishan Nuclear Power Joint Ventrue Co., Ltd, China)</i></p> <p>A Brief Discussion on a Regeneration and Decontamination Process for Radioactive Waste Resin <i>Ming Han (Huaneng Shandong Shidao Bay nuclear power Co.,Ltd, China)</i></p>
<p>15:40 – 16:10 (30 min)</p>	<p>Coffee-break, Visit of Exhibition, Posters</p>



<p>SESSION 4. Chairpersons</p>	<p>SOURCE TERM MANAGEMENT <i>Caroline Schieber (CEPN, France), Chuan Wang (Nuclear Power Operations Research Institute, China)</i></p>
<p>16:10 – 17:50 (100 min)</p>	<p>ALARA Impact of a Chemical Decontamination and Design Modification at a BWR in Subsequent Cycles <i>René Hoffmeister (Nuclear Power Plant Leibstadt (KKL), Switzerland)</i></p>
	<p>Analysis and Optimization of Radioactive Source Terms for Qinshan Nuclear Power Plant <i>Hao Huang (CNNP Nuclear Power Operations Management Co., Ltd, China)</i></p>
	<p>Changes in Ionizing Radiation Field During the First Cycle after Zinc Injection into the Primary Circuit of Operating Nuclear Power Units <i>Haiju Shen (CNNP Nuclear Power Operations Management Co., Ltd, China)</i></p>
	<p>Source Term Control Technologies for Key Radionuclides in Nuclear Power Plants <i>Yaru Fu (Shanghai Nuclear Engineering Research & Design Institute, China)</i></p>
	<p>Investigation and Analysis of Deposition Source Term AP1000 Units <i>Quanlu Gou (Shandong Nuclear Power Co., Ltd, China)</i></p>

<p>CONFERENCE DINNER</p>	
<p>19:00</p>	<p>Symposium Dinner at Shidao Hotel</p>



THURSDAY 23 OCTOBER 2025

<p>SESSION 5. Chairpersons</p>	<p>MEASUREMENT & MONITORING TECHNOLOGY <i>Rene Hoffmeister (Nuclear Power Plant Leibstadt, Switzerland), Qianlu Gou (Shandong Nuclear Power Co., Ltd, China)</i></p>
<p>09:00 – 10:40 (100 min)</p>	<p>Preliminary Comparison Study on the Dosimetric Characteristics of Personal Neutron Dosimeters in a Nuclear Power Plant <i>Lizhi Zhang (State Nuclear Power Demonstration Plant Co.Ltd, China)</i></p>
	<p>Investigation on Weakly Penetrating Radiation and Personal Dose Monitoring for VVER Units <i>Bingjun Hou (Jiangsu Nuclear Power Corporation, China)</i></p>
	<p>Research and Development of Online Monitoring System for Nuclear Power Plant Radioactive Sources under 5G Environment <i>Bing Qu (Liao Ning Hong Yan He Nuclear Power Co.,Ltd, China)</i></p>
	<p>In-situ Gamma Spectroscopy Measurement of Activated Corrosion Products in Nuclear Power Plants and Its Applications <i>Ruiwen Liu (China Institute for Radiation Protection, China)</i></p>
	<p>Implementation and Verification of a free-moving 3-D Compton Imaging System for γ source Term Monitoring in Nuclear Power Plants <i>Chongyang Wang (China Institute for Radiation Protection, China)</i></p>

<p>10:40 – 11:10 (30 min)</p>	<p>Coffee-break, Visit of Exhibition, Posters</p>
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<p>SESSION 6. Chairpersons</p>	<p>ADVANCED TECHNOLOGIES & DIGITAL TRANSFORMATION (1) <i>Toshikazu Suzuki (Tepco, Japan), Jianqi Jiang (CNNP Nuclear Power Operations Management Co., Ltd, China)</i></p>
<p>11:10 – 12:30 (80 min)</p>	<p>An Engineering Approach of Building Effective 3D Radiation Map with Low Cost <i>Gaoxiang Xu (Huaneng Shandong Shidao Bay nuclear power Co.,ltd, China)</i></p>
	<p>Nuclear Power Plant Radiation Protection Digital Transformation Implementation Path and Application Effect — A Case Study of Taishan Nuclear Power Plant <i>Weihua He (Taishan Nuclear Power Joint Venture Company Limited, China)</i></p>
	<p>Real-time Primary Coolant Isotopic Trending using 3-D Pixelated CZT Spectrometers <i>Weiyi Wang/David W. Miller (H3D, Inc Palisades Nuclear Plant, China/USA)</i></p>
	<p>Study On Digital Refined Management of Radiation Protection in Nuclear Power Plants Based on Wireless Positioning EPD <i>Yangxing Hu (Huaneng Hainan Changjiang nuclear power Co.LTD, China)</i></p>



<p>12:30 – 14:00 (90 min)</p>	<p>Lunch Break</p>
<p>SESSION 7. <i>Chairpersons</i></p>	<p>ADVANCED TECHNOLOGIES & DIGITAL TRANSFORMATION (2) <i>Akiko Suzuki (NRA, Japan), Jinfeng Li (China Institute of Atomic Energy, China)</i></p>
<p>14:00 – 15:00 (60 min)</p>	<p>Indoor 3D Gamma Radiation Mapping Based on VSLAM and Its Preliminary Application in Digital Systems <i>Hui Li (China Institute for Radiation Protection, China)</i></p>
	<p>A New Solution for Occupational Exposure Management at Nuclear Facilities Using SMARP System <i>Ji Ma (China Institute for Radiation Protection, China)</i></p>
	<p>Development of Small and Medium-Sized Robotic Platform System for Nuclear Emergencies and High-Radiation Scenarios <i>Yanan Hong (China Institute of Atomic Energy (CIAE), China)</i></p>
<p>15:00 – 15:30 (30 min)</p>	<p>Summary of the meeting Briefing for the next ISOE International Symposium Distinguished Papers and Closure of the Symposium Arrangement for the Technical Tour</p>



FRIDAY 24 OCTOBER 2025

09:00 – 16:00	Technical Visit Shidao Bay Nuclear Power Plant Weihai International Exhibition Center Departure: 9:00 – Finish: around 16:00
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**POSTER SESSION****■ TOPICAL SESSION 1 : RP management**

1. Optimization of Radioactive Sources and Radiographic Inspection Management in Nuclear Power Plant Engineering Area
Yangxing Hu (Huaneng Hainan Changjiang Nuclear Power Co., Ltd, China)
2. Practical Experience of Limiting Radiation Field in a Nuclear Power Plant
Pingwei Li (Yangjiang Nuclear Power Co., Ltd., China)

■ TOPICAL SESSION 2 : Comprehensive Approaches To Radiation Protection

3. Research on Mitigation of Radioactive Contamination
Shen Fu (China Institute for Radiation Protection)

■ TOPICAL SESSION 3 : Source Term management

4. Experimental Study on Graphite Dust Deposition in Pipelines under Simulated HTGR
Shulong Huang (China Institute for Radiation Protection, China)
5. Analysis of the Current Status of Research on Neutron Shielding Materials
Caixia Miao (China Institute of Atomic Energy, China)
6. Development of a Novel Neutron Spectrometer for Application in Boron Neutron Capture Therapy (BNCT)
Zhenglin Huang (China Institute for Radiation Protection, China)

■ TOPICAL SESSION 4 : Measurement & Monitoring Technology

7. Envisioned Automation of Thermoluminescent Measurement System
Haijiang Shi (China Institute of Atomic Energy, China)
8. Domestic Commercial VDMOS as a High Radiation Doses Sensor
Zhiji Pan (China Institute for Radiation Protection, China)
9. Research on Screening Method of Heavy Charged Ions in Solid State Nuclear Track Detector
Qi Zhang (China Institute for Radiation Protection, China)
10. Design and Validation of a Single-Sphere Neutron Spectrometer with Nearly Isotropic Response for Workplace Spectroscopy
Bowen Sun (China Institute for Radiation Protection, China)
11. Analysis of Weakly Penetrating Radiation Dose Distribution in Heavy-Ion Therapy Based on GATE Simulation
Yingguo Li (China Institute for Radiation Protection, China)
12. Development of a Total Organic Carbon Analyzer Based on Supercritical Water Oxidation and Preliminary Experimental Validation
Anyuan Hu (China Institute of Atomic Energy, China)
13. β - γ Discrimination Using a Phoswich Detector for Radiation Monitoring
Qianyu Pan (China Nuclear Power Research and Design Institute)
14. Study on α Energy Spectrum Fitting Technology for Radioactive Aerosols
Tao Ma (China Institute for Radiation Protection)