



Institute for Energy Technology



International Workshop on Application of Advanced Plant Information Systems for Nuclear Decommissioning and Life-cycle Management



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More than 100 participants (operators, regulators, scientists, consultants, and contractors) from 25 countries



Workshop on

" International Workshop on Application of Advanced Plant Information Systems for Nuclear Decommissioning and Life-cycle Management "

3 – 5 December 2018

Hotel Scandic Lillehammer, Norway

Monday, 3 December 2018

Workshop Introductory Presentations

Chairs: Gerard LAURENT, Tomas NORDLANDER

10:00 Session opening

10:10 International Workshop on Application of Advanced Plant Information for Nuclear Decommissioning and Life Cycle Management
Patrick Joseph O'Sullivan, IAEA

10:40 Nuclear decommissioning: end of lifecycle - cradle of new technology
István Szőke, IFE

11:10 Digital Technologies Supporting Lifecycle Nuclear Knowledge Management of NPPs
Ashok Ganesan, IAEA

11:45 Lunch

Session 1: Decommissioning planning

Session Chairs: Patrick Joseph O'SULLIVAN, Jean-Michel CHABEUF

13:00 Session opening

13:10 D&D: Innovation for strategy and early scheduling
Caroline Watrignon (CGI) and Gerard Laurent (In Solutions), France

13:30 The integration of 3D engineering simulation and virtual technology to the planning of TRR decommission
Tzu-Chin Kuo, Institute of Nuclear Energy Research, Republic of China

13:50 Modelling of the process of dismantling of the metal farm of the "Shelter" object with the calculation of radiation doses of personnel at all stages of the work execution
Sergiy Paskevych, ISP NPP NAS, Ukraine

14:10 Integrated management systems for OPEX and early decommissioning planning within Orano History-Lessons learned-Prospects
Jean-Michel Chabeuf, Orano, France

14:30 Coffee break

14:55 Development of decommissioning information management system for nuclear power plants combined with demolition method simulation
Sheng-Chang Cheng, Institute of Nuclear Energy Research, Republic of China

15:15 Evaluation of VR software

Yasuyoshi Taruta, Japan Atomic Energy Agency, Japan

15:55 Virtual reality to Prepare Decom Operations

Adeline Auzou, Orano, France

15:55 Preliminary Design of Heavy Water Research Reactor Decommissioning Engineering Technology Supporting System
Zhang Yu, China Institute of Atomic Energy, China

16:15 Session closing

16:30 – 18:30 Demo session with coffee

Advanced information technology developed at IFE for supporting decommissioning

Tuesday, 4 December 2018

Presentation by Richard REID, EPRI

Session 2: Risk, safety and knowledge management

Session Chairs: Céline PORET, Richard REID

9:30 Session opening

9:40 Safety issues of Decommissioning projects from an organizational perspective
Céline Poret, IRSN, France

10:00 ELINDER - European Learning Initiatives for Nuclear Decommissioning and Environmental Remediation
Diederik Van Regenmortel, Pierre Kockerols, European Commission Joint Research Centre

10:20 Structured argumentation applied to decommissioning licensing – case study with ongoing decommissioning licensing of the FIR 1 research reactor
Markus Airilia, VTT Technical Research Centre of Finland Ltd, Finland

10:40 Risk assessment of nuclear waste package planning demonstrated on activated core internals of a German BWR
Maarten Becker, Institut für Umwelttechnologien und Strahlenschutz GmbH, Germany

11:00 Coffee break

11:20 Decommissioning as a Step Forward for Risk Governance
Jérémy Eydieux, Grenoble INP, France

11:40 The Perception of Traditional Training Techniques and Employment of Alternative Advanced Solutions for Sustainable Capacity Building
Eric K. Howell, ÅF, Sweden

12:00 PPDI®: Integrated project management approach to nuclear decommissioning, from detailed planning to project risk management
Silvia Mucchi, Mario Lazzari, Società Gestione Impianti Nucleari, Italy

12:20 Conceptual design on the safety management of radioactive waste using by cutting-edge technologies
Hee Seoung Park, Korea Atomic Energy Research Institute, Korea

12:40 Lunch

14:00 Group discussion

15:30 Session closing

16:00 – 18:30 Demo session with coffee and small bites

Wednesday, 5 December 2018

Session 3: Characterisation, waste and logistics management

Session Chairs: Alan SHIPPEN, Markus AIRILIA

8:30 Session opening

8:40 N-Visage Fusion – 3D Plant characterisation and analysis software to plan worker dose up-take and decommissioning activities
Alan Shippen, Create Technologies Limited, England and Wales

9:00 Use of NPP Information Modelling for radiological characterization, waste estimation and planning removal of components
Francisco Ballester, Marina Llama y Jesús de Paz and Nieves Martín, Enresa, Spain

9:20 Research on Structure of Online Monitoring and Diagnosis System of Nuclear Power Plant
Guo Guangyue, Shanghai Nuclear Engineering Research & Design Institute, China

9:40 Digital Decommissioning Logistics Concept
Hans Frohland, ÅF, Sweden

10:00 Innovative tools to improve physical and radiological characterization of nuclear zones
Camille Therioine, Orano, France

10:20 ReGuard: a digital track and trace waste management system for nuclear decommissioning
Niels Beuker, Nuclear Research & Consultancy Group, The Netherlands

10:40 Coffee break

11:00 Defined removal of highly reinforced concrete structures

Sheng-Chang Cheng, Institute of Nuclear Energy Research, Republic of China

11:20 Group discussion

12:40 Session closing

12:45 Lunch

Workshop closing

14:00 Meeting summary and closure of the workshop (all chairs)

15:30 Meeting adjourned

6-7 December

Joint workshop within the **OECD Halden Reactor Project** and the **Nordic Nuclear Safety Research Forum**

**OECD-HRP/NKS workshop on
Challenges and opportunities for improving nuclear
decommissioning in HRP member and Nordic countries**

6 – 7 December 2018
Hotel Scandic Lillehammer, Norway

PROGRAMME

Thursday, 6 December 2018

09:00	Meeting starts	1. Decom activities at IFE – short summary of status and plans (Grete Rindahl). Note taker: Jan Erik Farbrot
10:30	Coffee	2. Decommissioning information management at IFE (Jan Erik Farbrot, IFE). Note taker: Jan Erik Farbrot
12:45	Lunch	3. Information management for spent fuel at IFE (William Beere, IFE). Note taker: Jan Erik Farbrot
15:30	Coffee	4. Digital technology enabled new concepts supporting planning and cross-cutting issues in nuclear decommissioning (István Szőke, IFE). Note taker: István Szőke
16:30	End of day	5. Licensing Finland's first reactor for decommissioning (Airila Markus, VTT). Note taker: Péter Kárpáti
19:00	Dinner	6. Review of the license application for decommissioning at VTT (Mia Ylä-Mella, STUK). Note taker: Péter Kárpáti
		7. Safety demonstration and structured argumentation (Péter Kárpáti, IFE). Note taker: Péter Kárpáti
		8. Enabling and ensuring safety of autonomy in nuclear decommissioning – application of machine learning (Jens-Patrick Langstrand and Péter Kárpáti, IFE). Note taker: Péter Kárpáti
		9. Updating the decommissioning plan of the Loviisa NPP (Matti Kaisanlahti, Fortum). Note taker: Grete Rindahl
		10. Security and cyber security considerations for advanced information tech based concepts for decommissioning (André Hauge, IFE). Note taker: Michael N. Louka
		11. The RiskBIM concept (André Hauge, IFE). Note taker: Michael N. Louka
		12. Automatic and semi-automatic verification of layouts against requirements (Michael N. Louka). Note taker: Michael N. Louka
		Possible end of day.

Friday, 7 December 2018

9:00	Meeting starts	Presentations from Thursday may be transferred. 1. Integrating information on Legal Requirements in Advanced Plant Information Systems for Nuclear Decommissioning and Life-cycle Management (Pål Are Sund, IFE/Negota). Note taker: Michael N. Louka 2. Modelling in the context of management of VLLW to reach sustainable clearance decisions (Del Risco Norrild Lilian, ÅF consult – via remote connection) Note taker: Grete Rindahl 3. Competence mapping and workforce planning for decommissioning at IFE (Grete Rindahl). Note taker: Grete Rindahl 4. Possible contributions from NRPA / decom licensing at IFE 5. Decommissioning related topics of interest at IRSN (France) (István Szőke, IFE). Note taker: István Szőke 6. Outcomes of the NorDec I project and opportunities for a dedicated working group (Grete Rindahl and István Szőke, IFE). Note taker: Grete Rindahl & István
10:30	Coffee	
11:30	Lunch (end of day)	

Practical information

Monday

19:00 Welcome party: “gløgg i hyttene”.



20:00 Dinner

Tuesday

19:30

Aperitif

20:00

Banquet dinner



Free time ... what to do?

