

International Conference on Small Modular Reactors and their applications

21–25 October 2024

PROGRAMME

Organized by the
International Atomic Energy Agency (IAEA)

IAEA Headquarters Vienna, Austria

Programme Committee:

IAEA Secretariat:

Scientific Secretaries: A.Bradford, NSNI
A.des Cloizeaux, NENP
Event Organizer: N.Herter, MTCD
Administrative Support: A.Patil, NSNI

Location of the Event:

International Atomic Energy Agency
Vienna International Centre (VIC)
Building M, BRB/M1

Wagramer Strasse 5
A-1400 Vienna, Austria

Working Language: English

Resolutions: No resolutions may be submitted for consideration on any subject; no votes will be taken.

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Participate in voting during sessions



Raise questions to speakers during session



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TIMETABLE

MONDAY, 21 OCTOBER 2024

14:00–16:15	CONFERENCE OPENING	Room: BR-B/M1
16:15–16:45	COFFEE BREAK	
16:45–18:00	PLENARY: END USERS	Room: BR-B/M1
18:00–20:00	IAEA WELCOME RECEPTION	

DRAFT

TUESDAY, 22 OCTOBER 2024

09:00–10:15	PLENARY: REGULATORY PREPAREDNESS, INNOVATION AND COLLABORATION FOR THE SAFE AND SECURE DEPLOYMENT OF SMRS	Room: BR-B/M1
Moderator:	A. Bradford (IAEA)	
10:15–10:45	Poster Session & Coffee break	

TUESDAY, 22 OCTOBER 2024

10:45–12:15	TRACK A.1 – SESSION 1.1: Design and Technology Development of SMRs	Room: BR-B/M1
Chairpersons:	M. Bates (United States of America, DOE) F. Reitsma (IAEA)	

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
10:45–10:57	370	R. Baranwal	United States of America / Westinghouse Electric	Delivering on the Promise of Small Modular Reactors
10:57–11:09	22	Y. Zhu	China / Nuclear Institute of China	Dynamic analysis of steam dump system of SMR
11:09–11:21	27	H.G. Kim	Republic of Korea / Innovative SMR Development Agency	The Development status of Innovative SMR and Future Plan
11:21–11:33	88	F. Morin	France / CEA	The ARCHEOS heat unit to decarbonize the heat market with proven technologies
11:33–11:45	123	I. de Arenaza	Argentina / CNEA	CAREM – The Argentinian SMR
11:45–11:57	237	S. de Groot	Netherlands / Thorizon	Thorizon's cartridge core molten salt reactor
11:57–12:15	Discussion			
12:15–14:00	Lunch Break			

TUESDAY, 22 OCTOBER 2024

10:45–12:15	TRACK A.4 – SESSION 4.1: Transportable SMRs	Room: M7
Chairpersons:	M. Dowling (United States of America,) H. Khartabil (IAEA)	

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
10:45–11:00	107	J. Esteve Otegui	France / Bureau Veritas	Risk-based Technology Qualification to address the marinization of SMRs
11:00–11:15	233	I. Kourasis	United Kingdom / Core Power	Evaluation of the Molten Salt Reactor technology for the application of Floating Nuclear Power Plants
11:15–11:30	361	H. Raza	Pakistan / PNRA	Floating Nuclear Power Plants: Legal and Regulatory Gap Analysis
11:30-11:45	118	V. Malev	Russian Federation / Afrikantov OKBM	Implementation of projects of nuclear floating power units within the framework of maritime and nuclear law and approaches to regulation
11:30–11:45	TBD	TBD	TBD	TBD
11:45–12:00	Discussion			
12:15–14:00	Lunch			

TUESDAY, 22 OCTOBER 2024

10:45–12:15 TRACK B.7 – SESSION 7.1: Regulatory Body Preparation for Licensing New Technologies **Room: M2**

Chairpersons: TBD
P. Calle-Vives

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
10:45–11:00	50	Y. Suh	Republic of Korea / KINS	Regulatory considerations for SMR application: The case of South Korea
11:00–11:15	139	E. Ahonen (TBC)	Finland / STUK	Developing regulatory framework for SMRs
11:15–11:30	144	O. Dybach	Ukraine / SSTC NRS	Preparation of Regulatory Framework for SMR Deployment in Ukraine
11:30–11:45	417	R. Iyengar	United States of America / NRC	Regulatory Implications of Advanced Technologies for Advanced Reactors
11:45–12:00	-183	K. Ur Rahman	Pakistan / PNRA	Small Modular Reactors – A Regulatory Perspective in Pakistan
12:00–12:15	Discussion			
12:15–14:00	Lunch Break			

TUESDAY, 22 OCTOBER 2024

10:45–12:15 **TRACK C.10 – SESSION 10.1:** **ROOM: M3**
Safety, Security and Safeguards Interfaces
in SMR designs: Setting up the Scene

Chairpersons: **I. Sanda (SCK CEN, Belgium)**
 S. Poghosyan (IAEA)

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
10:45–11:00	-	S. Poghosyan	IAEA	Interfaces between safety, security and safeguards: focus on SMR designs
11:00–11:15	386	C. Scherer	IAEA	Implementation of 3S by INPRO
11:15–11:30	248	D. Kovacic	United States of America / ORNL	The Meaning of Risk for Safety, Security, and Safeguards in the Design of Advanced Nuclear Reactors
11:30–11:45	412	J. Bredenkamp	Belgium / Westinghouse	Reactor Designer Lessons Learned on the Approach to Safeguards by Design for Small Modular Reactors; Opportunities and Challenges
11:45–12:00	288	L. Ammirabile (TBC)	Generation IV International Forum	Safety, Security, and Safeguards (3S) Interface Identification and Characterisation in Generation IV Advanced Modular Reactors: A Generation IV International Forum Case Study
12:00–12:15	Discussion			
12:15–14:00	Lunch break			

TUESDAY, 22 OCTOBER 2024

12:30–13:45	SIDE EVENT: WOMEN IN NUCLEAR – WOMEN AS A GAME CHANGERS	Room: BR-B/M1
Moderator:	A. des Cloizeaux (IAEA)	

TUESDAY, 22 OCTOBER 2024

14:00–15:30 **TRACK A.1 – SESSION 1.2:** **Room: BR-B/M1**
Design and Technology Development
of SMRs

Chairpersons: **N. Trianti (Indonesia, BRIN)**
 M. Ricotti (Politecnico di Milano)

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
14:00–14:12	274	V. Tulkki	Finland / VTT Technical Research Centre	Using open SMR datasets E-SMR and LDR lite for research and training purposes
14:12–14:24	147	A. Crabb (TBC)	United Kingdom / Atkinsrealis	Parametric Design: Making the complex simple.
14:24–14:36	130	O. Sambuu	Mongolia / National University of Mongolia	newcleo's Fuel Cycle Parametric survey on critical core of RFBB-SS
14:36–14:48	315	I. Ali	United States of America / ARC Clean Technology	SMR Deployment: FOAK (First-of-a-Kind) Risks & Risk Mitigation Strategies
14:48–15:00	317	M. Caramello	Italy / Ansaldo Nucleare	Italy's Journey into Small Modular Reactors: Research, Safety Assessment, Testing, and Future Prospects
15:00–15:12	403	R. Faibish	United States of America / General Atomics	Advanced Design Features of the Fast Modular Reactor
15:12–15:30	Discussion			
15:30–16:00	Coffee break			

TUESDAY, 22 OCTOBER 2024

14:00–15:30 TRACK A.4 – SESSION 4.2: Transportable SMRs Room: M7

**Chairpersons: A. Bychkov
S. Poghosyan (IAEA)**

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
14:00–14:15	185	M. Dowling	United States of America / American Bureau of Shipping	Classification Requirements for Floating Nuclear Power Plants (FNPPs)
14:15–14:30	235	W.S. Edwards	United Kingdom / Core Power	Deployment and uses of Floating Nuclear Power Plants powered by Small Modular Reactors
14:30–14:45	195	F. Puente-Espel	Canada / Prodigy Clean Energy	3S Approach to bring nuclear energy to where it's needed

14:45–15:00	103	J.S. Choi	United States of America / LLNL	Challenges in the harmonisation of legal instruments on 3s (safety, security, safeguards) and civil liability for marine-nuclear systems between the International Atomic Energy Agency and the International Maritime Organisation
15:00–15:15	52	R.A. Belyukov	Russian Federation / JSC Concern Rosenergoatom	Experience of floating nuclear power plant (FNPP) operation. Technical results assessment.
15:15–15:30	Discussion			
15:30–16:00	Poster session & Coffee break			

TUESDAY, 22 OCTOBER 2024

14:00–15:30 **TRACK B.6 – SESSION 6.1:** **Room: M2**
International Legal Instruments and SMRs
Chairpersons: **R. Gaucher (France, Ministry of Ecological Transition)**
 J. Herbach (IAEA)

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
14:00–14:15	24	Z.M. Savas	Türkiye / NDK	Nuclear Liability for Small Modular Reactors
14:15–14:30	58	P. Nowakowska	Poland / Kubas, Kos, Galkowski–Adwokaci	The Channeling of Liability and Small Modular Reactors: is it at all adequate?
14:30–14:45	160	X. Vázquez-Maignan	France / White & Case	Small Modular Reactors to Decarbonize the Industry: the Impact of Nuclear Liability
14:45–15:00	262	M. Man	United States of America / PNNL	Novel Organizational Models for Advanced Reactors' Operations: the Implementation of A/CPPNM Obligations in the Context of Multiple Jurisdictions
15:00–15:15	213	H.N. Naimbale	Namibia / NRPA	Readiness of Instrumental Legal Instruments to Regulate SMRs
15:15–15:30	Discussion			
15:30–16:00	Coffee break			

TUESDAY, 22 OCTOBER 2024

**14:00–15:30 TRACK D.17 – SESSION 17:
Cooperation for Harmonization and
Standardization**

Room: M3

**Chairpersons: E. Vieilletoile (EDF)
B. Lepouze (IAEA)**

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
14:00–14:15	289	K. Deknopper	France / NUWARD	NUWARD Joint Early Review: a pragmatic approach to development of an internationally licensable standardized SMR design
14:15–14:30	303	S. Eaton; G. Bowman	Canada / CNSC; United States of America / NRC	United States and Canada Cooperation on SMR Design Reviews - Successes in Collaboration
14:30–14:45	326	R. Tanguy	WNA	Collaboration – the key to standardized SMR deployment
14:45–15:00	366	T. Buckenmeyer	France / ASN	Redefining international dialog: Invent innovative frameworks for licensing Small Modular Reactors
15:00–15:15	-	P. Calle-Vives	IAEA	Nuclear Harmonization & Standardization Initiative
15:15–15:30		Discussion		
15:30–16:00		Poster Session & Coffee break		

TUESDAY, 22 OCTOBER 2024

**16:00–17:30 TRACK A.1 – SESSION 1.3:
Design and Technology Development of
SMRs**

Room: BR-B/M1

**Chairpersons: M. Bates (United States of America, DOE)
C. Batra (92 Venture)**

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
16:00–16:15	318	P. Sabharwall	United States of America / INL	Experiment and Modeling Efforts to Support Development and Deployment of Advanced Energy Systems
16:15–16:30	325	P. Gauthé	France / HEXANA	HEXANA: a sodium advanced modular reactor for sustainable industrial decarbonization

16:30–16:45	346	A. Missaglia	Italy / Politecnico di Milano	Experimental Investigation and Modeling of Passive DHRS with Plate-Type Compact Steam Generator
16:45–17:00	350	I. Piore	Canada / Ontario Tech University	Current status of SMRs development
17:00–17:15	351	N. Trianti	Indonesia / BRIN	Performance Optimization Analysis of PeLUit-40 using HTGR Code Package (HCP)
17:15–17:30	Discussion			

TUESDAY, 22 OCTOBER 2024

16:00–17:30 TRACK A.4 – SESSION 4.3: Transportable SMRs **Room: M0E100**

**Chairpersons: S. Fayyaz (IAEA)
H. Khartabil (IAEA)**

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
16:00–16:12	333	A. Spalding (TBC)	United States of America / Westinghouse	Enabling versatile nuclear deployments of the eVinci microreactor
16:12–16:24	368	A. Bychkov, G. Sayin	IAEA	The Activities of INPRO in Transportable Nuclear Power Plants
16:24–16:36	156	J. Kim	Republic of Korea / HD Korea Shipbuilding & Offshore Engineering Co., Ltd.	Shielding Systems for Nuclear System of Maritime SMR
16:36–16:48	384	R. Peel	United Kingdom / King's College London	Security Considerations for Floating Nuclear Power Plants when Stationary
16:48–17:00	244	K.B. Veshnyakov	Russian Federation / Afrikantov OKBM, JSC	Reactor Plants for Nuclear Ships and Floating Nuclear Power Plants. Development Experience and Improvement Prospects
17:00–17:12	119	T. Tagirova	Russian Federation / Afrikantov OKBM, JSC	Features of application of IAEA safeguards during refueling of spent fuel on floating power unit for foreign markets with a reactor unit of the RITM type
17:12–17:30	Discussion			

TUESDAY, 22 OCTOBER 2024

16:00–17:30 TRACK C.8 – SESSION 8.1:
SMRs Design Safety Approaches

Room: M3

Chairpersons: I. Sanda (SCK CEN, Belgium)
V. Tiberi (IAEA)

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
16:00–16:15	120	M.O. Giménez	Argentina / CNEA	Nuclear safety and defence in depth in CAREM25
16:15–16:30		K. Nagasawa	IAEA	TBD
16:30–16:45	193	T. Kooyman	France / NAAREA	NAAREA'S XAMR® safety approach
16:45–17:00	283	F. Ameyaw	Ghana / Nuclear Power Institute	Challenges and opportunities in developing a safety case for small modular reactors: The Ghanaian perspective
17:00–17:15	337	U.A. Bautista	Philippines / PNRI	Assessment of the safety design features of small modular reactors with existing demonstration plants using Reactor Technology Assessment (RTA)
17:15–17:30		Discussion		

TUESDAY, 22 OCTOBER 2024

16:00–17:30 TRACK C.11 – SESSION 11.1:
Navigating the Regulatory Landscape:
Strategic Approaches to SMRs Security

Room: M2

Chairpersons: S. Shrum (United States of America, NNSA)
N. Gerceker (IAEA)

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
16:00–16:15	239	S. Lee	Republic of Korea / KINAC	Research on Gaps in Domestic Regulatory Documentation Based on Security Regulatory Cases of SMRs in Other Countries
16:15–16:30	294	R. Iyengar	United States of America / NRC	Physical Protection Modeling and Simulation Tools to Optimize Security for New Reactors
16:30–16:45	203	R. Gaucher	France / Ministry of Ecological Transition	French SMRs: Lessons Learned from Two Years of Regulatory Support for SMR Projects

16:45–17:00	176	K. Ghoshal	India / DAE	Transitioning Regulatory Oversight: Moving from Prescriptive to Performance-Based Approach for Addressing Security Challenges in Indian SMRs
17:00–17:30	Discussion			

TUESDAY, 22 OCTOBER 2024

16:00–17:30 TRACK D.15 – SESSION 15.1: Room: M7

Economic and Macroeconomic Analysis and Impact of Technology Development on the Cost of SMRs

**Chairpersons: P. Mach (Czech Republic, UJV Rez a.s.)
M. Cometto (IAEA)**

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
16:00–16:15	57	J.K. Nøland	Norway / Norwegian University of Science and Technology	Future Cost Projections of Small Modular Reactors: A Model-Based Analysis
16:15–16:30	93	S. Suparman	Indonesia / BRIN	Cost- Analysis of Small Modular Reactor Deployment for Electricity Generation in West Kalimantan
16:30–16:45	207	B. Tarufelli	United States of America / PNNL	EverGREEN 2045: An Energy Mix to Decarbonize Washington State
16:45–17:00	286	P.M. Alliard	France / NUWARD	Steel Concrete modular construction. Economic impact on the leveled cost of electricity in large reactors or SMRs
17:00–17:15	407	L. Voss	United States of America / NRIC	National Reactor Innovation Center Advanced Construction Technology Program
17:15–17:30	Discussion			

TUESDAY, 22 OCTOBER 2024

17:45–20:15	INDUSTRY NIGHT	Room: ESPACE M Building
	<ul style="list-style-type: none"> • LWR SMR (Panel 1) – Ground floor • LWR SMR (Panel 2) – First floor 	

- Non-water-cooled Reactors (Panel 3) – Ground Floor
- Advanced Reactors and Applications (Panel 4) – First floor

WEDNESDAY, 23 OCTOBER 2024

09:00–10:15	PLENARY: INNOVATIVE SMRS Moderators: A. Gomez Cobo (IAEA) & V. Kriventsev (IAEA)	Room: BR-B/M1
10:15–10:45	Poster Session & Coffee break	

DRAFT

WEDNESDAY, 23 OCTOBER 2024

10:45–12:15 TRACK A.1 – SESSION 1.4:
Design and Technology Development
of SMRs

Room: BR-B/M1

Chairpersons: P. Sabharwall (United States of America, INL)
V. Kriventsev (IAEA)

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
10:45–10:57	352	M. Young Park	Republic of Korea / KAERI	Overview of Modified Design Features of SMART-C
10:57–11:09	380	P. Diaz Gomez Maqueo	Canada / CNL	Heat Distribution Results from Experiments Using Array of 5 Sodium Heat Pipes
11:09–11:21	390	L. Cinotti (TBC)	Italy / newcleo	newcleo's R&D Programme in support of SMR-LFR Development and Deployment
11:21–11:33	13	D. Serbanescu	Romania / Romanian Academy	On some safety and technology perspectives for the new nuclear reactor types
11:33–11:45	402	J. Jackson (TBC)	United States of America / INL	Microreactor Applications, Research, Validation, and Evaluation (MARVEL) Reactor – Status, Construction, and Testing
11:45–11:57	406	T. Burnett	United States of America / INL	Accelerating Microreactor Development and Deployment Through Joint Public Testbeds and Private Advanced Reactor Development
11:57–12:15	Discussion			
12:15–14:00	Lunch Break			

WEDNESDAY, 23 OCTOBER 2024

10:45–12:15 TRACK C.8 – SESSION 8.2:
Assessment and Experimental Testing of
Passive Safety Systems in SMRs

Room: M2

Chairpersons:

M. Lankin (IAEA)

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
10:45–11:00	32	J.Y. Park	Republic of Korea / KINS	Regulatory research activity on safety analysis methodology for passive safety systems in Korea

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
11:00–11:15	94	D. Lisowski	United States of America / ANL	Experimental testing of a large scale water-cooled RCCS: Observations and considerations for passive decay heat removal
11:15–11:30	113	D.H. Sukarno	Indonesia / BAPETEN	The qualitative reliability study of the TMSR500 passive cooling design and design requirements applicability
11:30–11:45	273	S. Lim	Republic of Korea / i-SMR Development Agency	Passive safety system and safety demonstration of innovative small modular reactor
11:45–12:15	Discussion			
12:15–14:00	Lunch Break			

WEDNESDAY, 23 OCTOBER 2024

10:45–12:15 TRACK C.10 – SESSION 10.2: Safety, Security and Safeguards Interfaces in SMR Designs: Experiences and Practices **Room: M3**

**Chairpersons: D. Kovacic (United States of America, ORNL)
J. Whitlock (IAEA)**

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
10:45–11:00	143	I. Sanda	Belgium / SCK CEN	3Ss Approach for advanced SMRs designs in Belgium
11:00–11:15	431	M. Koppe	France / Ministry of Ecological Transition	FRENCH LESSONS LEARNT REGARDING INTERFACES BETWEEN SECURITY AND SAFETY AND SAFEGUARDS, FOR SMRS
11:15–11:30	215	A. Williams	United States of America / SNL	A Path Toward Leveraging the Benefits of Safety, Security, and (International) Safeguards (3S) for Advanced & Small Modular Reactors(A/SMRs): Summary of the Institute of Nuclear Materials Management's Workshop on Advanced Reactor 3S
11:30–11:45	354	T. Honkamaa	Finland / STUK	Safeguards by Design process of LDR-50 concept with consideration of safety and security

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
11:45–12:00	365	C. Faucett	United States of America / SNL	Applying 3S Lessons: Using Safety Concepts to Develop "Risk-Informed Safeguards" for Small Modular Reactors
12:00–12:15	Discussion			
12:15–14:00	Lunch Break			

WEDNESDAY, 23 OCTOBER 2024

10:45–12:15 TRACK D.13 – SESSION 13.1: SMRs in Energy Planning for Climate Change Mitigation Room: M7

Chairpersons: TBD
J. Callen-Kovtunova (IAEA)

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
10:45–11:00	267	M.A. Nyasapoh	Ghana / GAEC	Incorporating Small Modular Reactors with Solar and Wind for Ghana's Sustainable Energy Transition Beyond Conventional Nuclear Power Ambition Post-COP28
11:00–11:15	89	C. Vaglio-Gaudard	France / CEA	The TANDEM Euratom project to study the integration of SMRs into low-carbon hybrid energy systems: mid-term progress
11:15–11:30	254	S. Perez-Martin	Germany / Karlsruhe Institute of Technology	ESFR-SMR Requirements to fit into the future EU electricity network
11:30–11:45	285	J. Shin	Korea / Korea Energy Economics Institute	Global Coal Plant Potential for Coal-to-SMR Transition: Focusing on i-SMR as a Representation of the Technology
11:45–12:00	91	R.H. Ivask, A. Tkaczyk	Estonia / University of Tartu	Techno-economic Analysis of SMR Deployment in the Estonian Power System
12:00–12:15	242	N. Amosova	Norway/ Norsk Kjernekraft AS	The green shift – extracting synergies from the oil and gas sector when establishing nuclear in Norway
12:15–12:30	Discussion			
12:30–14:00	Lunch break			

WEDNESDAY, 23 OCTOBER 2024

12:30–13:45 **SIDE EVENT: IAEA ACTIVITIES ON SMRs** **Room: M3**
Moderator:

WEDNESDAY, 23 OCTOBER 2024

14:00–15:30 **TRACK A.2 – SESSION 2.1:** **Room: BR-B/M1**
Advanced Fuels, Reprocessing, Waste Management and Decommissioning Aspects for SMRs – Safety, Design and Technology

Chairpersons: **A. Clark (IAEA)**
 R. Robbins (IAEA)

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
14:00–14:15	64	A. Gonzalez Espartero	IAEA	IAEA Coordinated Research Project on Challenges, Gaps and Opportunities for Managing Spent Fuel from SMRs
14:15–14:30	16	K. Gillin	Sweden / Vysus Group	Designing small modular reactors for a circular economy
14:30–14:45	299	G. Žerovnik	Germany / BASE	Characterisation of spent LWR fuel with SMR-relevant initial compositions and operational conditions
14:45–15:00	252	T. Yildirim	Sweden / WSP Sverige AB	Scoping calculation of spent nuclear fuel from NuScale's Power Module
15:00–15:30	Discussion			
15:30–16:00	Poster session & Coffee break			

WEDNESDAY, 23 OCTOBER 2024

14:00–15:30 **TRACK B.7 – SESSION 7.2:** **Room: M3**
Regulatory Agility and New Approaches to Licensing SMRs

Chairpersons: **TBD**
 B. Rini (IAEA)

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
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14:00–14:15	5	E. Mayaka	Kenya / KNRA	Adapting to Innovation: The Role of Regulatory Oversight in the Emerging Era of Small Modular Reactors
14:15–14:30	63	S. Stuttaford	United Kingdom / Castletown Law	A new approach to regulation
14:30–14:45	208	G. Bowman (TBC)	United States of America / NRC	Adaptiveness of the US NRC Regulatory Framework to Review Risk-Informed SMR Designs
14:45–15:00	377	S. Belyea	Canada / CNSC	Regulatory agility through use of performance-based regulations.
15:00–15:15	419	A. L. Barbosa Sousa	Brazil / CNEN	The Brazilian Nuclear licensing process for disruptive and innovative technologies
15:15-15:30	Discussion			
15:30–15:45	Poster session & Coffee break			

WEDNESDAY, 23 OCTOBER 2024

14:00–15:30

TRACK C.9 – SESSION 9:
Emergency Preparedness and Response Considerations for SMRs

Room: M0E100

Chairpersons:

S. Israel (France, IRSN)
F. Stephani (IAEA)

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
14:00–14:12	314	S. Lal	Canada / CNL	Benchmarking Near-field Radionuclide Dispersion with CFD and Gaussian Model
14:12–14:24	111	M. R. Harahap	Indonesia / BAPETEN	Regulatory Recommendation in Determining Adequate Emergency Planning Zone for Multi Module Small Modular Reactor in Indonesia
14:24–14:36	357	A. Guglielmelli (TBC)	European Commission	Release-Category-Based Emergency Planning Zone Calculation Applied to a Light-Water Small Modular Reactor Design
14:36–14:48	43	D. Hummel	Canada / CNL	A Method for Sizing Emergency Planning Zones around Small Modular Reactors and

				New Reactor Technologies
14:48–15:00	214	P. Kopka	Poland / NCBJ	Determining Emergency Planning Zone size through JRODOS calculated radiation dose consequences in High-Temperature Gas-Cooled Reactors
15:00–15:12	279	R. Rockabrand	United States of America / NNSA	How Artificial Intelligence and Small Modular Reactors Will Power Emergency Preparedness and Response
15:12–15:30	Discussion			
15:30–16:00	Poster session & Coffee break			

WEDNESDAY, 23 OCTOBER 2024

14:00–15:30 TRACK C.10 – SESSION 10.3: Managing Interfaces between Safety and Security for SMRs **Room: M2**

**Chairpersons: J.A. Bredenkamp (Belgium)
A. Acevedo (IAEA)**

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
14:00–14:15	59	A. Huning	United States of America / ORNL	Recommendations for Design-Stage Safety and Security Probabilistic Risk Assessment Co-Development
14:15–14:30	154	J. Mahanes	United States of America / INL	Approaches for Comprehensive Safety and Digital Risk Management for Advanced Nuclear Technology and Small Modular Reactors
14:30–14:45	212	D. Lisowski	United States of America / ANL	Identifying sabotage risks and adversarial Threats to passive Decay heat removal systems in advanced nuclear reactors
14:45–15:00	234	W.S. Edwards	WNTI	Safety and Security of SMRs in marine applications and the Applicability of IAEA's Safety Standards
15:00–15:15	238	M. St. John-Green; M. Hewes (TBC)	United Kingdom / Mike St.John-Green Ltd; IAEA	Achieving resilience through the preservation of functions - safety and security working together

15:15–15:30	Discussion
15:30–16:00	Poster session & Coffee break

WEDNESDAY, 23 OCTOBER 2024

14:00–15:30 TRACK D.13 – SESSION 13.2: SMRs in Energy Planning for Climate Change Mitigation **Room: M7**

Chairpersons: TBD
J. Callen-Kovtunova (IAEA)

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
14:00–14:12	17	M. D. Shnawa	Iraq / Iraqi Atomic Energy Authority	Evaluation of Potential Locations for Siting Small Modular Reactors in Iraq to Support Clean Energy Goals
14:12–14:24	44	E. Boafu	Ghana / GAEC	Nuclear-Renewable Hybrid Energy Systems: Considerations for Future Deployment in Ghana
14:24–14:36	67	R. Soja	Nigeria / NNRA	Integrating Small Modular Reactors (SMRs) into Nigeria's Energy Mix. Prospect toward near-term deployment.
14:36–14:48	385	C Mariani; M. Ricotti	Italy / Politecnico di Milano	Enabling factors for Small Modular Reactors (SMR) uptake in Bolivian future power system
14:48–15:00	148	S.F. Sawe	Tanzania / Tanzania Atomic Energy Commission	Potential Deployment of a Small Modular Reactor to Run the Standard Gauge Rail Network in Tanzania
15:00-15:12	8	C.A. Prieto Valderrama	Colombia / Javeriana University	Relationship between SMR and Planetary Boundaries: A mitigation strategy for the global environmental crisis
15:12–15:30	Discussion			
15:30–16:00	Poster session & Coffee break			

WEDNESDAY, 23 OCTOBER 2024

16:00–17:30 TRACK A.2 – SESSION 2.2: Advanced Fuels, Reprocessing, Waste Management and Decommissioning Aspects for SMRs – Safety, Design and Technology **Room: BR-B/M1**

Chairpersons: A. Gonzalez-Espartero (IAEA)
A. Gomez Cobo (IAEA)

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
16:00–16:15	126	M. Sokcic-Kostic	Germany / NUKEM Technologies Engineering Services GmbH	Facilitating SMR fuel fabrication from HALEU UF6
16:15–16:30	76	A. Lever (TBC)	United Kingdom / Nuclear Transport Solutions	The Development of a Versatile Type B(U)F Transport Package to Support the Front-End Fuel Cycle of Gen-IV Reactors
16:30–16:45	391	J.-M. Marin (TBC)	France / newcleo	newcleo's Fuel Cycle innovations for SMR-LFR including transport of fresh and spent fuels
16:45–17:00	309	H. Lestani	Argentina / CNEA	CAREM 25 fuel cycle optimization and ATF evaluation
17:00–17:30	Discussion			

WEDNESDAY, 23 OCTOBER 2024

16:00–17:30

**TRACK C.11 – SESSION 11.2:
Strengthening the Foundations: SMR
Security by Design**

Room: M3

Chairpersons:

**R.S.H. Elemam (University of Ontario Institute of Technology, Canada)
R. Busquim (IAEA)**

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
16:00–16:15	253	A. Williams	United States of America / SNL	Incorporating International Considerations into Systems Engineering and Regulatory Lifecycle-Based Framework for Security-by-Design
16:15–16:30	381	R. Peel	United Kingdom / King's College London	Insider Threat Security Considerations for Advanced and Small Modular Reactors
16:30–16:45	202	A. Malabirade	France / Ministry of Ecological Transition	Security by Design: Understanding how to Apply it to SMR
16:45–17:00	270	K. Kwon (TBC)	Republic of Korea / KINAC	Standard design review areas
17:00–17:30	Discussion			

WEDNESDAY, 23 OCTOBER 2024

16:00–17:30 **TRACK 12 – SESSION 12.1:** **Room: M2**
Safeguards for SMRs: Preparing for Implementation

Chairpersons: **B. Aranguern (United States of America, NNSA)**
S. Poghosyan (IAEA)

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
16:00–16:15	300	J. Whitlock	IAEA	Safeguards by design: preparing for Small Modular Reactors
16:15–16:30	174	T. Aljuwaya	Saudi Arabia / KACST	An overview of safeguards challenges and opportunities for small modular reactors
16:30–16:45	10	N. Mayhew	VCDNP	Safeguards by Design and Advanced Reactors: Overcoming the Catch-22 to Implementation
16:45–17:00	304	M. Kent	Canada / CNSC	Canada's safeguards readiness for small modular and advanced reactors
17:00–17:15	400	L. Scott	United States of America / NNSA	United States Cooperative Nuclear Facilities and Safeguards Experience (NFASE) with the CNSC and EURATOM
17:15–17:30		Discussion		

WEDNESDAY, 23 OCTOBER 2024

16:00–17:30 **TRACK D.15 – SESSION 15.2:** **Room: M7**
Contracting Finance and Risk Management

Chairpersons: **G. Boro vas (United States of America, Hunton Andrews Kurth)**
M. Cometto (IAEA)

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
16:00–16:15	199	F. Tassone	Italy / Politecnico di Milano	Economic Analysis of Thermal Energy Storage Integration in Small Modular Reactors Balance of Plant

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
16:15–16:30	122	S. Rozhenko	Russian Federation / JSC Kept	Extended assessment of nuclear and alternative electricity generating technologies based on their impact on national GDP (Cost-to-GDP concept)
16:30–16:45	256	P. Mach	Czech Republic / ÚJV Řež	Economic evaluation of SMR projects as an option to power plants burning hard coal in Czech Republic
16:45–17:00	425	A. Paterson	United States of America / Nuclear Industry Council	Deployment of SMRs: a Risk-based Framework for “Public-Private Investment Partnerships 3.0”
17:00–17:15	153	A. Van Heek	Netherlands / Nuclear-21	Controlling Investment Risks by Integrating Decommissioning by Design in SMR Development
17:15–17:30		Discussion		

WEDNESDAY, 23 OCTOBER 2024

17:45–20:00	SMRS AND MICROREACTORS: TOWARDS A SUSTAINABLE AND EQUITABLE FUTURE (YOUNG GENERATION EVENT) Moderator: K. Madden (IAEA)	Room: BR-B/M1
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THURSDAY, 24 OCTOBER 2024

09:00–10:15	PLENARY: CAPACITY BUILDING – A DRIVER FOR ACCELERATED DEPLOYMENT OF SMRS Moderator: P. Dieguez Porras (IAEA)	Room: BR-B/M1
10:15–10:45	Poster session & Coffee break	

THURSDAY, 24 OCTOBER 2024

10:45–12:15 **TRACK A.3 – SESSION 3.1:** Engineering, Codes & Standards, Supply Chain, Operation and Maintenance of SMRs **Room: M3**

Chairpersons: **J. Kickhofel (Apollo+)**
P. Pyy (IAEA)

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
10:45–10:57	66	J. Niepceron	France / NUWARD	Progress of steel concrete structures codifications for SMRs
10:57–11:09	158	L. Huang (TBC)	China / Hainan Nuclear Power Co.,Ltd	Research on Digital Intelligent Operation and Maintenance Technology for SMR
11:09–11:21	258	J. A. Ward	United States of America / AMS	Process Instrumentation for New Generation of Reactors
11:21–11:33	272	N. Prinja	United Kingdom / Jacobs Clean Energy	AI for Design, Engineering, Construction and Operation of SMRs
11:33–11:45	251	A. Duthou	France / Framatome	Addressing SMRs safety I&C specific requirements
11:45–11:57	345	D. Papaz	Canada / CNSC	Regulatory requirements for managing supply chain for Small Modular Reactors in Canada
11:57–12:15	Discussion			
12:15–14:00	Lunch			

THURSDAY, 24 OCTOBER 2024

10:45–12:15 **TRACK A.5 – SESSION 5.1:** Non -Electric Applications for SMR **Room: M2**

Chairpersons: **C. Vaglio-Gaudard (CEA, France)**
F. Ganda (IAEA)

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
10:45–11:00	28	M. De Lourdes Moreira	Brazil / CNEN	Electricity and Water cogeneration using a Small 75MWth PWR
11:00–11:15	54	M. Cioffi	Italy / Ansaldo Energia	Poly-generation of power and desalinated water by Small Modular Reactors
11:15–11:30	79	P. Amphoux	France / CEA	IDNES a CEA project dedicated to SMR concept for decarbonization beyond pure power generation
11:30–11:45	95	P. Gilski	Poland / OSGE	Challenges in development of cogeneration module for SMRs
11:45–12:00	131	H. Ur Rehman	Pakistan / PIEAS	Assessing Viability of Small Modular Reactors in Pakistan's Energy Landscape: Navigating Technological Diversity and Challenges in Possible Integration with Renewables
12:00–12:15	Discussion			
12:15–14:00	Lunch			

THURSDAY, 24 OCTOBER 2024

10:45–12:15 **TRACK B.7 – SESSION 7.3:** **Room: M7**
SMR Licensing Challenges and Regulatory Readiness

Chairpersons: TBD
K. Alm-Lytz (IAEA)

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
10:45–11:00	101	J. Rega	Belgium / Tractebel	Licensing Challenges for Risk-Informed Small Modular Reactor Designs in European Deterministic Regulatory Frameworks
11:00–11:15	135	M. Asghar	Pakistan / PAEC	Issues and Challenges of Regulatory Framework for Deployment of SMRs – Pakistan Perspective
11:15–11:30	298	J.L. Sablay	Philippines / PNRI	Regulatory Readiness and Challenges for Small Modular Reactors Deployment: The Philippine Perspective

11:30–11:45	363	M. Lehtonen	Spain / Universitat Pompeu Fabra	The role of regulation as an obstacle or an enabler of the SMR promise? Diverging industry and regulator views
11:45–12:00	427	H. Khouaja;	Canada / Reactor Safety Insights Ltd	Basis for Regulatory Requirements for Design and Safety Analysis of Reactor Facilities
12:00–12:15	Discussion			
12:15–14:00	Lunch			

THURSDAY, 24 OCTOBER 2024

10:45–12:15 **TRACK C.11 – SESSION 11.3:** **Room: M0E100**
Computer Security for SMRs:
Protecting the Digital Frontline

Chairpersons: **A. Iyengar (United States of America, NNSA)**
A. Acevedo (IAEA)

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
10:45–11:00	226	T. Kim	Republic of Korea / KAERI	Introduction of a Cyberattack Detection Framework for Safety Systems of NPPs
11:00–11:15	249	S. Boulley, A. Benoit Rosario (TBC)	France / IRSN	Cybersecurity Matter for Remote Access of SMR
11:15–11:30	301	T. Rivera	United States of America / NRC	NRC Regulatory Efforts for Cybersecurity of Small Modular Reactors
11:30–11:45	322	G. Abdiyeva-Aliyeva	Azerbaijan / Institute of Control Systems	Machine Learning Solutions for Enhanced Security in Small Modular Reactors (SMRs): A Comprehensive Approach
11:45–12:15	Discussion			
12:15–14:00	Lunch			

THURSDAY, 24 OCTOBER 2024

10:45–12:15 **TRACK D.14 – SESSION 14.1:** **Room: BR-B/M1**
Opportunities for Acceleration

Chairpersons: **K. Kalend (Poland, OSGE)**
E. Mathet (IAEA)

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
10:45–11:00	41	Y. Chernyakhovskaya	Russian Federation / RosatomService JSC, Rosatom	Development of nuclear infrastructure based on different contracting models and risks assessment
11:00–11:15	415	M. Ozerina	IAEA	Considerations on the Accelerated Deployment of SMRs
11:15–11:30	106	D. Dean	IBNI	International Bank for Nuclear Infrastructure (IBNI) – A comprehensive and multi-dimensional solution to enable accelerated global scaling of SMRs
11:30–11:45	374	S. Iqbal	Canada / Candu Owners Group	CANDU Owners Group: Excellence through Collaboration for an Evolving Nuclear Landscape
11:45–12:00	96	K. Kalend	Poland / OSGE	Plans for building organizational and human capacity under OSGE's nuclear power program
12:00–12:15		Discussion		
12:15–14:00		Lunch break		

THURSDAY, 24 OCTOBER 2024

12:30–13:45	SIDE EVENT: SMR REGULATORS' FORUM (SMR RF) AT 10 YEARS (2014-2024) Moderator: P. Calle-Vives (IAEA)	Room: M2
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THURSDAY, 24 OCTOBER 2024

14:00–15:30 **TRACK A.5 – SESSION 5.2:** **Room: M3**
Non-Electric Applications for SMR

Chairpersons: **M. Ricotti (Politecnico di Milano)**
D. Babu (BARC)

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
14:00–14:15	211	E. Lambridis (TBC)	Belgium / Tractebel	Decarbonizing Refining Processes: SMR deployment paving the way to Synthetic Fuels

14:15–14:30	282	G. R. Sunaryo	Indonesia / BRIN	Strategic Implications of the 10MW Experimental Power Reactor (RDE) in Non-Electric Nuclear Power Generation Applications in Indonesia
14:30–14:45	323	O. Y. Kutlu	Turkiye / TENMAK	Techno-Economic Analysis of SMR Cogeneration with Desalination: A Case Study in Türkiye
14:45–15:00	330	A. S. Epiney	United States of America / INL	FORCE: A modeling approach to increase the value proposition for SMRs in non-electric applications
15:00–15:15	375	F. B. Quansah	Ghana / GAEC	Mapping the hydrogen economy in Ghana: the strategic contribution of Small Modular Reactors
15:15–15:30	Discussion			
15:30–16:00	Poster session & Coffee break			

THURSDAY, 24 OCTOBER 2024

14:00–15:30

TRACK B.6 – SESSION 6.2:
National Perspective on Legal Frameworks for SMRs

Room: M7

Chairpersons:

M. Man (United States of America / PNNL)
J. Herbach (IAEA)

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
14:00–14:15	209	C. Owino	Kenya / NuPEA	Applicability of Kenya's Legal Framework to Support the Deployment of Small Modular Reactor
14:15–14:30	240	M. Turner	Slovakia / UJD SR	Legal and Regulatory Challenges in Introducing SMR Technologies in Slovakia
14:30–14:45	324	T. Khurshid (TBC)	Pakistan / CISS AJK	Analysis of Legislative and Regulatory Frameworks for Small Modular Reactor Deployment in Pakistan: Opportunities and Challenges
14:45–15:00	359	A. O. Mowitz	Sweden / Swedish Government Inquiries	From Unclear to Nuclear - Towards a more effective licensing process in Sweden
15:00–15:15	378	K. Adamczyk	Poland / PGE PAK Energia	Legal, institutional and policy instruments to facilitate deployment of

nuclear power plants in
Poland, including SMRs

15:15–15:30 **Discussion**

15:30–16:00 **Coffee break**

THURSDAY, 24 OCTOBER 2024

14:00–15:30 **TRACK C.8 – SESSION 8.3:** **Room: M2**
SMRs Safety Demonstration

Chairpersons: **M.O. Gimenez (Argentina, CNEA)**
L. Man (IAEA)

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
14:00–14:12	99	M. Akmali	France / Assystem	Evolving PSA methodologies: Towards dynamic reliability in SMR passive systems
14:12–14:24	255	J. Sanchez-Torrijos	Spain / NFQ Advisory Services S.L.	Analysis of DEC-A sequences in a NUSCALE-like SMR considering ATF fuel performance using the system code
14:24–14:36	280	P. Elistratov	Russian Federation / NIKIET	Probabilistic safety analysis of the first level of small modular reactors using the example of the SHELF-M RF
14:36–14:48	316	M. Obergfell (TBC)	Germany / GRS	Small modular reactor multi-module PSA
14:48–15:00	373	M. Skrzypek	Poland / NCBJ	Coupled thermal-hydraulic and neutronic deterministic safety analysis for the HTGR SMR research demonstrator HTGR-POLA
15:00–15:12	414	I. Basic	Croatia / APoSS d.o.o	Context of single failure criterion (SFC) application for small modular reactors (SMR)
15:12–15:30	Discussion			
15:30–16:00	Poster session & Coffee break			

THURSDAY, 24 OCTOBER 2024

14:00–15:30 **TRACK D.14 – SESSION 14.2:** **Room: M1**
Assessments and feasibility studies

Chairpersons: **F. Tonos Paniaga (IAEA)**
M. Constantin (Romania)

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
14:00–14:15	42	M. Constantin	Romania / RATEN ICN	Analysis of SMR Implementation in Romanian Energy System
14:15–14:30	429	H.J. Kim	WANO	WANO Services to Support Successful New Nuclear Reactor Deployment
14:30–14:45	284	J. Moore	Canada / Kernkraft Consulting Inc.	A common approach for management systems development for newcomer countries
14:45–15:00	340	J. Best, S. Pecko	United States of America / Sargent & Lundy LLC	Feasibility Study for Deployment of Future SMR in IAEA Member Country
15:00-15:15	435	G. Cardoso (TBC)	Nucleareurope	Recent EU legislative proposals and the impact on SMR technologies deployment
15:15–15:30		Discussion		
15:30–16:00		Poster session & Coffee break		

THURSDAY, 24 OCTOBER 2024

16:00–17:30 TRACK A.3 – SESSION 3.2: Engineering, Codes & Standards, Supply Chain, Operation and Maintenance of SMRs Room: M3

**Chairpersons: P. Pyy (IAEA)
A. Khaperskaia (IAEA)**

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
16:00–16:12	292	T. Walter (TBC)	Germany / PreussenElektra GmbH	The IEC Standard Series on Cybersecurity for I&C and Electrical Systems For Operating and Small Modular Reactors
16:12–16:24	305	A. S. Alomari (TBC)	Saudi Arabia / KACST	Recent Advancements of Metallic Materials for Integral Molten Salt Reactors
16:24–16:36	353	S. Choudhury	United States of America / UC San Diego	Flexibility limits in Small modular reactors for enhanced load following

16:36–16:48	371	N.J. Barron	Netherlands / Nuclear Research and consultancy Group (NRG)	Design of a reusable Materials Irradiation Device (MIDI) in High Flux Reactor in Petten for testing and qualification of SMR materials
16:48–17:00	114	E. Dagorn	France / Bureau Veritas	Challenges for serial deployment of SMRs: A certification body's point of view
17:00–17:12	191	H. Nam	Republic of Korea/ Korea Hydro & Nuclear Power Central Research Institute	Maintenance Strategy for i-SMR
17:12–17:30	Discussion			

THURSDAY, 24 OCTOBER 2024

16:00–17:30 TRACK C.8 – SESSION 8.4: SMR safety research and technology solutions **Room: M0E100**

**Chairpersons: D. Hummel (Canada, CNL)
A. Constantin (IAEA)**

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
16:00–16:15	83	F. Mascari	Italy / ENEA	Horizon Euratom SASPAM-SA: Main ideas and first outcomes
16:15–16:30	97	J. Fontanet (TBC)	Spain / CIEMAT	CIEMAT's contributions to the research on SMR safety and design
16:30–16:45	204	G. Briggs	United Kingdom / James Walker Sealing Products & Services	Flange management approach for reliable SMR reactor vessel integrity
16:45–17:00	356	S. Anand	India / BARC	Aerosol evolution in a typical SMR containment under hypothetical accidental conditions
17:00–17:15	362	H. Nakamura	JAEA	Accelerating international cooperation on SMR safety research
17:15–17:30	Discussion			

THURSDAY, 24 OCTOBER 2024

16:00–17:30 TRACK D.14 – SESSION 14.3: Member States' Experiences in Infrastructure Development **Room: BR-B/M1**

**Chairpersons: V. Nkong-Njock (Cameroon)
S. Debrah (IAEA)**

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
16:00–16:15	416	V. Nkong-Njock	Cameroon / Ilemel Energy solutions	Opportunities and Challenges in Introducing SMRs in the ECOWAS Region
16:15–16:30	90	E. Obande	Nigeria / Nigeria Atomic Energy Commission	Considerations for the More Viable Option in the Deployment of Traditional Nuclear Power Plants (NPPs) and/or Small Modular Reactors (SMRs) for the West African Sub-Region
16:30–16:45	104	S. Alshehri	Saudi Arabia / KACST	Navigating the Energy Landscape: Considerations for Deploying Small Modular Reactors in Saudi Arabia
16:45–17:00	62	J. Gbinu	Ghana / GAEC	Integration of Small Modular Reactors (SMRs) in Ghana's Energy Mix: A Pathway to Sustainable Development
17:00–17:15	169	C. Mavag	Mongolia / Nuclear Energy Commission	Status of National Nuclear Energy Programme in Mongolia
17:15–17:30	Discussion			

THURSDAY, 24 OCTOBER 2024

16:00–17:30 TRACK D.15 – SESSION 15.3: Contracting Finance and Risk Management Room: M2

**Chairpersons: A. Van Heek (Netherlands, Nuclear-21)
M. Cometto (IAEA)**

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
16:00–16:15	387	R. Duncan	United States of America / Last Energy	Mitigating FOAK Risk in SMR Deployment: Insights from Contracting Approaches
16:15–16:30	222	I. Pletukhina	United States of America / Hunton Andrews Kurth LLP	Demystifying a Contract: Why Contract Price is not the Cost of the Project
16:30–16:45	223	G. Borovas	United States of America / Hunton Andrews Kurth LLP	From Design to Deployment: Project Management for Successful Completion

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
16:45–17:00	311	M. Shimofuji	Japan / ZettaJoule	Facilitating SMR Deployment through Sustainable Project Financing: Perspective of a Developer
17:00–17:15	49	M. Kovachev	Bulgaria / IBNI SAG	Innovative financing solution to scale nuclear investments - The international Bank for Nuclear Infrastructure
17:15–17:30	Discussion			

THURSDAY, 24 OCTOBER 2024

16:00–17:30 **TRACK C.11 – SESSION 11.4:** **Room: M7**
Stakeholder Perspectives on Nuclear Security of SMRs

Chairpersons: **C. Romao (Brazil, Brazilian Institutional Security Cabinet)**
H. Looney (IAEA)

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
16:00–16:15	187	S. Marogulov	Russian Federation / Rosatom	General Approaches to Physical Protection of Small Modular Reactors
16:15–16:30	383	R. Peel	United Kingdom / King's College London	Nuclear Industry Views on the Security of Small Modular Reactors
16:30–16:45	200	A. Adeniyi	United States of America / ORNL	Development of a Robust Framework for Security Assessment of Safety-Informed Siting Decisions under Uncertainty
16:45–17:00	TBD	TBD	TBD	TBD
17:00–17:15	Discussion			

FRIDAY, 25 OCTOBER 2024

09:00–10:30 **TRACK A.5 – SESSION 5.3:**
Non-Electric Applications for SMR

Room: M7

Chairpersons: **K. Khasawneh (JAEC)**
 M. E. Urso (IAEA)

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
09:00–09:12	109	M. Kandil	Egypt / EAEA	Comparison between a Small Modular Reactor and a traditional nuclear reactor in water desalination cogeneration application
09:12–09:24	360	G. Simonini	France / CEA	Integrating Small Modular Reactors into Hybrid Energy Systems: the TANDEM Modelica library
09:24–09:36	127	G. Fouga	Argentina / CNEA	Cogeneration employing the CAREM modular reactor for the pyrolysis treatment of cuttings derived from the oil and gas industry in the Neuquén basin.
09:36–09:48	188	B. Almutairi	Kuwait / Kuwait Institute for Scientific Research	Evaluating the Viability of Small Modular Reactors for Non-Electric Applications in Kuwait: A Preliminary Assessment
09:48–10:00	161	W. Dridi	Tunisia / CNSTN	Nuclear Hydrogen Production Analysis for GT-HTR using HEEP Software
10:00–10:12	307	G. Masotti	Italy / Politecnico di Milano	Simulation of flexible Small Modular Reactor operation with a thermal energy storage system
10:12–10:30	Discussion			
10:30–11:00	Coffee break			

FRIDAY, 25 OCTOBER 2024

09:00–10:30 **TRACK B.7 – SESSION 7.4:**
Current Licensing Activities and Technology-specific Considerations

Room: M3

Chairpersons: **TBD**
 S. Ali (IAEA)

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
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09:00–09:15	61	V. Khlobystov	Russian Federation / SEC NRS	Approaches to Improving Safety Requirements in Connection with the Development and Implementation of Small Modular Reactor Technologies
09:15–09:30	137	I. Bykh; D. Shchekin;(TB C) I. Yurina	Russian Federation / Afrakantov OKBM	Features and Principles of Regulatory Regulation for the Project of Land-Based SNPP with RITM200N Reactor Plant
09:30–09:45	177	S. J. Yoon	Republic of Korea / KHNP	Regulatory Gap Analysis for i- SMR
09:45–10:00	331	A. Spalding	United States of America / Westinghouse	Regulatory considerations for the transportable eVinci microreactor
10:00-10:15	TBD	TBD	TBD	TBD
10:15–10:30		Discussion		
10:30–11:00		Coffee break		

FRIDAY, 25 OCTOBER 2024

09:00–10:30

**TRACK C.12 – SESSION 12.2:
Safeguards for SMRs: Meeting
Technical Challenges**

Room: M2

Chairpersons:

**N. Jörgenson (Denmark, Seaborg)
J. Whitlock (IAEA)**

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
09:00–09:15	151	I. Ezelarab (TBC)	United States of America / Westinghouse	Westinghouse Electric Company: Decarbonization of the Electric Power Sector and the Challenges Facing Advanced Reactors to incorporate Safety, Security and Safeguards Measures
09:15–09:30	197	V. Mishra	Sweden / Uppsala University	Nuclear safeguards assessments of molten salt reactor spent fuel
09:30–09:45	399	L. Scott; M. Budsworth	United States of America / ORNL; United Kingdom; NNL	U.S.-U.K. Bilateral Collaboration on a Material Flow Safeguards Analysis for a Nominal Molten Salt Reactor Design
09:45-10:00	410	J. Hu	United States of America / ORNL	Identifying Technical Challenges in Safeguards Measurements of

10:00–10:30 **Discussion**

10:30–11:00 **Coffee
break**

FRIDAY, 25 OCTOBER 2024

09:00–10:30 TRACK D.16 – SESSION 16: Public and Stakeholder Engagements in SMR Development and Deployment **Room: BR-B/M1**

**Chairpersons: G. Pavel (ENEN)
I. Chatzis (IAEA)**

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
09:00–09:15	81	A. Meliana	Indonesia	Securing Small Modular Reactor Development in Remote Areas: Case Studies and Cultural Analysis in Indonesia
09:15–09:30	232	M. Idzat Bin Idris	Malaysia	Study of Knowledge and Public Awareness of Small Modeular reactors in malaysia
09:30–09:45	271	S. AISanad	Kuwait	Stakeholder Perspectives on Challenges in Integrating and Developing Infrastructure for Small Modular Reactors (SMRs) in Kuwait
09:45–10:00	184	I. Kirsten (TBC)	VCDNP	The value of early engagement between stakeholders to ensure successful deployment of SMRs in the Global South
10:00–10:15	364	J.N. Widyamanto	Germany	Resilient energy systems as a goal for risk-informed approach in developing small modular reactors (SMRs)
10:15–10:30		Discussion		
10:30–11:00		Coffee break		

FRIDAY, 25 OCTOBER 2024

11:00–12:15	PLENARY: INNOVATIVE INDUSTRIAL INVOLVEMENT: FROM DESIGN TO MANUFACTURING Moderator: A. Dutta Ray (IAEA)	Room: BR-B/M1
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FRIDAY, 25 OCTOBER 2024

12:30–13:30

CLOSING PLENARY SESSION

Room: BR-B/M1

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Poster Presentations

TUESDAY, 22 OCTOBER 2024

10:15–10:45 POSTER SESSION A.1:
Design and Technology Development of
15:30–16:00 Small Modular Reactors

Paper No.	Author(s)	Designating Member State/Organization	Title of Paper	Poster no.
36	M. Bedretdinov	Russian Federation / OKB Gidropress JSC	Thermal-Hydraulic Calculations for the New Integral Small Modular Reactor VVER-I With Natural Circulation in Primary Circuit	1
53	A. Gonin	Russian Federation / Leypunsky Institute for Physics and Power Engineering	Experimental Capability for Investigations of Thermal-Hydraulic Processes And Critical Heat Fluxes on Full-Scale Models of Rod Assemblies for Small Modular Reactors	2
15	J. Riverola Gurruchaga	Spain / ENUSA	Stability Analysis of an SMR with Lyapunov Methods	3
20	Y. Abbassi	Iran / Nuclear Science and Technology Research Institute	Effect of strong n-th coupling on core design calculations based on a typical 100 MWe integral PWR design	4
26	R. Nushrat (TBC)	Canada / McMaster University	Neutronics Design Optimization of a Sodium Cooled Micro Modular Fast Reactor Using OpenMC	5
45	S. El-Din El-Morshedy	Egypt / EAEA	Thermal-hydraulic modelling and analysis of a small modular reactor	6
78	M. I. Aziz	Egypt / EAEA	Analysis of Neutronic Performance for SMART Reactor With Uranium Nitride and Thorium Fuel	7
92	J. D. Choi	Republic of Korea / KEPSCO E&C	Compact Design for CVCS heat exchangers for SMR	8
110	Z. Dai	China / Xiapu Nuclear Power Corporation, CNNP., CNNC	Development and Multipurpose Applications of Small Modular Sodium-cooled Fast Reactors in Two Component Nuclear System	9
121	D. Setyawan	Indonesia / BAPETEN	Heat Transfer Simulation on HTGR Pebble Bed Using ATHLET Code	10
179	A. Shafique	Pakistan / PNRA	Computational Fluid Dynamics Approach for Optimizing	11

			Temperature and Flow Profile in a Natural Circulation Based Integrated SMR	
201	E. Hourcade (TBC)	France / Blue Capsule Technology	Unique nuclear heat: Blue Capsule's singular approach to design simplification and integration in small modular reactors	12
210	F. Varaine	France / OTRERA New Energy	The OTRERA Sodium Fast Reactor Project: from preliminary to conceptual design phase	13
319	M.S. Abdelaziz	Egypt / EAEA	Modeling of Proposed Passive Heat Pipe Loops Cooling System	14
321	F. Miftasani	Indonesia / BRIN	Core Geometry and Reflector Optimization of 10 MWt Micro-PeLUit Pebble Bed HTGR	15
328	P. Sabharwall (TBC)	United States of America / INL	SMR Current Status: Development Needs and Global Perspectives	16
332	E. Greaves	Venezuela / Universidad Simón Bolívar	Low Energy Linear Accelerator-Driven Subcritical Molten Salt Reactor to Produce Clean CO ₂ -Free Energy with Stirling Cycle	17
336	H. S. Han	Republic of Korea / KAERI	Tube inlet orifice design of a once-through steam generator considering operation strategies	18
343	J. Eriksson	Sweden / Chalmers University of Technology	Novel design features of proposed light-water SMRs — a Swedish perspective	19
423	S. Touati	Algeria / CRNB	Digital Twin Technology based Modeling of Small Modular Reactor for early deployment within power Energy Systems	20
424	T. J. Bhor	France / Assystem	Digital Twin Technology based Modeling of Small Modular Reactor for early deployment within power Energy Systems	21
162	W. Dridi	Tunisia / CNSTN	Neutronic Analysis of Westinghouse Small Modular Reactor (AP300) using OpenMC	22
136	I. Yurina	Russian Federation / Afrikantov OKBM	Status of Activities on the Project of the Land-Based Small Nuclear Power Plant on the Basis of RITM-200N Reactor Plant	23
329	A. Dedul	Russian Federation / JSC AKME-engineering	SVBR-100 Project: Main Features and Current State	24

84	A. Martin	France / Framatome	Analysis of the new RCC-MRx methodologies for creep-fatigue damage	25
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TUESDAY, 22 OCTOBER 2024

10:15–10:45 POSTER SESSION D.17
15:30–16:00 Cooperation for Harmonization and Standardization

Paper No.	Author(s)	Designating Member State/Organization	Title of Paper	Poster no.
266	H. Desai	India / University of Cambridge	Minilaterals for Small Modular Reactors: Cost Effective and Environmentally Sound Energy Transition Towards Global Net Zero	26
338	V. Skliarenko	Italy / Politecnico di Milano	Nuclear business: shifting from supply chain to ecosystem configuration	27
433	E. Vieilletoile	France / EDF	The EUR Association – Revision of the EUR Document and Ongoing Work on SMR Requirements	28
434	F. Taucer	European Commission	Shaping SMR Standardization for Europe's Energy Future through Science	29

Paper No.	Author(s)	Designating Member State/Organization	Title of Paper	Poster no.
180	J. Widyatmanto	Indonesia	Dealing with Ignorance: Resilience for Nuclear Safety-Security	30

TUESDAY, 22 OCTOBER 2024

10:15–10:45 POSTER SESSION B.7:
15:30–16:00 Regulatory Considerations for SMRs

Paper No.	Author(s)	Designating Member State/Organization	Title of Paper	Poster no.
77	P. Darnowski	Poland / PAA	Safety Analysis of Small Modular Reactors in the context of the Polish regulatory framework	31

Paper No.	Author(s)	Designating Member State/Organization	Title of Paper	Poster no.
418	A. Mathai	Canada / CNSC	New Nuclear Construction Compliance Oversight	32

TUESDAY, 22 OCTOBER 2024

10:15–10:45 POSTER SESSION C.8:
15:30–16:00 Demonstrating SMR's Safety Case

Paper No.	Author(s)	Designating Member State/Organization	Title of Paper	Poster no.
327	P. Min	Romania / CNCAN	On some safety aspects in Small Modular Reactors	33

WEDNESDAY, 23 OCTOBER 2024

10:15–10:45 POSTER SESSION A.2:
15:30–16:00 Advanced Fuels, Reprocessing, Waste Management and Decommissioning Aspects for SMRs – Safety, Design and Technology

Paper No.	Author(s)	Designating Member State/Organization	Title of Paper	Poster no.
134	H. Tohver	Estonia / University of Tartu	Empowering Emerging Nuclear Nations: Wastimate's Open-Source Approach for Small Modular Reactor Radioactive Waste Management	2
175	T. Aljuwaya	Saudi Arabia / KACST	Investigation of hydrodynamic and scaling of TRISO coaters for high temperature small modular reactors	3
6	S. Alhassan	Ghana / Nuclear Regulatory Authority	Effect of changing the outer fuel element diameter on thermophysical parameters of RITM-200 reactor unit	4
11	B. Zlobenko	Ukraine / State Institution "Institute of Environmental Geochemistry of NAS of Ukraine"	Waste management of the fuel cycle on the implementation of SMR projects in Ukraine	5
80	B. B. Acar	Türkiye / Hacettepe University	Evaluation of Radioactive Waste Streams and Management Options for Molten Salt Small Modular Reactor	6

TUESDAY, 22 OCTOBER 2024

10:15–10:45 POSTER SESSION B.6:
15:30–16:00 International and National Legal
Frameworks and SMRs

Paper No.	Author(s)	Designating Member State/Organization	Title of Paper	Poster no.
178	A. Miśkiewicz	Poland / Institute of Nuclear Chemistry and Technology	Challenges and constraints related to the final stage of the SMR fuel cycle in the light of plans to implement SMR technology in Poland	7
181	A. Dandi	Libya / Libyan Atomic Energy Establishment	Advancing nuclear design: optimizing burnable poison configurations for extended cycle small modular reactors	8
224	R. B. Saragih (TBC)	Indonesia / Polytechnic Institute of Nuclear Technology	Decommissioning By Design (DBD) Concept of Indonesia's PeLUIt 150 MW Small Modular Reactors (SMR) Model: Challenge and Opportunity to Ensure Safety and Sustainability	9

WEDNESDAY, 23 OCTOBER 2024

10:15–10:45 POSTER SESSION D.13:
15:30–16:00 SMRs in Energy Planning for Climate
Change Mitigation

Paper No.	Author(s)	Designating Member State/Organization	Title of Paper	Poster no.
2	H. Llanes	Colombia / Universidad Nacional de Colombia	Past, present and future of nuclear energy in Colombia from the deployment of SMRs	10
8	C. P. Valderrama	Colombia / Javeriana University	Relationship between SMR and Planetary Boundaries: A mitigation strategy for the global environmental crisis	11
19	A. Rahimian	Iran / Nuclear Science and Technology	Small Modular Reactors in the Petroleum Industry: A Sustainable Solution for Enhanced Operations	12

		Research Institute (NSTRI)		
29	F. Veselov	Russian Federation / Energy Research Institute of the Russian Academy of Sciences	Efficiency assessment of SMR development as a non-carbon energy source in the Russian electricity and district heat supply systems	13
35	A. Salman	Egypt / EAEA	Harnessing the Potential of Small Modular Reactors for Climate Change Mitigation through Energy-Mix Optimization and Hydrogen Generation	14
51	J. H. Moon	Korea / KAERI	Application of SMART to Achieve Net Zero Emissions	15
56	J. Lee	Korea / KAERI	Non-electric Application of Nuclear Energy in Korea	16
70	A. Ibrahim	Nigeria / Nigerian Nuclear Regulatory Authority	The role of SMRs in mitigating climate change and promoting economic growth in Africa:s case study of Nigeria	17
75	A. Dicko	Mali / Malian Radiation Protection Agency	Nuclear power, an opportunity for development in Africa	18
86	A. Carvalho	Brazil / IPEN	Small modular reactors in Brazil:A paradigm shift in energy policy for climate mitigation	19
105	M. Dougdag	Algeria	Feasibility study of a hybridization of small modular reactor with a solar power plant using molten- salt heat storage in Algerian south	20
124	E. Börcsök	Hungary / HUN-REN EK-CER	Optimization of SMR cogeneration application in an urban environment	21
128	L. Guimarães (TBC)	Brazil / AMAZUL / ABDAN	The Role of Small Modular Reactors in Enhancing Global Energy Security: A Comparative Analysis of Deployment Strategies in Diverse Energy Markets	22
138	T. Z. Malatim	Libya / Libyan Atomic Energy Establishment	Comparative Assessment of Small Modular Reactors versus Large Nuclear Power Plants for Future Electricity Generation in Libya	23
296	J. Kang	Korea / KHNP	Towards a Sustainable Future: SMR Smart Net Zero City	24
394	G. Caprioli	Italy / Edison	Italian Scenario: reintroduction of new nuclear and benefits for the system	25

108	F. Panday	South Africa / CSIR	Repurposing of coal power plants with nuclear methanol hybrid energy system. A South Africa case study	26
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WEDNESDAY, 23 OCTOBER 2024

**10:15–10:45 POSTER SESSION D.15:
15:30–16:00 Financing, Cost & Economic Appraisals
and Contracting Approaches for SMR
Projects**

Paper No.	Author(s)	Designating Member State/Organization	Title of Paper	Poster no.
48	V.Usanov	Russian Federation / Leypunsky Institute for Physics and Power Engineering	Some Technical and Institutional Issues to Accelerate Deployment of SMRs	27
308	D. L. Dua	United States of America / Hunton Andrews Kurth LLP	Governmental incentives for SMR deployment	28
342	D. Musyoka	Kenya / NuPEA	Opportunities in development banks' framework in the acceptability of advanced nuclear reactors in Kenya	29
320	D.L.Dua	United States of America / Hunton Andrews Kurth LLP	Governmental Incentives for SMR Deployment	30

WEDNESDAY, 23 OCTOBER 2024

10:15–10:45 POSTER SESSION C.10:
15:30–16:00 Safety, Security and Safeguards
Interfaces related to SMRs

Paper No.	Author(s)	Designating Member State/Organization	Title of Paper	Poster no.
133	S. Grape	Sweden / Uppsala University	Researching nuclear reactors deployed at sea from a 3S perspective	31
217	S. Jeong	Republic of Korea / KINAC	Consideration of a Regulatory Framework for Safeguards in SMRs	32

WEDNESDAY, 23 OCTOBER 2024

10:15–10:45 POSTER SESSION C.11:
15:30–16:00 Security of SMR: Physical Protection
and Computer Security

Paper No.	Author(s)	Designating Member State/Organization	Title of Paper	Poster no.
216	A. Evans	United States of America / SNL	Securing small modular reactors in urban environment	33
263	P. Eftekhari	United States of America / PNNL	Developing Regulatory Frameworks for A/SMRs: Security by Design and Other Regulatory Considerations	34

WEDNESDAY, 23 OCTOBER 2024

10:15–10:45 POSTER SESSION C.12:
15:30–16:00 Safeguards for SMR

Paper No.	Author(s)	Designating Member State/Organization	Title of Paper	Poster no.
100	C. Olaru	Sweden / Uppsala University	Integration of Small Modular Reactors in the Swedish Nuclear Energy System: A Proliferation Resistance Study	35
198	R. Rossa	Belgium / SCK CEN	Systematic proliferation resistance analysis of Small Modular Reactor designs	36

Paper No.	Author(s)	Designating Member State/Organization	Title of Paper	Poster no.
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THURSDAY, 24 OCTOBER 2024

10:15–10:45 **POSTER SESSION A.3:**
15:30–16:00 **Engineering, Codes & Standards, Supply Chain, Operation and Maintenance of SMRs**

Paper No.	Author(s)	Designating Member State/Organization	Title of Paper	Poster no.
159	R. Tscherning	Canada / University of Calgary	Advancing an Increasingly Critical Canada-USA HALEU Supply Chain for SMRs and Advanced Reactors	1
165	S. Lee	Republic of Korea / Korea Hydro and Nuclear Power	Development Strategy of HMI and Digital I&C System's Emulator for Korean Innovative SMR Plant	2
245	J. Bourdon	France / Assystem	Tailored MBSE Approach for SMR Gen IV Architecting	4
276	H. Kim	Republic of Korea / FAINDUS Inc.	Nonlinear ultrasonic parameters to laser weld quality for Small Modular Reactor	5
281	S. Zhu	China / Nuclear Power Operations Research Institute	The Status of Supply Chain for Small Modular Reactors deployment in China	6
397	A. Hosid	Argentina / CNEA	Interactive Graphic Simulator of the CAREM25 Reactor: A Tool for Design Verification and Operator Training	7

THURSDAY, 24 OCTOBER 2024

10:15–10:45 **POSTER SESSION A.5:**
15:30–16:00 **Non-Electric Applications for SMR**

Paper No.	Author(s)	Designating Member State/Organization	Title of Paper	Poster no.
18	J. Emblemståvåg	Norway / Norges Teknisk-Naturvitenskapelige Universitet	Why SMRs are crucial for hard-to-abate sectors such as shipping and what to do about it	8
56	J. Lee	Republic of Korea / KAERI	Non-electric Application of Nuclear Energy in Korea	9

Paper No.	Author(s)	Designating Member State/Organization	Title of Paper	Poster no.
168	J.-S. Moon	Republic of Korea / KHNP	Performance Analysis of SMR Plant with Steam Heating for Multi-purpose Applications	10
219	W. Zhang	China / Tsinghua University	NHR200-II Reactor: Characteristics, Development, and Applications in Non-Electric Energy Systems	11
243	C. Terrier	France / NUWARD	NUWARD SMR cogeneration services	12
277	G. Masotti	Italy / Politecnico di Milano	Small Modular Reactors and cogeneration: impact of steam extraction on power conversion performance	13
287	D. Briggs	France / NAAREA	XAMR® a new energy solution for decarbonization	14
295	S. Sriyono	Indonesia / BRIN	Optimizing Hydrogen Production through SOEC-PeLUit 40 Coupling: A Sustainable Approach to Clean Energy Generation	15
341	G. Masotti	Italy / Politecnico di Milano	Dynamic modelling of a nuclear hybrid energy system with hydrogen production via high temperature steam electrolysis	16
379	C. Dulac	France / Calogena	The Relevance of Nuclear Energy for District Heating	17
428	V. Pavlikhina	Russian Federation / Afrikantov OKBM JSC	The nuclear power plant with high temperature gas cooled reactor and chemical process equipment as an option for solving the problem of large scale production of low carbon hydrogen.	18

THURSDAY, 24 OCTOBER 2024

10:15–10:45 POSTER SESSION D.14:
15:30–16:00 Nuclear Infrastructure and Enabling Environment for SMRs

Paper No.	Author(s)	Designating Member State/Organization	Title of Paper	Poster no.
65	G. C. Borges Leal	Brazil / Eletronuclear S.A	Small modular reactors and new technologies in the generation capacity expansion: The Brazilian perspective	19

Paper No.	Author(s)	Designating Member State/Organization	Title of Paper	Poster no.
73	A. S. Aliyu	Nigeria / Centre for Renewable Energy and Sustainability Transitions	Assessing the Role of Small Modular Reactors (SMRs) in Achieving Sustainable Industrial Growth in Africa: Opportunities, Challenges, and Policy Implications	21
98	M. Ozerina	IAEA	From Vision to Reality: Building Capacity and Bridging Gaps in SMR Technology Adoption	22
102	C. T. Tran	Viet Nam / VINATOM	Sustainability assessment of infrastructure for small modular reactor deployment in Vietnam using INPRO methodology	23
117	K. S. Hamdan	Jordan / JAEC	Jordan's SMR RTA Experience	24
145	Å. Linné	Sweden / Uppsala University	Challenges of SMR deployment in a Swedish setting	25
241	O. Aas-Hansen	Norway / Norsk Kjernekraft AS	Norsk Kjernekraft and the advancement of nuclear in Norway	26
312	T. Zivko	Slovenia / Slovenian Nuclear Safety Administration	Possibilities for deployment of SMRs in Slovenia	27
335	C. Johari	IAEA	Analysis Support for Enhanced Nuclear Energy Sustainability: an INPRO Service to Member States	28
348	M. U. Onwuhaka (TBC)	Nigeria	The Integration of Small Modular Reactors into a National Nuclear Power Programme - A SWOT Analysis of Nigeria INIR Mission	29

THURSDAY, 24 OCTOBER 2024

10:15–10:45 POSTER SESSION D.16:
15:30–16:00 Public and Stakeholder Engagements in
SMR Development and Deployment

Paper No.	Author(s)	Designating Member State/Organization	Title of Paper	Poster no.
37	A. Diachenko	Russian Federation / Rosatom Technical Academy	The Rosatom Technical Academy experience in the field of advanced personnel training for NNP with SMR	30

Paper No.	Author(s)	Designating Member State/Organization	Title of Paper	Poster no.
87	G. Pavel	ENEN	ENEN contribution to the development of SMR human resource	31
236	A. Dobrov	Russian Federation / Nizhny Novgorod State Technical University	Education through science: NNSTU master's program «Nuclear power plants with SMR»	32
313	B. Kocsis (TBC)	Hungary / MVM Paks NPP Ltd	Systematic Literature Review on the Risks of SMRs	33
389	N. Das	IAEA	Initiatives in INPRO for SMRs	34

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List of Acronyms

Acronym	Organization Name	Country
ANL	Argonne National Laboratory	United States of America
ASN	Nuclear Safety Authority	France
BAPETEN	Nuclear Energy Regulatory Agency	Indonesia
BARC	Bhabha Atomic Research Centre	India
BASE	Federal Office for the Safety of Nuclear Waste Management	Germany
BRIN	National Research and Innovation Agency	Indonesia
CEA	Alternative Energies and Atomic Energy Commission	France
CNEA	National Atomic Energy Commission	Argentina
CNEN	National Nuclear Energy Commission	Brazil
CNL	Canadian Nuclear Laboratories	Canada
CNSC	Canadian Nuclear Safety Commission	Canada
CNSTN	The National Center for Nuclear Sciences and Technologies	Tunisia
CRNB	Nuclear Research Centre of Birine	Algeria
CSIR	Council for Scientific and Industrial Research	South Africa
DAE	Department of Atomic Energy	India
DOE	U.S. Department of Energy	United States of America
EAEA	Egyptian Atomic Energy Authority	Egypt
ENEA	Italian National Agency for New Technologies, Energy and Sustainable Economic Development	Italy
ENEN	European Nuclear Education Network	
GAEC	Ghana Atomic Energy Commission	Ghana
GRS	Gesellschaft für Anlagen- und Reaktorsicherheit	Germany
INL	Idaho National Laboratory	United States of America
IPA	Environmental Research Institute	Brazil
IRSN	Institute for Radiation Protection and Nuclear Safety	France
JAEA	Japan Atomic Energy Agency	Japan
JAEC	Jordan Atomic Energy Commission	Jordan
KACST	King Abdulaziz City for Science and Technology	Saudi Arabia

KAERI	Korea Atomic Energy Research Institute	Korea
KNRA	Kenya Nuclear Regulatory Authority	Kenya
KHNP	Korea Hydro & Nuclear Power	Korea
KINAC	Korea Institute of Nuclear Nonproliferation and Control	Korea
KINS	Korea Institute of Nuclear Safety	Korea
LLNL	Lawrence Livermore National Laboratory	United States of America
NAAREA	Nuclear Abundant Affordable Resourceful Energy for All	France
NCBJ	National Centre for Nuclear Research	Poland
NDK	Nuclear Regulatory Authority	Turkiye
NNL	National Nuclear Laboratory	United Kingdom
NNRA	Nigerian Nuclear Regulatory Authority	Nigeria
NNSA	U.S. National Nuclear Security Administration	United States of America
NRC	U.S. Nuclear Regulatory Commission	United States of America
NRIC	National Reactor Innovation Center	United States of America
NRPA	National Radiation Protection Authority	Namibia
NuPEA		Kenya
OECD (NEA)	Organisation for Economic Co-operation and Development- Nuclear energy Agency	
ORNL	Oak Ridge National Laboratory	United States of America
OSGE	ORLEN Synthos Green Energy	Poland
PAEC	Pakistan Atomic Energy Commission	Pakistan
PIEAS	Pakistan Institute of Engineering and Applied Sciences	Pakistan
PNNL	Pacific Northwest National Laboratory	United States of America
PNRA	Pakistan Nuclear Regulatory Authority	Pakistan
PNRI	Philippine Nuclear Research Institute	Philippines
RATEN ICN	Regia Autonoma Tehnologii pentru Energia Nucleara	Romania
SCK CEN	Belgian Nuclear Research Centre	Belgium
SEC NRS	Scientific and Engineering Centre on Nuclear and Radiation Safety	Russian Federation

SNL	Sandia National Laboratory	United States
SSM	Radiation Safety Authority	Sweden
SSTC NRS	State Scientific and Technical Center for Nuclear and Radiation Safety	Ukraine
STUK	Radiation and Nuclear Safety Authority	Finland
TENMAK	Turkish Energy, Nuclear and Mineral Research Agency	Turkiye
UJD SR	Nuclear Regulatory Authority	Slovak Republic
VCDNP	Vienna Center for Disarmament and Non-Proliferation	
WANO	World Association of Nuclear Operators	
WNA	World Nuclear Association	
WNTI	World Nuclear Transport Institute	

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IAEA PUBLICATIONS RELATED TO THE SUBJECT OF THE EVENT

<u>Title</u>	<u>Series</u>	<u>Year</u>
Application of the Principle of Defence in Depth in Nuclear Safety to Small Modular Reactors IAEA	INSAG-28	2024
Status of Molten Salt Reactor Technology IAEA	Technical Reports Series No. 489	2023
Considerations for the Back End of the Fuel Cycle of Small Modular Reactors IAEA	IAEA-TECDOC-2040	2023
Suitability Evaluation of Commercial Grade Products for Use in Nuclear Power Plant Safety Systems IAEA	IAEA-TECDOC-2034	2023
Applicability of IAEA Safety Standards to Non-Water Cooled Reactors and Small Modular Reactors IAEA	Safety Reports Series No. 123	2023
Advancing the State of the Practice in Uncertainty and Sensitivity Methodologies for Severe Accident Analysis in Water Cooled Reactors of PWR and SMR Types IAEA	IAEA-TECDOC-2031	2023
Terms for Describing Advanced Nuclear Power Plants IAEA	IAEA Nuclear Energy Series No. NR-T-1.19	2023
Energy Neutral Mineral Processing with High Temperature Reactors: Resource Identification, Uranium Recovery and Thermal Processes IAEA	IAEA-TECDOC-2023	2023
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Applicability of Design Safety Requirements to Small Modular Reactor Technologies Intended for Near Term Deployment IAEA	IAEA-TECDOC-1936	2020

20-02619E_ALWCR_ARIS_Booklet_WEB.pdf (iaea.org)		2020
Light Water Reactor Fuel Enrichment beyond the Five Per Cent Limit: Perspectives and Challenges IAEA	IAEA-TECDOC-1918	2020
Considerations for Environmental Impact Assessment for Small Modular Reactors IAEA	IAEA-TECDOC-1915	2020
International Safeguards in the Design of Reprocessing Plants IAEA	IAEA Nuclear Energy Series No. NF-T-3.2	2019
Nuclear–Renewable Hybrid Energy Systems for Decarbonized Energy Production and Cogeneration IAEA	IAEA-TECDOC-1885	2019
Waste from Innovative Types of Reactors and Fuel Cycles IAEA	IAEA Nuclear Energy Series No. NW-T-1.7	2019
Passive Safety Systems in Water Cooled Reactors: An Overview and Demonstration with Basic Principle Simulators IAEA	Training Course Series No. 69	2019
Nuclear Fuel Cycle Simulation System: Improvements and Applications IAEA	IAEA-TECDOC-1864	2019
Deployment Indicators for Small Modular Reactors IAEA	TECDOC-1854	2018
Instrumentation and Control Systems for Advanced Small Modular Reactors	IAEA Nuclear Energy Series No. NP-T-3.19	2017
Progress in Methodologies for the Assessment of Passive Safety System Reliability in Advanced Reactors	IAEA TECDOC 1752	2014
Options to Enhance Proliferation Resistance of Innovative Small and Medium Sized Reactors	IAEA Nuclear Energy Series No. NP-T.1.11	2014

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FORTHCOMING SCIENTIFIC CONFERENCES SCHEDULED BY THE IAEA

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11 – 15 November 2024, Vienna, Austria

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26 – 28 November 2024, Vienna, Austria

International Conference on Challenges Faced by Technical and Scientific Support Organizations (TSO) in Enhancing Nuclear Safety and Security: Enhancing science and adaptability in a changing world and creating perspective for a young generation (CN-329)

2 – 6 December 2024, Vienna, Austria

2025

Third International Conference on Applications of Radiation Science and Technology (ICARST-2025) (CN-332)

7 – 11 April 2025, Vienna, Austria

IAEA International Conference on Advances in Stakeholder Engagement for Nuclear Power Programmes (CN-333)

26 – 30 May 2025, Vienna, Austria

International Conference on Advances in Radiation Oncology (ICARO 4) (CN-331)

2 – 5 June 2025, Vienna, Austria

30th IAEA Fusion Energy Conference (CN-336)

13 – 18 October 2025, Chengdu, China

International Conference on Resilience of Nuclear Installations against External Events from Safety Perspective (CN-337)

20 – 24 October 2025, Vienna, Austria

International Conference on National, Regional and International Nuclear and Radiological Emergency Preparedness and Response: Facing New and Complex Challenges (CN-338)
tbc

International Conference on Radiation Protection in Medicine: X Ray Vision (CN-339)

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