Nuclear Engineering for control, safety and security 24-25 March 2021

PROGRAMME

Topics, speakers and timings are subject to change.

Day 1			
09:00	**IET & Chair's welcome and introduction** **Poll and ice breaker** **Steve Frost,** Superintending Nuclear Inspector, **Office for Nuclear Regulation (ONR)**		
	Advanced Nuclear Technologies		
09.15	**Keynote address: Advanced Nuclear Technologies** • Streamlining the regulatory process for SMRs • New build, SMR, AMR making savings for first-of-a-kind projects • Support for innovation **Richard Deakin, Director, Low Cost Nuclear Challenge UKRI**		
09.40	**UK Consortium SMR progress** • An overview of the SMR programme • The main issues and challenges for C&I • The high level architecture **Robin Shirtcliffe,** Technical Lead Engineer: Reactor Island Control and Instrumentation, **Rolls Royce**		
10.05	**Comfort break 10 minutes**		
	Safety		
10.15	**HPC Progress Update & the Role of Nuclear Assurance During Construction** • Update on construction progress & recent developments at HPC • Overview of the HPC Assurance organisation and their role in nuclear safety • The role of the site inspection team and assessments recently undertaken / upcoming • Reflections on providing nuclear assurance on a construction project vs operating nuclear site **Tom Hughes,** Independent Site Inspector, **EDF Energy (HPC)**		
	Networking and exhibition 30minutes		
10.40	*1.Content led break out rooms*	*2.Delegates who wish to meet can be matched by interest and are able to connect via video chat for 2 minutes. Contact details can be exchanged for further conversations.*	*3.Virtual exhibition. Download information, watch recordings and meet company representatives via video and text chats.*
11.10	**Why human aspects of maintenance must be fed into the design lifecycle** • Exploring the link between Human Factors, Operations and Maintenance during the design lifecycle of nuclear new builds • Lessons learnt from recent nuclear new build projects and existing operational plants **Helen Jones, ONR HF Specialist inspector on Hinkley Point C**		

11.35	**Regulatory expectations for safety and cyber security in assessment of CBSIS** • ONR's approach to regulation of safety and cyber security of CBSIS; • Practical assessment of cyber security vulnerabilities in CBSIS designs; • Developing methodologies and links to relevant TAGs, SAPs and SyAPs. **Colin Griffiths**, Principal Nuclear Security Inspector and **Tim Parkes**, Principal Nuclear Safety Inspector, **Office for Nuclear Regulation (ONR)**
12.00	**Q&A and final remarks of the day**
12.10	**End of day1**

Day 2 **09.00**	**Welcome back and poll** **Laura Ryan,** CE&I Security in Design Capability Lead **Sellafield & Chair of IET Nuclear Technical Network**		
	Developments in cyber security		
09.10	**Overview of the National Cyber Security Centre** **Cyber Security in the Civil Nuclear Sector** • Understanding the key Threats, Risks and Mitigations • NCSC guidance and advice **National Cyber Security Centre**		
09.35	**Cyber Security for civil nuclear facilities** • Threat assessment for civil nuclear operators • Vulnerabilities in physical and digital security • Managing the security of legacy systems • Controlling procurement and the supply chain **Chris Johnson, Queen's University Belfast**		
10.00	**Comfort break 10 minutes**		
10.10	**ICS/OT Ransomware in the Supply Chain: Learnings from attacks in 2020** • 2020 was not a good year for cyberattacks on industrial control systems (ICS) and operational technology (OT) networks**:** • Nine attacks shut down physical operations at industrial sites all were targeted ransomware. • Learn about the emerging representative and credible threats for 2021 and beyond pervasive threats that all ICS / OT security teams should consider going forward. This discussion will include evaluation of defensive strategies and their efficacy at protection. **Mike Firstenberg,** Director**, Waterfall Security Solutions Ltd**		
	Networking and exhibition 30minutes		
10.35	*1.Content led break out rooms*	*2.Delegates who wish to meet can be matched by interest and are able to connect via video chat for 2 minutes. Contact details can be exchanged for further conversations.*	*3.Virtual exhibition. Download information, watch recordings and meet company representatives via video and text chats.*

	Operational developments at existing plants
11.00	**Model Based System Engineering benefits to nuclear safety** • Effectively conveying safety substantiation using MBSE • Visualising interfaces and reducing integration risk of digital control systems • A step towards fully electronic safety cases **David McNaught**, Group Leader - Technology Management &**Simon White**, Group Leader - Electrical, Control & Instrumentation, **Frazer-Nash Consulting**
11.25	**Digital Transformation for Plant Availability** • Lessons learned from Aerospace in analytics • Using data to better inform maintenance intervals and pre-empt failures • Data quality and its effects on your decisions **Paul Reynolds,** PWR 1 & 2 Assistant Chief Engineer **-** Electrical**, Rolls Royce Submarines**
11.50	**Q&A and final remarks**
12.10	**End of day2**