# Nuclear Engineering for control, safety and security

25 March 2021, Bristol Marriott Royal Hotel, Bristol.

## PROGRAMME

Topics, speakers and timings are subject to change.

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>08:30</td>
<td>Registration and refreshments</td>
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</table>
| 09:15 | Conference Chair’s welcome and introduction  
Steve Frost, Superintending Nuclear Inspector, Office for Nuclear Regulation (ONR) |
| 09:30 | 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, Head of Advanced Nuclear Technologies, BEIS |
| 10:15 | 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 |
| 10:45 | Refreshments and networking |
| 11:15 | 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) |
| 11:45 | 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 |
| 11:45 | Progressing claims arguments evidence from conception to maturity  
- Claims arguments evidence (CAE) concepts and motivation  
- Steps to success and lessons learned  
- Towards mature processes and suitable guidance  
Mark Bowell, Principal Nuclear Safety Inspector, ONR  
Joanne Griffin, Design Capability Lead Sellafield Ltd. |
| 12:15 | 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,  
25 March 2021, Bristol Marriott Royal Hotel, Bristol. |

This session is a 60 minute workshop scheduled to end at 12.45
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<tr>
<td>12.45</td>
<td>Lunch, exhibition and networking</td>
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<tr>
<td>13.45</td>
<td><strong>Cyber Security for civil nuclear facilities</strong>&lt;br&gt;• Threat assessment for civil nuclear operators&lt;br&gt;• Vulnerabilities in physical and digital security&lt;br&gt;• Managing the security of legacy systems&lt;br&gt;• Controlling procurement and the supply chain&lt;br&gt;<strong>Chris Johnson, Professor and Head of Computing Science, University of Glasgow</strong></td>
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<td>14.15</td>
<td><strong>Smart device substantiation:</strong>&lt;br&gt;• Legacy vulnerability&lt;br&gt;• The transition from legacy to SMART instruments&lt;br&gt;• The manufacturers part to play in this process&lt;br&gt;• Collaboration is key to success&lt;br&gt;<strong>Dale Snow, GB&amp;I Business Manager</strong>&lt;br&gt;<strong>Siemens plc</strong>&lt;br&gt;<strong>Phil Rose, Facility Engineering Manager, AWE</strong>&lt;br&gt;<strong>Cyber security surgery</strong>&lt;br&gt;This 60-minute drop-in session gives you an opportunity to discuss your concerns with our experts.&lt;br&gt;<strong>Supported by NCSC and Chris Johnson</strong></td>
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<td>14.45</td>
<td>Refreshments and networking</td>
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<td>15.15</td>
<td>Why human aspects of maintenance must be fed into the design lifecycle&lt;br&gt;• Exploring the link between Human Factors, Operations and Maintenance during the design lifecycle of nuclear new builds&lt;br&gt;• Lessons learnt from recent nuclear new build projects and existing operational plants&lt;br&gt;<strong>Kira Lelos, Nuclear Safety Inspector - Human Factors, ONR</strong></td>
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<td>15.45</td>
<td><strong>Regulatory expectations for safety and cyber security in assessment of CBSIS</strong>&lt;br&gt;• ONR’s approach to regulation of safety and cyber security of CBSIS;&lt;br&gt;• Practical assessment of cyber security vulnerabilities in CBSIS designs;&lt;br&gt;• Developing methodologies and links to relevant TAGs, SAPs and SyAPs.&lt;br&gt;<strong>Colin Griffiths, Principal Nuclear Security Inspector and</strong>&lt;br&gt;<strong>Tim Parkes, Nuclear Safety Inspector, Office for Nuclear Regulation (ONR)</strong></td>
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<td>16.15</td>
<td><strong>Fusion in the Delivery Era</strong>&lt;br&gt;• Advances from research into a product delivery era&lt;br&gt;• Practices and verifications needed to qualify and license a fusion machine&lt;br&gt;• How disruptive technologies such as the digital domain can be leveraged to speed up innovation and maturity&lt;br&gt;<strong>David A. Homfray, Head of Engineering Realisation, UK Atomic Energy Authority</strong></td>
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<td>16.45</td>
<td>Chairman’s final remarks and close</td>
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