

WM2016 Conference Panel Report

PANEL SESSION 3: UK Featured Country - High-level Policy Perspectives on the UK's Nuclear Power and Legacy Management Challenges

Co-Chair: **John Mathieson**, *Nuclear Decommissioning Authority (UK)*

Larry Camper, *USNRC Retired*

Panel Reporter: **Angie Jones**, *Amec Foster Wheeler*

Panelists:

1. **John Clarke**, *CEO, UK NDA*
2. **Monica Regalbuto**, *Assistant Secretary for EM, US DOE*
3. **Rob Middleton**, *Head of Decommissioning and Radioactive Waste Policy, UK Department of Energy and Climate Change (UK)*
4. **Mina Golshan**, *Deputy Chief Nuclear Inspector, ONR (UK)*
5. **Juliet Long**, *Legacy and Waste Issues Manager, UK Environment Agency (UK)*
6. **Tom Jones**, *VP BD and Strategy for Clean Energy, Amec Foster Wheeler (UK)*
7. **Paul Howarth**, *Managing Director, UK NNL (UK)*

John Mathieson Opening Remarks

- John shared an overview of the panelists and their responsibilities which provided a point from where they would share their perspective. John shared opening remarks expressing the need for collaboration with Monica, a panelist, to share US DOE perspective.

John Clarke

- He has seen positive progress across the NDA estate which includes work on Sellafield ponds. NDA progress facilitates new build and extended generation of existing NPPs
- Collaborative working at Sellafield and Dounreay with the UK regulators want the same thing the NDA wants
- Material is placed in hard to retrieve containment like silos balancing short-term versus long-term risk
- G6 collaborative approach
- Innovating requires the supply chain to meet the need
- International collaborating with Japan, Canada, China, Korea, and US, and others

Monica Regalbuto

- Spoke on boosting cleanup through collaboration with UK
- NDA and DOE visit each others' sites to learn and share
- Working to support silo remediation option review to use for similar sites in DOE complex
- UPF experience working together to share lessons learned
- Working together for UK Distinctive program that also promotes learning opportunities for the younger workforce
- Technical to technical exchanges resulting in cleanup progress
- Basic research collaboration to solve most difficult challenges
- Fortunate to have strong partnership with UK to work together to solve our nuclear cleanup challenges

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Rob Middleton

- Spoke on managing the legacies arising since 1940s
- Reviewed the history of the Magnox power stations starting at Sellafield
- G6 process is fully supported by his department
- EDF Energy AGR and PWR reactor are still operating but managed through the nuclear liabilities fund in a different process to that of the NDA
- NDA acts as an advisor to EDF Energy
- NDA (RWM) leads on deep geological disposal
- In 2010 published 8 potential sites for new build -
 - two near Sellafield & two in Wales
 - Needed to demonstrate UK had learned from past experience and have a way forward for disposal of resulting waste
 - Need also to show a means for paying for future decommissioning

Mina Golshan

- Made it clear that the UK Government is committed to decommissioning
- Explained role of regulator
 - Secure timely and sustainable decommissioning through proportional regulation
 - Clarity in regulatory requirements
 - Influencing, waste management strategies in developing interim guidance
- Explained the UK framework and application for NPP licensing
- Restructured her team to better align with location, projects, and
- Stressed the importance of international collaboration
 - Sharing lessons learned
 - Important for regulators and the industry to work collaboratively to share and capture experience
 - Working currently with the French regulator

Juliet Long

- Built on Mina's points made on international collaboration
- Protection of the public and the environmental was their core mission
- Working with SEPA which oversees Scotland, NIEA in Northern Ireland and a new agency for Wales
- Regulate radwaste, industrial pollution, land quality, WM, water quality, and major accident hazards
- UK resilience, growth and climate change which included a radioactive waste management infrastructure
- Works with industry to permit radioactive waste disposal - disposability is key focusing on this sooner than later

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Tom Jones

- Stable long-term funding is required for decommissioning and new build program
 - Ensure we have technologies to support this
 - Causes some instability in industry if funding is not there
 - Allows us to build a long-term relationship with regulators
- Understanding the difference between decommissioning and new build
- Cultural change needed to be more project oriented
- Contractors need to start to thinking differently and be more pragmatic
- International collaboration is needed - share solutions
- Partnership with US in life extension of NPP and decommissioning is essential as we are both leading the way and sharing with other countries

Paul Howarth

- Shared and overview of NNL as UK technical advisor, national strategic work, commercial R&D
- Primary site is at Sellafield - Central Laboratory
- Need the right people, processes and facilities
- Works with industry and universities to support R&D and testing to deploy new technologies
 - Lab scale
 - Full scale
 - Active glove box experiments
 - Sellafield site
- Plant support activities
 - Inspection
 - Engineered mock ups
 - CAD recreations
- Operate full scale vitrification test rig
- Nuclear application of proven technology

Questions and Answers

- Larry asked the panelist first if they had additional points:
 - Nina spoke on how she saw many similarities of challenges faced by everyone and thus stressing the need for collaborations
 - Monica shared that she thought Mina's explanation of the UK regulatory process is very adaptable
 - Paul stressed the importance of training and retaining our nuclear experts is essential to the success of our industry
 - Paul furthered the discussion by balancing the nuclear renaissance for new build in UK that cannot overshadow the need to continue with nuclear decommissioning
 - Juliet stressed the point that we must get on with deep geological disposal to make it a reality to enable us to truly support nuclear new build
 - John Clarke went on to say that they have stable UK policies and funding for nuclear decommissioning in a time of austerity, so we must take advantage of this and make real progress in the program
 - John Mathieson supported this with his point of innovation at the high end balanced with existing technologies in other markets

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- Bobby with US NRC asked Mina her perspective on performance based approach they may use in UK for decommissioning
 - UK is looking at similar approach after the first 9 reactors de-fueled based on their good experience here
 - Good confidence in the past work
- David Schafer from US DOE legacy management asked regulators how they deal with mixed waste streams
 - Juliet said they use environmental safety case when handling them
 - Same level of safety must be achieved no matter what the contaminant
 - Do not have separate waste disposal facilities but ensure the operators at these facilities can also handle the hazardous waste too
- Question from DOE rep asked the panelists how collaboration is being achieved at the industry level based on the collaboration at the governmental level
 - Tom answered saying this was a challenge as we develop technologies to create a competitive advantage. We need to have more transparency for this collaboration to occur
 - Long-term partnership is required for industry partnerships to work together
 - John added that anything that is developed on NDA sites can be shared with all as they own the IP
 - Juliet added also added that the small nuclear community has gotten much more diverse with others coming to help with cleanup in the UK creating more collaboration based on sustainability of their businesses
 - Paul stated that the NNL partnership with Sellafield should create an avenue for private sector innovators to share their solutions
 - Mina supported the point made that we must learn from our failures and not dismiss those who failed
- Monica stated we do share when we have a large failure like WIPP, but John made the point that not so much with contract and project delivery failures
- Juliet made the point that there are great resources on lessons learned from conferences on the Convention on Nuclear Safety and the Joint Convention
- Tom noted the industry has been quite static and we must create more mobility of the SME to share the learnings
- Larry asked Juliet how the multiple regulators within UK work together
 - Prepare joint guidance
 - Work in collaboration
 - Some unique items that are addressed differently in the individual agencies
- David Horton from Hanford River Protection shared his experience with the UK graduate scheme and strong relationships that have been formed with the US graduates
 - John expanded that he feels that the international experience is essential to their development