Presentation 2 – Session 1

UK Nuclear Developments

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Biography

Robert began his nuclear career in 1987 as the Reactor Physicist at ANSTO's HIFAR reactor. Progressing through operations and reactor support management roles, he was posted to Washington DC in 1997 as ANSTO's Counsellor Nuclear, monitoring nuclear industry developments and representing ANSTO's interests in North America. On return to Australia, he headed up the OPAL Operations Planning team through to commissioning, represented ANSTO on the CRC for Integrated Engineering Asset Management, facilitated fresh fuel shipments for OPAL, a spent HIFAR fuel shipment and, as part of the ANSTO Executive, was part of the team providing advice to government on development of a nuclear power program.

In 2009 Robert moved to the UK to take up a role in the Design Authority at the Central Engineering Support of EDF Energy's Nuclear Generation division, where he was responsible for project management of a component of the Dungeness B safety case. In 2011, he was appointed to his current role as the Nuclear Safety and Quality Manager of SOFINEL UK, a subsidiary of EDF SA and AREVA NP, and part of the Responsible Designer team for the Hinkley Point C project. In addition to managing the QMS, performing independent review of safety-related design deliverables and training staff in nuclear safety and quality management, Robert and his team are responsible for enhancement of the organisational safety culture and implementation of a Nuclear Professionalism program.

ABSTRACT

Although there were many years of planning and development, the UK nuclear renaissance became reality when, following the EDF Board's Final Investment Decision in mid-2016, the first nuclear safety-related concrete was poured for the Hinkley Point C project at the site in North Someset in March 2017 - the first such activity for almost 30 years. The Flamanville 3 EPR being constructed in Normandy, France is the Reference Design for the two Hinkley Point C units, but is being adapted to meet the UK Context - the regulations and industry

practice in the UK, as well as site-specific conditions. EDF Energy is also at the early planning stage for two more EPR units at Sizewell C in Suffolk and is supporting their Chinese partner in the Hinkley and Sizewell projects, CGN, in deploying its Hualong One design at the Bradwell site in Essex, following completion of the Generic Design Assessment (GDA) process.

Horizon Nuclear is planning the construction of Hitachi ABWRs, providing at least 5.4GWe of capacity, at the Wylfa site in Anglesey, Wales and at the Oldbury site in Gloucesteshire. The planned construction of Westinghouse AP1000 units by Nugen at the Moorside site in Cumbria has stalled following the difficulties experience by Westinghouse in the US and the impact on its parent, Toshiba - the majority owner of Nugen.

Regarding future reactor design developments, EDF is developing the EPR New Model or EPRNM, taking into account lessons learned from previous projects and simplifications reducing cost and project duration. Rolls Royce has formed a consortia with several UK nuclear partners to develop an indigenous Small Modular Reactor design, which would bring the UK to the forefront of nuclear reactor design development.

The presentation will provide an overview of developments on the Hinkley Point C project, other planned nuclear new build projects in the UK and future reactor design developments for deployment in the UK and around the world, and will provide an insight into some of the engineering and organisational changes associated with UK nuclear new build projects.