



Office for
Nuclear Regulation

Hinkley Point C Webinar

Consent for Nuclear Island Concrete

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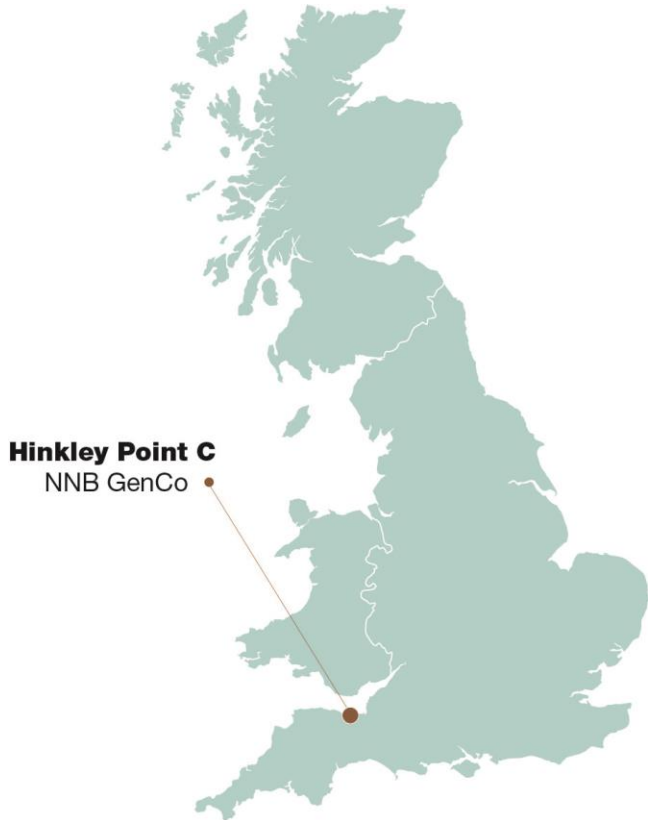
Introduction (i)

- Hinkley Point C
 - First nuclear power plant construction in UK since Sizewell B (1988 to 1995)
 - Two 1,600 MWe UK EPR™ - Hinkley Point , Somerset
- Brief History of the EPR Reactor Design
 - Challenges - Flamanville, Taishan, Olkiluoto
 - International collaboration with other regulators
 - CNI Supply Chain Inspection

Introduction (ii)

- UK Civil Nuclear Policy & Nuclear Sector Deal
 - Hinkley Point C - expected to offset nine million tonnes of CO₂ emissions per year over sixty year lifespan & supply up to 7 % of current UK electricity demand
 - Role of the regulator
 - Safety & security
 - GDA
 - Licensing
 - Constuction

Hinkley Point C



- Nuclear site licence granted in 2012 to EDF Energy NNB GenCo (NNB) for two 1,600 MWe PWRs (UK EPR™)
- Enriched UO_2 fuel pellets in zirconium alloy tubes
- Water-cooled & moderated
- Gross thermal - 9.0 GWth
- Gross electrical - 3.2 GWe
- ONR granted consent on 6 March 2017 to commence first nuclear safety concrete

Hinkley Point C - Artist's Impression



Artist impression of Hinkley Point C. Copyright EDF Energy.

Project Schedule & Permissioning (i)

- ONR Consented to the commencement of First Nuclear Safety Concrete (FNSC) in early March 2017 (6th March 2017)
- ONR issued Agreement to start of construction of pumping station issued in July 2018 (26th July 2018)
- ONR Consented to pouring of concrete for nuclear island on 8th November 2018
 - The Nuclear Island will contain the unit 1 reactor building, the fuel building & four electrical & safeguard divisions on one common reinforced concrete base slab
 - <http://news.onr.org.uk/2018/11/consent-for-hinkley-point-c-nuclear-island-concrete-pour/>
- ONR inspectors are on site undertaking readiness inspections prior to first concrete pour (end November 2018)



Future ONR Permissioning Hold Points

- Bulk mechanical & electrical installation - 2020
- First Nuclear Steam Supply System (NSSS) delivery to site - 2021
- Inactive commissioning – 2021 / 2022 (pre auxiliary transformer energisation)
- Active commissioning / nuclear fuel to site - 2022 (post auxiliary transformer energisation)
- Commercial operation date - 2025

Current Site Activities

- Mobilisation continues with approximately 3300 personnel at site
- Current construction activities primarily relate to completion of technical galleries, pumping station concrete & preparations for commencement of the following:
 - Turbine hall raft (Q4 2018)
 - Nuclear island common raft (Q4 2018)
 - Offshore works (Q3 2019)
 - Preparations for unit 2 commencement of construction

ONR Site Activities / Areas of Interest (i)

- ONR areas of interest / focus at this point in time & going forward:
 - Licensee ability to scale up process & resources to meet project requirements
 - Preservation & maintenance during the construction phase including management of equipment prior to installation



ONR Site Activities / Areas of Interest (ii)

- Ability of Licensee & Responsible Designer to deliver design & other information to support appropriate construction sequencing / planning / delivery
- Licensee delivery of verification & validation studies & design substantiation will be some way into the construction sequence resulting in the possibility of future additional modifications
- Ability of licensee to ensure appropriate supply chain management & oversight as project accelerates



HPC Nuclear & Conventional Island



HPC Pumping Station & Conventional Island



Concluding remarks

ONR will continue to regulate Hinkley Point C in a targeted & proportionate way to ensure the high standards of safety & security expected in the UK are maintained.



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Q&A



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**Thank you for
attending our webinar**

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