

HORIZON

NUCLEAR POWER

New Nuclear: The Challenges to Nuclear Security Design

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Corporate overview

- Established in 2009, acquired by Hitachi in 2012
- Created to help meet the need for new, secure low carbon power
- Making steady progress past milestones for our lead project, Wylfa Newydd, with Oldbury-on-Severn to follow
- Will deploy tried and tested Hitachi-GE ABWRs which have already been built to time and budget in Japan four times over
- c.£20billion+ investment in the UK - up to 60% of project value could be spent in UK, creating opportunities for British businesses
- Approximately 370 employees at HQ and Wylfa including temporary contractors, graduates and apprentices



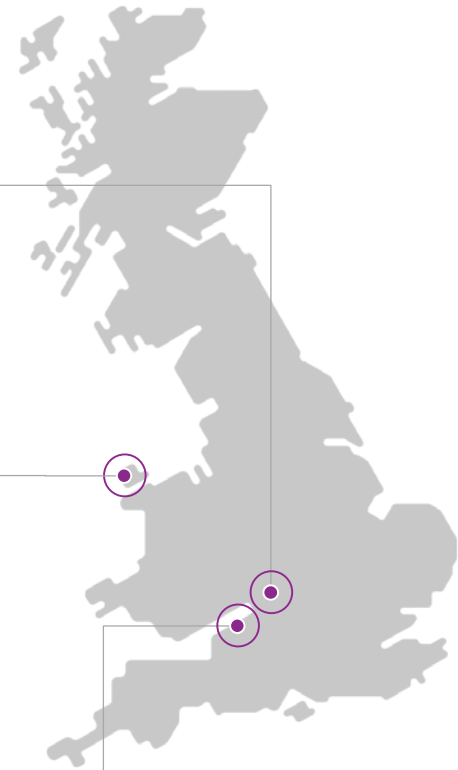
GLOUCESTER HQ



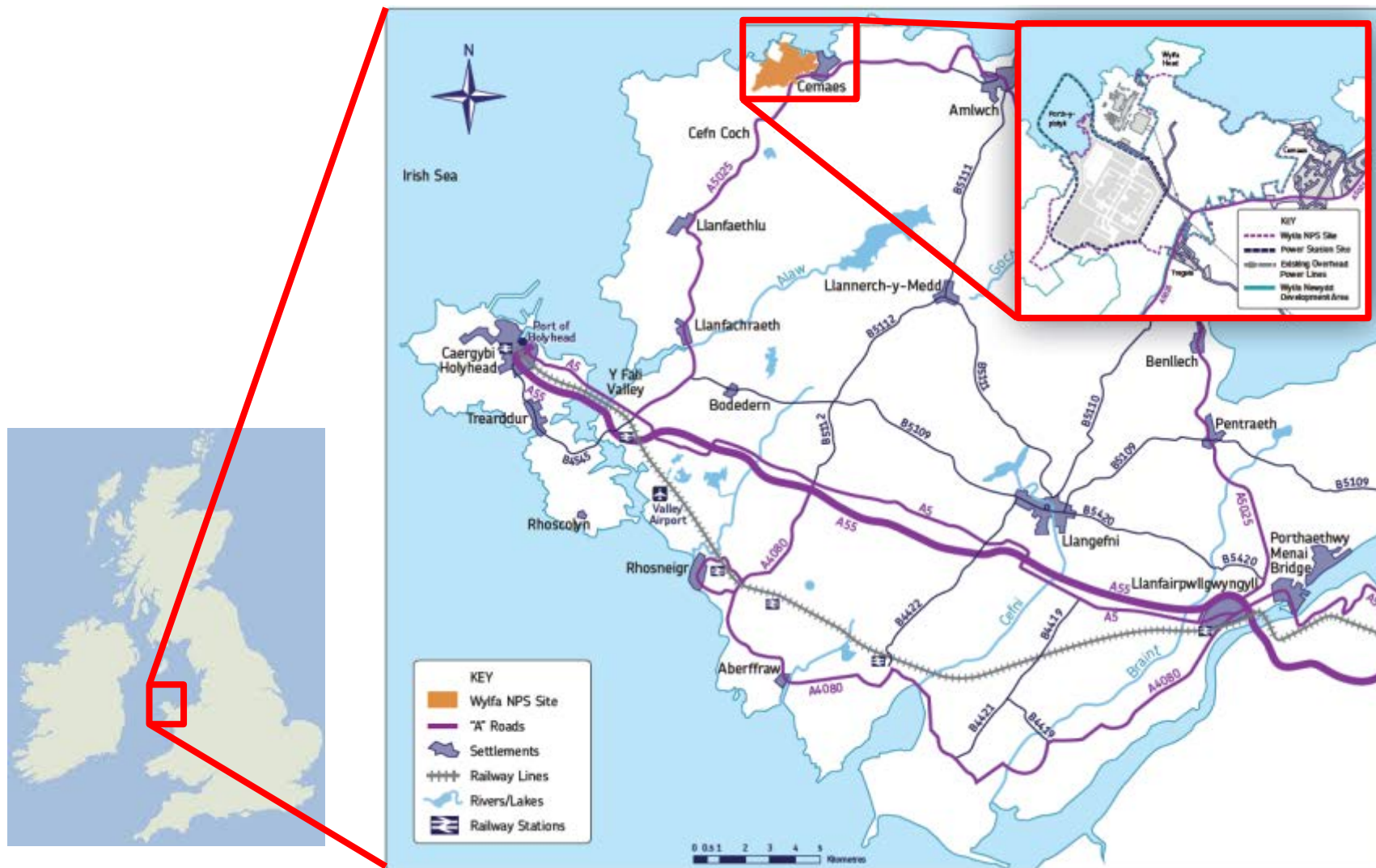
WYLFA NEWYDD



OLDBURY-ON-SEVERN




Site Location



Project in numbers


ABWR – TRIED AND TESTED REACTOR TECHNOLOGY
FOUR CONSTRUCTED AND OPERATED

x4




WORKFORCE OF UP TO 9000 WORKERS DURING PEAK CONSTRUCTION PERIOD

9000




FIRST ELECTRICITY GENERATION PLANNED FOR THE MID 2020s

2020s



ACROSS BOTH SITES HORIZON NUCLEAR POWER WILL PRODUCE ENOUGH LOW CARBON ELECTRICITY FOR AROUND 10 MILLION HOMES

10,000,000



14.8 MILLION TONNES CO₂ EMISSIONS AVOIDED EACH YEAR DURING OPERATION OF OUR TWO SITES

14.8M



UP TO 850 OPERATIONAL JOBS PER SITE FOR 60+ YEARS OPERATION

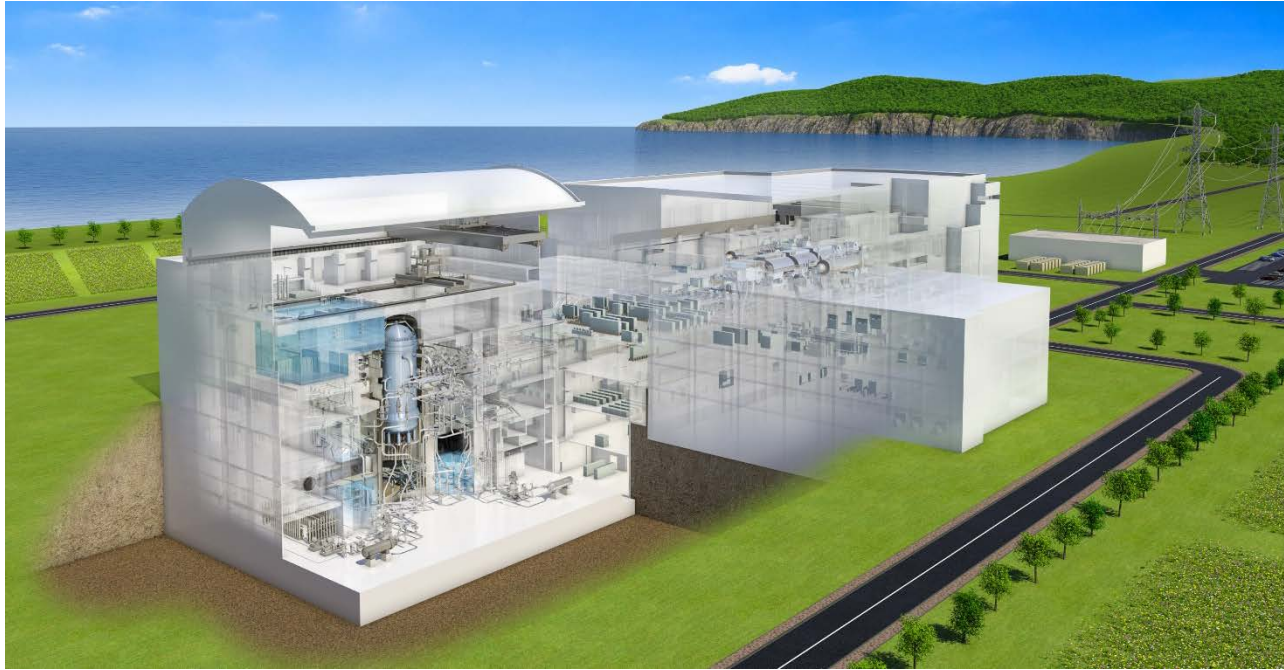
850



Wylfa Newydd Nuclear Power Station



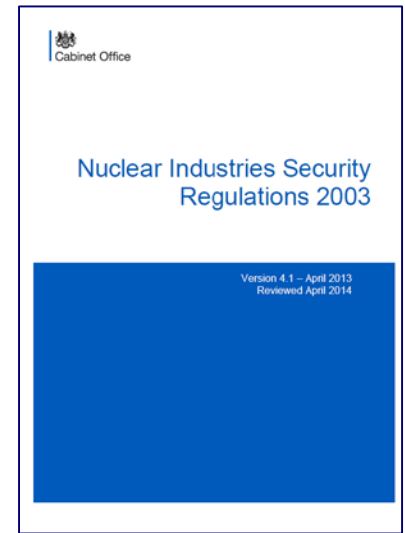
UK ABWR



Generic Design Assessment:
December 2017

UK Security Regulation

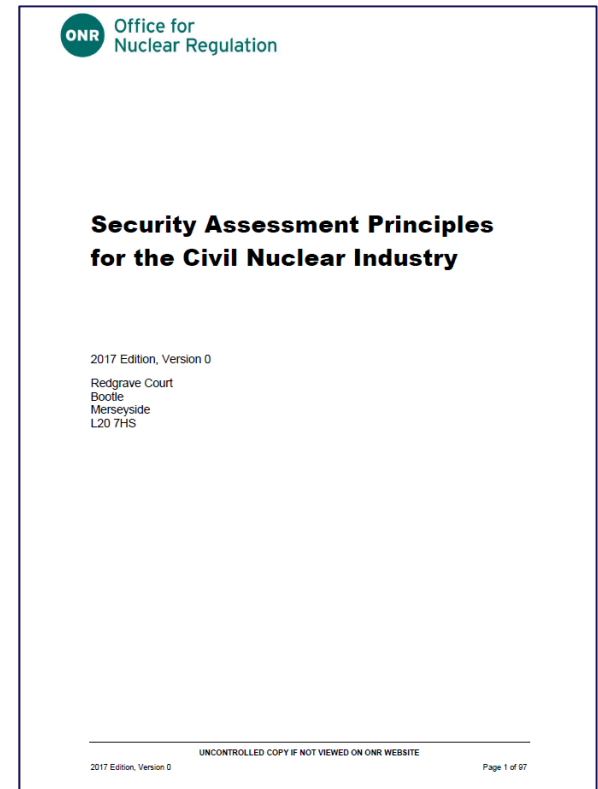
- Legal: Nuclear Industries Security Regulations (2003) As Amended
 - Details **Regulations** decreed by the Secretary of State
 - Defines a 'nuclear site' – in Wylfa Newydd's case a **Cat III site** with Vital Areas
 - States the requirement for a Site Security Plan (SSP) to Protect against Sabotage and Theft
- **Office of Nuclear Regulation: Regulates security on behalf of the Secretary of State**
 - The Energy Act gives ONR warrant powers and powers of prosecution (akin to HSE)
 - Provides HMG DBT to industry



UK Security Regulation

Non prescriptive
Introduction of Outcomes Based
Regulation: Claims, Arguments
and Evidence

Allows Duty Holders to have a
flexible and proportionate
Integrated Security Solution



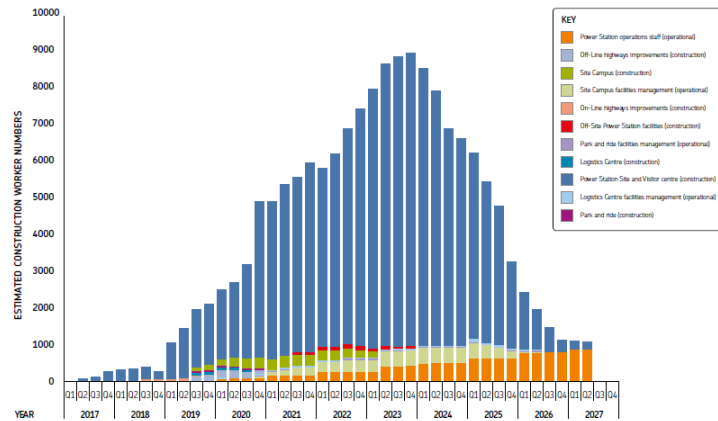
Threats To the NPS

- Changing landscape:
 - Physical: Terrorism, Protestors and Insider
 - Cyber: Terrorism, Criminals, Hacktivists
 - Blended (Cyber and Physical)
- Reputation and Public Perception



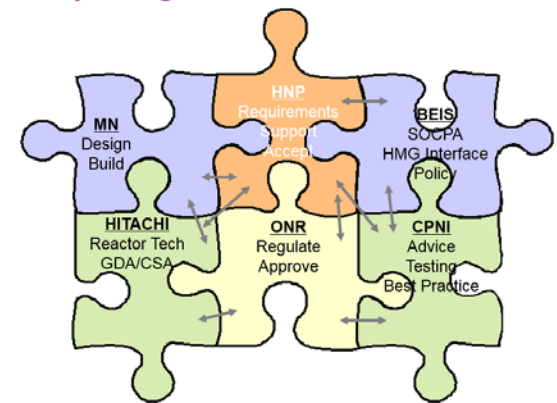
Challenges to Security

- Secure by Design
- Construction (workforce trustworthiness & physical security)
- Supply Chain (multinational)
- Commissioning
- Operations
- Decommissioning (60 year lifespan)



Likely distribution of workers from beginning of construction into operation

Security Design



Delivering an Integrated Security Solution

From:



To:



HORIZON

NUCLEAR POWER

Thank you

Questions?