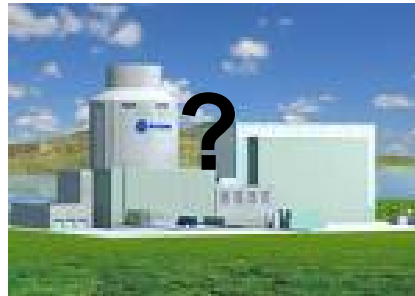


New Nuclear Build

– The UK Generic Design Assessment and New Build Challenges



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Programme Director

Nuclear New Build

HSE's Nuclear Directorate

The future?



Regulating new nuclear build

Regulators must consider 3 key elements:

- reactor design acceptability - 'safety, environment and security'
- site
- operating organisation



HORIZON
NUCLEAR POWER



Starting Principles to Achieve Positive Outcomes & Benefits

- ✓ Engage early
- ✓ Assessment at the earliest opportunity
- ✓ Identify and resolve key issues before construction
- ✓ Maximise value of pre-application
- ✓ Application and licensing/permitting/consenting programme consistent with investment decisions
- ✓ Openness and transparency, plus public comment process
- ✓ Regulators working together



What are we aiming for via GDA?

- ✓ A meaningful GDA, useful to Government, vendors, potential operators, regulators and the public
- ✓ Effective and efficient use of all available resource and leverage opportunities
- ✓ Clarity and transparency of process and outcomes
- ✓ Reduced regulatory risk for potential operators
 - we will **NOT** revisit assessment undertaken in GDA unless substantial differences are introduced by the Operators during the site-specific work
- ✓ Improved confidence for public (in safety, environment and security issues)

‘Generic’ GDA Findings/Issues (to date)

- ✓ **Assessment resource – don’t start ‘till ready**
- ✓ **One-Stop-Shop JPO for interface arrangements**
- ✓ **Managing effectively a parallel GDA and Licence Application/Permitting process needs good joined up working - new single programme approach will facilitate**
- ✓ **Programme and Project Management and delivery/monitoring metrics – absolutely vital!**
- ✓ **Increased openness and transparency works!**
- ✓ **Positive early progress on key technical issues and necessary design changes, eg. C&I architecture**
- ✓ **International collaboration – design harmonisation**

EPR GDA Findings/Issues (to date)

- ✓ No show-stoppers identified so far
- C&I architecture doesn't meet UK SAPs - way forward (to RI) agreed in principle
- Civil Eng design codes – French v UK?
- Justification of IoF component integrity
- Completeness of fault study schedule/analysis
- EA Issues on decommissioning and spent fuel disposability
- Detailed evidence lacking in some areas, eg. internal hazards, mech eng, human factors

AP1000 GDA Findings/Issues (to date)

- ✓ No show-stoppers identified so far
- Civil design codes and build methods (RI issued)
- C&I issues (diversity, operability, logic, classification)
- Spent Fuel Storage Pond safety case
- Metrication of an 'Imperial' design
- 'Squib Valves' – novel design (justification)
- Justification of IoF component integrity
- EA Issues on decommissioning and spent fuel disposability
- Detailed evidence lacking in some areas,
eg. internal hazards, mech eng, elect eng, PSA, human factors,
chemistry

As regulators, we are

- ✓ Independent of Government and Industry: that's KEY
 - To the process
 - To industry
 - To Government and other stakeholders (inc public)
- ✓ Here to inject robust, independent, technical expert scrutiny
- ✓ ND role - Protecting people and society from the hazards of nuclear activities
- ✓ EA role – Ensuring proper protection of the environment from nuclear sites
- ✓ Here to enable, BUT it has to be safe, secure and environmentally acceptable!

Next Steps on Nuclear New Build

- ✓ **New Nuclear Build Programme set up in HSE and Environment Agency**
 - Common aim – new stations generating from 2018, that are safe, secure and properly protect the environment
 - One Programme – one set of messages
 - Programme Management approach adopted
 - Continued openness and transparency
 - Joint Programme Office continuing into build phase
 - Continued positive joint working by ND and EA
- ✓ **Continued good relationships with**
 - Industry
 - Government
 - Public and other stakeholders

GDA Projections

- **Increasing clarity on the extent of likely and potential key generic Issues – meeting with industry late November**
- **Step 4 – on target to complete in June 2011, suite of reports with, most likely, Interim DAC/SoDA and GDA Issues:**
 - **as few GDA Issues as possible, but as many as required together with defined and transparent Resolution Plans produced by the RPs and agreed by the regulators**
- **Clearance of GDA Issues to timescales reliant on timely and quality responses from RPs**
 - **the collective Resolution Plan completion timescales will set the projected dates for the ‘end of GDA’ on each design**

Site-Specific Assessment

- **Operators to carry forward DAC/SoDA and GDA outcomes**
- **Incorporate in site-specific Pre-Construction Safety, Security and Environment Report(s), and beyond**
 - Regulators will not re-assess what has been assessed in GDA unless substantial differences are introduced by the Operators
- **Supplement with**
 - Chosen site/operator-specific changes
 - Design changes (time doesn't stand still)
 - Updated technical information
 - Learning from experience/feedback
- **Programme to address other assessment findings from GDA**
 - Listed in June 2011 HSE Step 4 reports and EA Decision Documents

Regulation and Construction

- Before a reactor can be constructed:
 - A Nuclear Site Licence has to be granted by ND to ‘use’ the site for a particular and specified ‘purpose’
 - Under the conditions attached to that nuclear site licence, Permission (Consent) to start the nuclear island safety-related construction needs to be obtained from ND
 - That Consent needs a positive and meaningful GDA outcome (with all GDA Issues addressed)

Regulation and Construction

- **A GDA Design Acceptance Confirmation (DAC) is needed before permission is granted to start nuclear island safety-related construction BUT NOT before granting a nuclear site licence**
- **Importantly, GDA DAC & SoDA should underpin the regulatory permissions to construct a fleet of reactors identical except for:**
 - **Site-specific requirements (e.g. different ground conditions, or twins/triplets?)**
 - **Operator specific requirements**

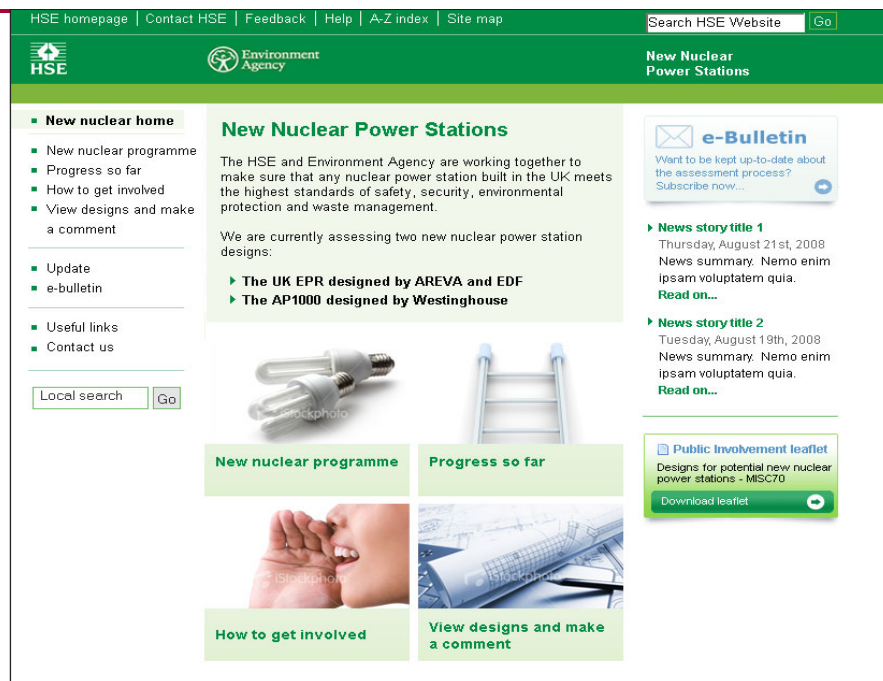
EA Permitting Process – Site-Specific

- Radioactive discharges
- Cooling water
- Abstraction
- Combustion plant
- Flood/Coastal risks
- Conventional waste
- Other discharges
- COMAH (with HSE)



More info on GDA

- Detailed information at



<http://www.hse.gov.uk/newreactors>

- Quarterly Progress Report issued 10 November
- Next Quarterly Progress Report to be issued mid February 2011

Questions?