
Nuclear Safety Regulation – Would It Need To Change To Accommodate New Build?

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Talk to the Westminster Energy Forum

19th January 2006

UK Nuclear Regulatory System



Health & Safety at Work etc. Act 1974

- Duty to reduce risk to workers and public So Far As Is Reasonably Practicable (SFAIRP)

Nuclear Installations Act 1965 (as amended)

- Conditions attached to nuclear site licences for safety and handling etc. of nuclear matter

Relevant Regulations, e.g. Management of Health & Safety at Work Regs 1999, Ionising Radiations Regs 1999, etc.

HSE/NII regulates

- Power reactors – magnox, AGR & PWR
- Uranium enrichment facilities
- Fuel fabrication facilities
- Spent fuel reprocessing plant
- Nuclear waste stores and legacy plant
- Dockyards for nuclear submarines
- Atomic Weapons Establishment
- Research reactors & isotope production

Special Features of the UK Nuclear Regulatory System



Goal setting – non-prescriptive

Nuclear Site Licensee bears absolute liability for harm resulting from work activities on the site and has to:

- be an intelligent customer for any work placed with contractors
- comply with set of standard Licence Conditions
- manage nuclear safety and demonstrate this to NII

Demonstration of safety

- Licensee's procedures must grade proposals for new plant, changes to existing plant and organisation on basis of potential safety significance
- NII agreement must be gained before the most safety significant changes may be implemented
- NII agreement is based upon real-time technical assessment of Licensee's safety cases

Need for change?

- Goal-setting regulatory regime does not constrain proposals
- Range of plant regulated shows flexibility
- Onus upon Licensee to set out own standards, plant design and operating regime, and demonstrate to NII that risk would be reduced SFAIRP

Past experience

- Sizewell B was the UK's first civil pressurised water reactor
- CEGB expressed interest in mid-1970s
- NII reviewed generic safety aspects of PWRs
- CEGB applied for Licence for Sizewell B in January 1981 and submitted pre-construction safety report
- Nuclear Site Licence granted June 1987

Changes over last 20 years

- ‘International’ reactor designs
- International safety requirements/guidance
- Nuclear Safety Convention
- NII SAPs revision – 1992 and currently
- No longer monolithic energy generators
- Company might seek regulatory view on design/technology to promote future sales
- Better joined-up working between health, safety, environmental & security regulators

Potential issues for nuclear regulation



- How best to manage regulatory and commercial risks?
- Could foreign regulatory assessments inform HSE's judgement?
- If so, how?
- Shelf-life of regulatory approvals?
- Could HSE respond to request for view from company other than prospective Licensee?

Conclusion

- Current regulatory system would not need to change for new build
- Regulatory strategy might need further development to respond to issues
- Must recognise that both Licensee and regulators might require design changes
- Licensee will still need to demonstrate risk reduced SFAIRP