
Future Nuclear Capability Needs

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Nuclear Industry Change

- Loss of CEGB, UKAEA and BNFL and privatisation of much of industry
- Significant industrial decline
- Loss of many large scale facilities and expertise
- Accelerated and refocused W and D activities
- Enhanced weapons programme
- Potential civil new build programme

Responding to Change

- Shift in perspective over short period
- Revitalisation and expectations are difficult to meet
- Changing infrastructure needs to be fuelled by new skills and innovation
- New skills cannot be turned off then on again that easily
- Nuclear skills gap may continue to grow

New Agenda for Nuclear Skills

- SSC Cogent are defining requirements through working with the industry
- Government approved National Skills Academy for Nuclear is working on delivery
- A National Nuclear Laboratory to manage the facilities
- EPSRC and Universities are starting to grow the skills

Overseeing Essential Research and Technical Skills



- HSE role to secure key research capability
- Coordinated with the licensees who provide the funding
- Licensees maintain Essential Research Capability
- HSE maintains sources of Independent Technical Capability for regulatory advice

Changes to Research Capability (facilities and expertise) Needs



- Developing synergy between capability for existing and new civil reactors
- Growing specialist capability for new civil reactors
- Exploiting synergy between capability for civil and MOD programmes
- Sustaining capability on W&D and growing capability on waste storage/repository

Independent Technical Capability for Existing Reactors

- PSA – adequate in UK and overseas
- Civils – not specific to nuclear
- Structural – TAGSI, TWI, ESR, SERCO
- Graphite – GTAC, Manchester, Harwell
- W&D – growth area
- Nuclear Systems – industry responsibility
- RP – HPA
- Plant Chemistry – growing in AMEC, Nexia
- Nuclear Science/Plant mod. – no problem
- Fuel/TH – International projects, no UK rep.

Independent Technical Capability - Potential Future Problems



- Human Factors – Retirements
- C&I – City and Bristol give advice to NII and Licensees
- Chemical processes/radionuclides – future of Winfrith team
- Fire hazards – scarce expertise, consider using HSL
- General – NII providing UK lead

New Reactor Technologies

- Synergy on PWR technologies and SzB
- Unfamiliarity with BWR and CANDU
- Access to Vendors' technical information
- Access to Regulator and TSO assessment
- Access to international research
- Development of NII knowledge and skills
- Provision of expert advice to NII
- Developing UK Capability

Delivering Capability- Issues

- Achieving synergy
- Accessing capability and facilities overseas
- Maintaining and growing UK capability
- Sourcing funds in licensees, vendors, operators and EPSRC
- Owning and steering a strategy