

Maintaining Organisational Competency – ‘Intelligent Customer’ Capability

Magnox Ltd (UK)

Regulators in the UK require that Nuclear Licence holders maintain a ‘Nuclear Baseline’ which defines the roles and capabilities required to ensure safety and its competence to act as a Licensee. The Nuclear Baseline is agreed with the nuclear regulator; Intelligent Customer capabilities (IC) are an essential part of the Baseline. IC capability ensures licensees are able to engage contractors to perform safety-related work packages and that they maintain an understanding, knowledge and ownership of contractors’ work that could potentially affect nuclear safety, industrial safety, health and environment management. .

Key activities in maintaining IC include :

- reviewing annually the Register of IC Skills to ensure continued relevance
- appointing staff to IC roles
- forecasting the demand for ICs
- ensuring that a minimum IC capability is maintained irrespective of anticipated workload
- confirming that, once appointed, ICs remain suitably qualified and experienced to contribute to the skill areas; Line managers review, typically at periodic appraisals,
- identifying ICs that may become unavailable so that capability can be managed.
- ensuring that changes to IC appointments are not implemented without agreement of the Chief Engineer(s).

The Company identifies those specific skill areas which require ICs i.e. areas that could be technically novel, complex or have the potential for high safety significance. These are listed in the Register of IC Skills. Most are Technological, others relate to Policy/ Strategy, Regulatory matters or Processes/ Procedures

At Magnox it is a requirement of internal standards that a minimum of one IC will be maintained in each a skill area. Should circumstances arise where no IC is available for a skill area then a remedial plan will be implemented.

Line managers actively maintain the IC capability within the allocated IC skill area by encouraging the recruitment, training, development and succession management of employees in the necessary skills. It should be noted that employees contributing to this capability may be based in any Function or site within the Company.

Within each skill area, the number of ICs required to support the proposed work packages at all sites is indicated by the forward resource plans derived from Lifetime Plans.

Managing the Register of Intelligent Customer Skills

For each IC skill area the Chief Engineer coordinates the production and maintenance of the IC Scope/Capability Definition Statements, IC skill areas are identified in the Register of IC Skills and agreed with the regulatory authority.

As a site moves through the phases of its lifecycle (from construction, power generation, defuelling and finally to decommissioning) the hazards inherent to the site change. The range of work packages required from contractors will also change. To reflect these changes, the IC skill areas will evolve from generation-led through to decommissioning-led activities to align with the generally reducing nuclear safety hazard and increasing environmental and conventional safety significance. The depth and range of technical knowledge associated with many of the IC skill areas may also reduce reflecting the end of generation and defuelling.

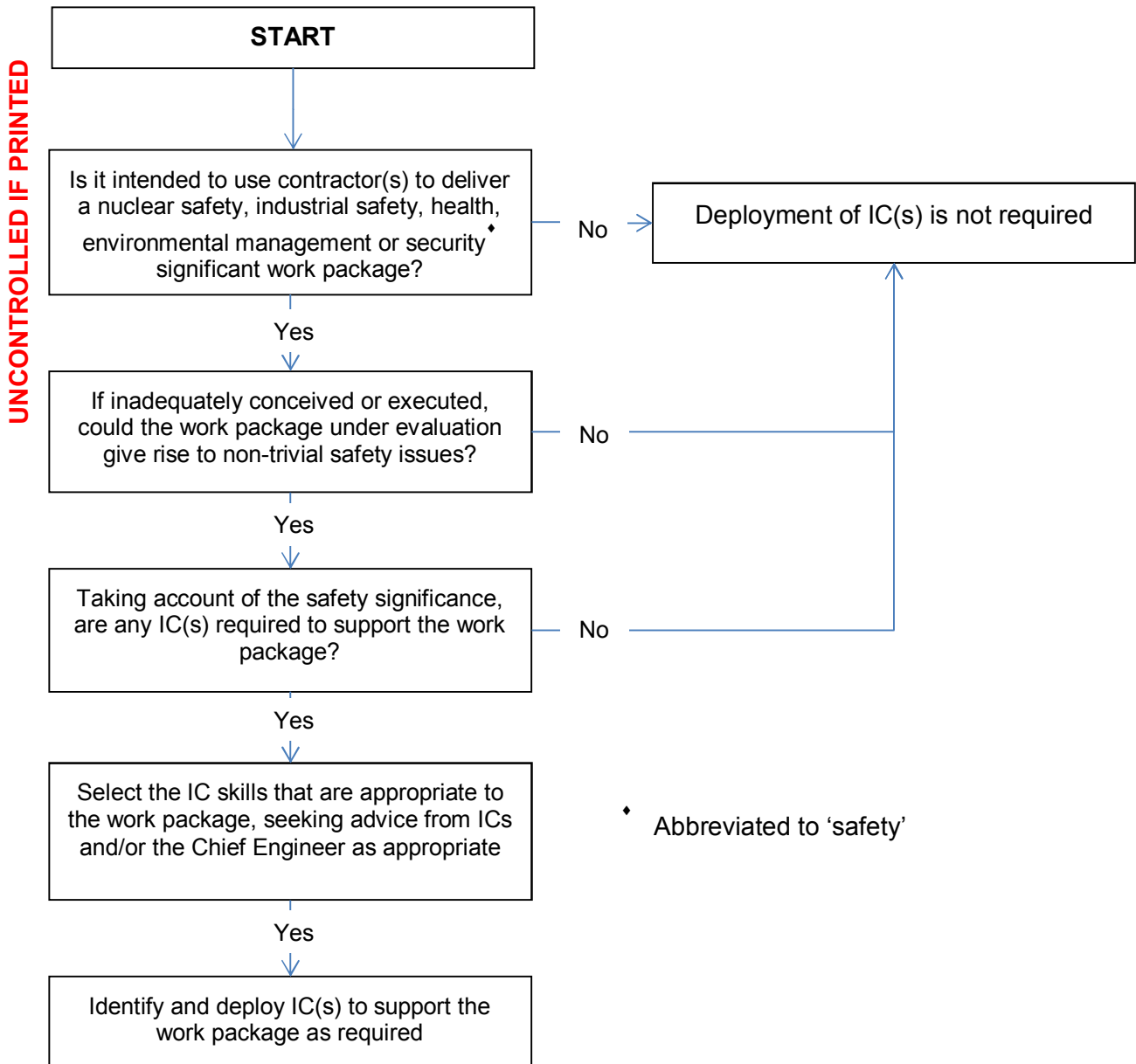
The Chief Engineer therefore, reviews and revises the Register of IC Skills to reflect such significant changes in the requirements (e.g. end of generation at all sites). Minor revisions may also be occasionally required in the light of experience.

Maintaining Competence

For each IC Skill there is a defined set of criteria indicating the suitable qualifications and experience of the person (SQEPness) and listing the competencies expected of the individuals that are appointed to the role. Within the role profile there are requirements for ICs to maintain

the knowledge and a requirement to perpetuate that knowledge through supporting successors to achieve similar competence levels. Those wishing to become ICs are typically trained both formally and through Coaching/Mentoring schemes, often sharing tasks with incumbent ICs until fully competent as IC themselves. ICs participate in communities to share knowledge both within a technical competency and across fields of expertise.

Flowchart 1
Evaluation of a Work Package by the Design Authority



IC capabilities in Magnox

IC01 Concrete Reactor Pressure Vessel Technology
IC02 Control & Instrumentation
IC03 Electrical Systems
IC04 Systems Integration and Design
IC05 Plant Inspection
IC06 Independent Nuclear Safety Assessment
IC07 Irradiated Steels and Reactor Pressure Circuit Materials
IC08 Materials Science
IC09 Integrity of Reactor and Boiler Internals
IC10 Magnox Fuel Behaviour
IC11 Materials Dosimetry and Shielding
IC12 Radiological Safety, Radiation and Environment
IC13 Reactor Physics Codes
IC14 Reactor Physics, Fuel Inventory and Criticality
IC15 Reactor Physics Transient and Accident Analysis
IC16 Thermal Hydraulics and Plant Modelling
IC17 Safety Case Production
IC18 Fuel Routes and Mechanical Reactor Plant
IC19 Statistical/ Mathematical/ Probabilistic Modelling
IC20 Structural Analysis and Design
IC21 Structural Integrity Assessment Procedures and Methods
IC22 Seismic Assessment
IC23 Blast and Impact Assessment
IC24 Computational Fluid Dynamics and Thermal Analysis
IC25 New Fuel
IC26 Irradiated Fuel Transport
IC27 Emergency Planning
IC28 Grid Supplies
IC29 Operational Experience Feedback
IC30 Quality Assurance Systems
IC31 Decommissioning Strategy and Planning
IC32 Radiological Waste Management Strategy and Planning
IC33 Contaminated Land Management
IC34 Environmental Impact Assessment
IC35 Human Factors
IC36 Graphite Technology
IC37 Chemistry Services
IC38 Radiochemistry Services
IC39 Decontamination
IC40 Waste Package Design and Transport
IC41 Ventilation
IC42 Fire Safety
IC43 Construction/ Demolition and Civil Inspection
IC44 Requirements of Legislation and Regulatory Compliance
IC45 Environmental Protection
IC46 Radiological Protection
IC47 Conventional Safety
IC48 Management Systems Audit
IC49 Security Systems Support
IC50 Process Engineering

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