



# Case study

## Nuclear Decommissioning

### THE PROBLEM

During the transition from the operation to decommissioning phases of a power station the roles of buildings, equipment and personnel are likely to change.

For example, buildings may:

- ▶ Not be required after operation ceases
- ▶ Be required for the entirety of the Post-Operation Clean-Out (POCO), defuelling and decommissioning process
- ▶ Be required intermittently or for discrete operations
- ▶ Be modified to serve a different purpose.

The interfaces between items of equipment, buildings and services may also change. Facilities for a significant workforce to carry out post-operation activities and appropriate levels of safety and security will need to be established and maintained.

A clear understanding of the relationships and interdependencies between the various aspects is required. Once this has been achieved the risks and potential consequences for safety, cost or programme can be recognised and mitigating action taken.

### THE FRAZER-NASH SOLUTION

Taking a highly structured and holistic approach Frazer-Nash proposed a technique known as Requirements Capture for the identification and recording of the various decommissioning requirements. This technique is used widely in the defence industry for producing specification data for large complex systems and equipment.

After discussions with the customer we identified a number of project streams into which the various plant and systems could be allocated.

A staged process was then evolved to cover initial data collection, development of framework requirements, directed workshops (for representatives of key stakeholders) and subsequent refinement of the requirements.

At all stages the need to meet overall programme, budgetary and safety targets and statutory requirements was recognised. Consistency between work packages, incorporation of lessons learned from other projects and an auditable decision trail were also necessary. High risk items were identified, assumptions recorded and recommendations made for further work.

### BENEFITS

- ▶ The process ensures that requirements are developed in a clear, concise and unambiguous manner
- ▶ The approach ensures that each requirement is unique and measurable
- ▶ High risk areas can be identified enabling mitigation plans to be implemented
- ▶ Work packages are continuously verified complete as work progresses
- ▶ The output can be used to specify future work with confidence.

#### Client

Undisclosed

#### Business need

Requirements capture for the safe decommissioning of a Magnox nuclear power plant

#### Why Frazer-Nash?

Frazer-Nash expertise in the nuclear sector has grown for many years to become one of the most renowned consultancy in the nuclear sector.



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