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## DECOMMISSIONING LARGE SCALE ENERGY PLANTS: DISCHARGING LIABILITIES SAFELY AND COST EFFECTIVELY

### PART II: THE DECOMMISSIONING PLAN

*In the first article of this series we pointed out the desirability of having a robust and appropriately underpinned plan to discharge any liabilities arising from the operation of a facility, whether it be nuclear, conventionally hazardous, or physically complex, and the importance of a rigorous risk and uncertainty analysis, and the advisability of having independent verification of the plan. This article looks at the other key elements contributing to a robust plan.*

Any plan has to be technically sound and should be developed against appropriate base case assumptions. The assumptions should be clearly stated and justified. Current good or accepted and internationally benchmarked practice need applying to the proposed decommissioning technologies and techniques. Quantities and metrics must be stated and justified, eg with regard to waste arisings.

Scope must be adequately defined with bounding assumptions and exclusions clearly stated. All work necessary to successfully deliver the proposed end state needs explaining and justifying. In particular the scope of work must be fully understood, with plan describing ‘how’ it will be carried out and not ‘what’ is required – its surprising how often this aspect is overlooked. A programmatic approach should normally be adopted pulling together inter-related elements of scope and allowing work packages or projects to be expressed in the context of an overall end state objective.

Schedules must be logically linked and reflect all the scope and assumptions needed to successfully deliver the plan: durations are reasonable, and there is a clearly described critical path through to the proposed end state. Interdependencies and milestones should be clear and realistic and schedules need to tie in with risk mitigation measures (see part 1 of this article).

Cost estimates must be as robust as possible at that stage of the plans maturity and must reflect the totality of the scope required, being phased according to scope and schedule. The techniques used to estimate cost and uncertainty should be appropriate and reflect good international practice. Cost and quantity data sets must be appropriately robust and wherever possible benchmarked. Where uncertainty exists, eg with regard to waste disposal, this should be made clear and appropriate contingency values applied.

It is important to fully consult regulators with consent milestones clearly articulated and demonstrably deliverable. In the latter regard adequate allowance in terms of time and effort should be made for developing appropriate cases and the iteration of these with the regulator before consent is granted. Stakeholders are also an important part of this process and should be engaged

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during the development of the decommissioning plan, and where appropriate their responses captured in the plan.

The above is of course predicated on the operator having a mature quality management system in place to provide oversight and governance during development of the plan and this should also be documented in the plan. Many operators back this up with independent verification of the plan's quality during and after its drafting, with the operator documenting how the verifier's findings have been incorporated into the finished product. Such verification is particularly valued if the operator is dealing with highly politicised or heavily regulated decommissioning programmes, providing authorities and the public with assurance that the programme is being or will be delivered safely, cost effectively and in an environmentally responsible manner.

Funding the plan is a separate but very important matter and clearly the two are closely inter-related, for which several models exist. These will be discussed in a future article.

*Prospect Law and Prospect Advisory provide a unique combination of legal and technical advisory services for clients involved in energy, infrastructure and natural resource projects in the UK and internationally.*

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