

Pace and Priority of UK decommissioning

NDA

Nuclear
Decommissioning
Authority

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UK Decommissioning Strategy



Development of decommissioning strategies

1. Do not defer

2. Defer with minimal interventions.

Ensuring the deferral period is preceded by the removal of those structures and fabric which are expected to decay or deteriorate during deferral. Could be delivered by taking a reactor back to a smaller solid internal structure such as a bioshield. This approach requires more effort to be expended at the start of the programme. It is likely that a short deferral period generally would not warrant significant work to precede the decommissioning phase

3. Defer with planned interventions.

Assumes a significant maintenance programme of work being required during the deferral period itself, offset by much less work being required during the preparatory phase

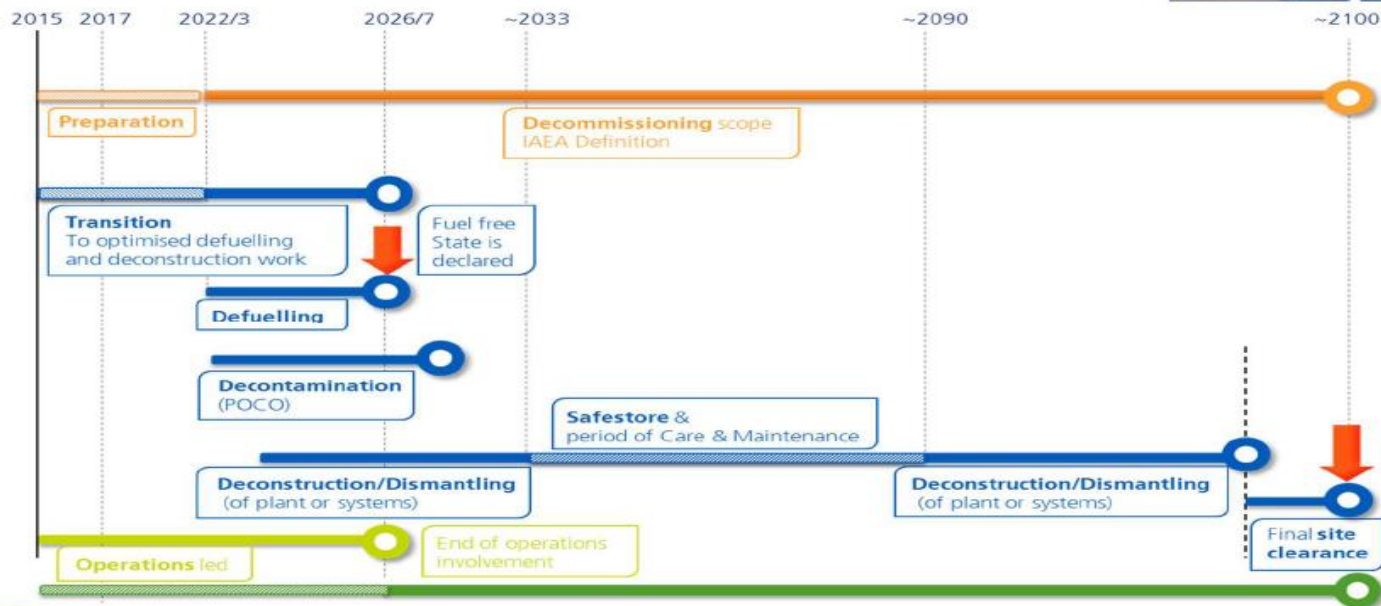
For a short (10-15 years), medium (15-25 years) or long (25+ years)

AGR Decommissioning

Decommissioning Lifecycle

Phases of Decommissioning

(Indicative for Hunterston B power station)



Visualisation of Phases



Sellafield – Beyond intolerable risk



How to choose between 'tolerable' installations?





Discriminatory Factors

Tier 1 factors	Example of value that could be delivered
Health and safety	<ul style="list-style-type: none"> Does pace of decommissioning affect risk to workers (e.g. radioactive decay, radioactive ingrowth, structural safety, friability of asbestos, etc.)?
Risk / hazard reduction	<ul style="list-style-type: none"> What risk does installation currently present to human health and the environment? Will this risk increase or decrease over time? To what extent will decommissioning decrease the risk?
Security	<ul style="list-style-type: none"> Does decommissioning of this installation change the security status of the site?
Environment	<ul style="list-style-type: none"> Does pace of decommissioning change discharges to the environment, including the nature of waste arising (e.g. radioactive decay versus in-growth)
Socio-economic impact	<ul style="list-style-type: none"> Does the pace of decommissioning affect local community or economy (e.g. maintaining employment opportunities for the local community)
Lifetime Cost	<ul style="list-style-type: none"> What is the lifetime cost of different decommissioning strategies (including asset management and other controls)? Is there potential for any income from decommissioning (e.g. land sale)?
Enabling the mission	<ul style="list-style-type: none"> To what extent would decommissioning <ul style="list-style-type: none"> develop skills and / or maintain a skilled workforce provide lead and learn opportunities create space for other high-priority work provide an opportunity for testing a new approach or technology demonstrate feasibility and increase confidence in decommissioning set a helpful precedent? Added Value generated

Constraints / Benefits realisation

Tier 1 factors	Constraints to be managed
Resources	<ul style="list-style-type: none"> • Is the best-performing strategy affordable (do funds exist)? • Do the skills exist to deliver the preferred strategy?
Logistics	<ul style="list-style-type: none"> • Is there adequate space to perform decommissioning? • Is the necessary waste infrastructure available? • Is decommissioning dependent on another facility?
Technology	<ul style="list-style-type: none"> • Does the necessary technology exist?
Contracts	<ul style="list-style-type: none"> • Is it feasible to contract for the preferred strategy
Policy and strategy	<ul style="list-style-type: none"> • Does the best-performing strategy align with policy, regulation and NDA strategy?
Stakeholder support	<ul style="list-style-type: none"> • Will interested parties support or block the preferred strategy?



Evidence required by SLCs

Establish the current risk presented by installation to people and environment

Asset health – estimate of effort required to maintain safety and manage emissions

How does dose to workers change over time

How do waste volumes change over time (radioactive decay, ingrowth, etc.)

What is the nature of the hazard - what POCO completed (residual inventory) etc

Constraints and how these have affected scope of review;

- Space

- Do not increase licensed site perimeter

- Waste solutions

- Stakeholder views ie regional waste stores