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UKCS Decommissioning: Collective Learning

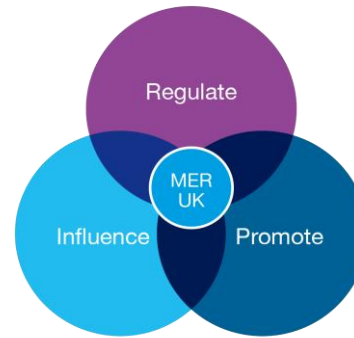
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The OGA decommissioning mission

To steer the UKCS overall decommissioning cost to £39bn* or less

* 2016 money

How?



Engage early on decommissioning plans with operators



Publicise benchmarks using OGA Stewardship Survey data



Identify cost reduction opportunities/challenges for decommissioning



Promote collaboration across industry



Identify and share lessons learned



Support supply chain to develop capacity and efficiency

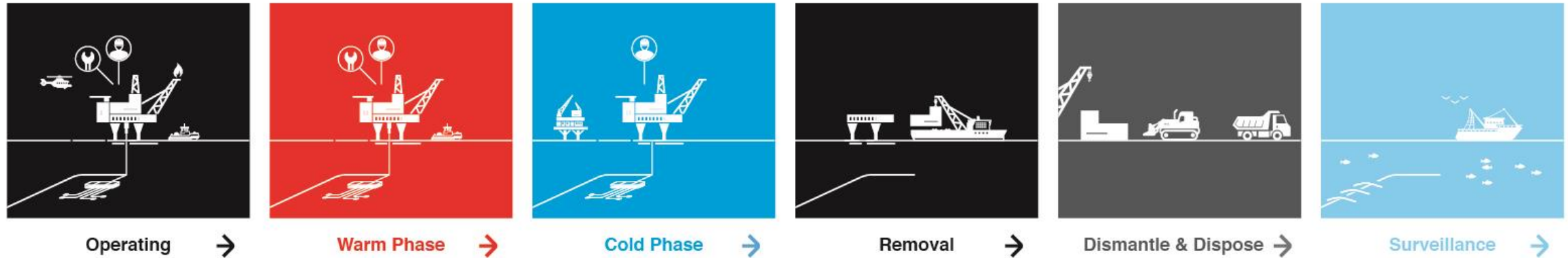


Ensure MER UK behaviour implemented

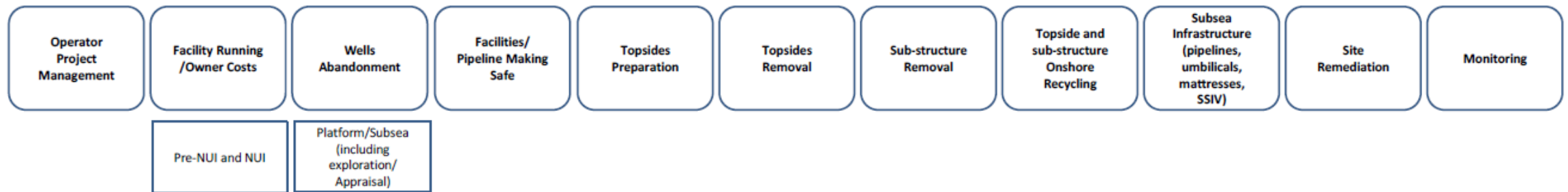
Asset Stewardship Expectations

Sharing of decommissioning learning 2018

Learnings being structured in line with decommissioning lifecycle



And the industry-standard decommissioning Work Breakdown Structure (WBS)



Sharing of decommissioning learning 2018



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Operating/Late-Life

Sub-categories:

- 1) Planning/Scope
- 2) Execution
- 3) Cost

Operating / Late-Life Phases

Project Management (i.e. Strategic considerations)

- Determine the strategic fit vs life-cycle of asset(s) in a company's portfolio
- Advise more mature owners/operators at the late-life stage? Should sufficiently early for the asset(s) to still be attractive.
- Ensure organisational structure is incentivised/qualified to act on high value decom opportunities during late-life
- Stewardship Discussions with the OGA, utilising the 'Decom Dashboard', will allow cost reduction opportunities to be identified and a structured capture plan agreed
- Consider submitting a Decommissioning Programme ahead of Cessation of Production (CoP), to enable opportunistic decommissioning activities (where cost-effective)
- e.g. down-cycle costs may be lower than at other times
- Early regulator engagement will clarify requirements of cost-effective yet compliant decommissioning
- Explore sharing costs of environmental surveys/datasets with nearby Operators incl. utilising existing, relevant reports
- Submitting a Topside Decommissioning Programme separately to that for the substructure may give valuable timing flexibility for topside removal, e.g. if issues associated with the substructure decommissioning (e.g. with OSPAR derogation cases) may result in delays to the Decom Dashboard

Facilities Running / Owners Costs

- Consider reducing preventative maintenance of platform utilities (e.g. power generation) if replacement by temporary alternatives is more cost-effective during the later Warm/Cold/Removal periods

Well Abandonments

- Consider (if appropriate), execute PBA or PBL of redundant wellstock if cost-effective
- Primary benefits is to reduce/near-eliminate Running Costs during the later Warm Stack Phase
- Early reservoir abandonment (i.e. PBL) is typically cost-effective and, equally valuable, de-risks remaining PBA scope
- recognise inefficiencies if not done as part of an ongoing campaign
- Identify potential injection wells for annular fluids from early PBA activity, and also for pipeline flush/acids from later Pipeline Make Safe activities
- Engage PBL/PBA such that these wells are available when needed

Facilities / Pipeline Making Safe

- A plan/strategy to Make Safe and de-energise facilities/pipelines at this stage often yields cost savings from better scheduling (esp. scheduling activities during the production phase)
- This also informs planning to reduce connection risks for tie-in fields

Subsea Infrastructure (WSPs, manifolds, SSVs, pipelines, mattresses, etc)

- Monitor
- Evaluate residual hazards for anticipated decommissioning end-state, and use risk-based comparisons when selecting a proportionate monitoring regime (frequency, duration, specification)

Topside Preparation

Topside Removal

Substructure Removal

Shore Recycling

Substructure Onshore Recycling

Site Remediation

Warm

Cold

Remove, Dismantle

Surveillance

Roll-out: End-June 2018

<p>Execution</p> <ul style="list-style-type: none"> At inefficient to remove equipment/modules Stack phase (e.g. Hot works) are typically very constrained/ the presence of fire/explosion hazards rigly mitigated by setting reservoir isolations early ventions to unarmoured (NU) installations will ad savings from reduced inspection/maintenance utilised bedding/accommodation may offer an (on-manned platforms) typically value-less if either single-lift or reverse on removal methods is ultimately selected 	<p>Execution</p> <ul style="list-style-type: none"> low offered to the removal contractor(s) Stack phase lasting several years onal contractor responsibility for during Cold Stack, to incentivise good of re-entry cost management
<p>Execution</p> <ul style="list-style-type: none"> opportunities for substructure removal preparation managing/optimising, associated with other Warm e.g. PBA & Making Safe 	<p>Execution</p> <ul style="list-style-type: none"> A wide removal time window offered to the removal contractor(s) may result in a Removal phase lasting several years Digital (visual/heard) surveys are frequently found to cost- effectively offer high quality, execution-relevant data
<p>Execution</p> <ul style="list-style-type: none"> Substructure Onshore Recycling When evaluating obtaining/recycling in international locations, determine regulatory requirements for trans-boundary shipment of hazardous waste to avoid costly delays or materials repatriation *Also ensure reporting and waste management plans will meet domestic regulatory reporting needs, to avoid re-work costs Dismantlers gain revenue benefits from selling materials at times of high steel prices, so giving them flexibility/wide to do so yields net contract cost benefits 	<p>Execution</p> <ul style="list-style-type: none"> Substructure Removal Conductor recovery by the jacket removal contractor is often cost effective relative to using a rig *The amount of conductor recovered can be optimised (incl. comparative assessment) to account for environmental impacts (e.g. cutting pile disturbance), safety, costs, etc
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Thank you
