

Hitachi Energy Response to Draft Determinations - Advanced Procurement Mechanism Re-opener 2026 (RIIO-ET3) consultation

Introducing Hitachi Energy

Hitachi Energy is a global leader in technologies that increase the capacity, resilience and flexibility of the electricity grid, including HVDC transmission and AI-enabled solutions. We are harnessing best practices in the energy, industrial, mobility, IT and smart cities sectors around the world and applying this expertise across our markets. We are a major investor in the UK, with a turnover of several £ billion and operations across the country, from Shetland to Somerset and North Wales to Norfolk. We are continuing our growth journey in the UK with over 800 employees and are on track to more than double our UK operations over the next 5 years.

We are advancing the world's energy system based on renewable energy, which is increasingly the lowest-cost, most secure and fastest-to-deploy source of power, when supported by a grid that can move electricity efficiently, reduce losses, and connect generation at pace. As a technology leader, we collaborate with customers and partners to enable a sustainable energy future – for today's generations and those to come. We are already helping to bring clean energy to more than ten million UK homes by connecting the world's largest offshore windfarm at Dogger Bank to the grid.

Our response

Amending APM Bespoke Procurement allowances

1. Do you agree with our Draft Determinations to increase APM Bespoke Procurement allowances?

Hitachi Energy agrees with Ofgem's Draft Determinations to increase APM Bespoke Procurement allowances.

2. Do you agree with our reasons for declining APM Bespoke Procurement allowances?

Although Hitachi Energy recognises the need to mitigate the risk of stranded procurement, we would highlight that declining allowances for highly in-demand equipment could delay network projects where early procurement is required to secure supply chain capacity. We agree with Ofgem's position that assessments should consider supply chain constraints, the potential delay impacts of those constraints and the resulting impact on consumers.

Adding a new APM Cost Category

1. How do the whole-of-life costs of modular substations compare with traditional solutions?

Hitachi Energy's experience indicates that modular substations can deliver lower whole-of-life costs compared with traditional site-built substations. While upfront costs are project-specific and depend on factors such as site conditions, voltage level and transport requirements, modular solutions can reduce overall project costs through lower civil works requirements, reduced site labour, shorter construction programmes, fewer project interfaces and reduced commissioning activities. Historical project experience suggests overall project cost savings of more than 10% compared with conventional substations when the full project lifecycle is considered. Additional benefits can arise from improved quality, reduced rework, greater schedule certainty and reduced outage impacts due to factory assembly, integration and testing.

2. To what extent can modular substations provide flexibility for future network needs, including the ability to accommodate new connections, support additional load, or be redeployed where project need changes, while minimising costs for consumers?

Hitachi Energy believes that modular substations can provide significant flexibility for future network needs. Their principal advantages are speed and adaptability. They can accelerate project delivery, provide new connections more quickly and, where designed for temporary use, be moved from one project to another. Greater standardisation of modular substation designs would increase these benefits by making solutions easier to deploy, reconfigure and redeploy across projects. Historical project experience indicates that modular substations can deliver project lead time reductions of approximately 30-40% through factory assembly, pre-testing and reduced on-site installation activities. Modular approaches have also been associated with reductions in stakeholder resource requirements (around 30%), project and programme impacts (around 30%), civil risk exposure (around 40%) and site footprint requirements (around 25%). In addition, standardised modular designs can facilitate future expansion, replication across multiple sites and, where appropriate, relocation or redeployment of assets, helping network operators respond more efficiently to changing demand and connection requirements whilst minimising costs for consumers.

Any assessment of consumer costs should therefore take account of the costs that project delay could impose on consumers.

3. What are the current supply chain constraints and procurement lead times for modular substations? Are they predicted to worsen in the future?

The procurement lead times for modular substations are primarily determined by the lead times for their principal components, particularly switchgear and transformers. Modularisation in itself is not the principal supply chain constraint.

4. How flexibly can modular substations be redeployed where project need changes and how can risk of stranded procurement be mitigated when procuring modular substations?

Modular substations are highly flexible within their specified voltage rating. They can be reconfigured comparatively easily and deployed at different sites where project need changes. As highlighted above, greater standardisation would further reduce the risk of stranded procurement by increasing the range of projects for which a modular substation can be used and making redeployment more straightforward.

5. Where modular substations are proposed for customer connection projects, what proportion of costs would be licensee-funded rather than customer-funded and therefore meet the eligibility requirements of the APM?

No comment.

6. Should modular substations be included within the scope of the APM as a Flexible Procurement or Bespoke Procurement APM Cost Category?

Hitachi Energy supports the inclusion of modular substations within the scope of the Advanced Procurement Mechanism.

We recognise that the cost of Bespoke Procurement must be justified, and Hitachi Energy supports greater standardisation because it can make modular substations easier to deploy, reconfigure and re-deploy across projects. However, there will continue to be bespoke examples where considerable delivery benefit could be lost if Bespoke Procurement were not available. Ofgem should, therefore, retain the option of treating modular substations as a Bespoke Procurement cost category where the need and associated costs are properly justified.

7. If modular substations are included as a Flexible Procurement category, what checks would be needed to ensure that the trade-off between short-term delivery benefits and longer-term network efficiency is justified?

The checks applied should be tailored to the different types of modular substation solution.

For temporary solutions, the assessment should consider the value of faster delivery and the ability to redeploy the equipment to another project.

For permanent solutions, the assessment should consider whether the benefit of faster application and earlier connection justifies any higher cost, while ensuring that the solution remains appropriate for the network's longer-term needs.