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LESSONS LEARNED FROM THE MEYGEN PROJECT

17th September 2014 should prove to be a watershed for the development of tidal energy projects and place the UK at the heart of the worldwide industry. On that day the first phase of MeyGen's Pentland Firth tidal stream energy project reached financial close.

Words:
Will Gard
Burges Salmon

The importance of this milestone should not be underestimated by the industry. It marks the point at which a developer and its supply chain for the first time successfully persuaded third parties (and their advisors) that a tidal energy project was viable and worthy of major financial investment. Ok, that investment has come to a large extent from government and The Crown Estate, but arm's length commercial principles and robust due diligence was applied. That type of financial hurdle is not easy to overcome for any emerging technology which is unproven on a commercial scale. Notwithstanding the level of research, development and testing at the likes of EMEC and elsewhere, the risks involved in deploying generation assets like this in uncharted waters are significant. As a result only the best projects are likely to receive backing and, of these, only the select few will be trail blazers.

But what does it take to secure financial backing to make the leap from test facility to commercial operation? In simple terms it needs a committed and ambitious developer, a technically competent but also flexible and innovative supply chain, a robust procurement structure and a sound commercial model. But allied to this it requires dogged determination from all parties involved to deal with adversity, be innovative and to accept the fact that being at the cutting edge means that the risks are large and often unknown. How those risks are identified, mitigated and shared is critical to the financial viability of the project. Recording that risk allocation is a fundamental requirement of the procurement documents.

MeyGen, along with its supply chain and advisors, overcame these problems to secure funding. The small matter of detailed design and construction awaits. It will be at that stage that the robustness of the procurement strategy and contract documents will be tested in real-world conditions. While every care was taken in the drafting, and the documents were subject to rigorous due diligence from funders' advisors, it is only during the delivery phase that their efficacy can be truly judged. So what was it that gave funders and their advisors sufficient confidence that the procurement structure and documents would enable the project to be successfully realised?

Firstly, like with any new technology, MeyGen sought to learn lessons from analogous projects. The obvious starting point was to consider what approach had been used successfully in other complex offshore works. Offshore wind, particularly Rounds 1 and 2, was sufficiently mature to provide examples of successful projects but also to highlight where problems or disputes arose. Offshore oil and gas was also a useful reference point about how construction works in hostile ocean sites can be successfully procured. However, the economic landscape of oil and gas, dominated by cash-rich developers, is fundamentally different to the reality of small-scale renewables developers seeking to attract third-party funding, so the examples needed to be treated with caution. And finally, the lessons learned from complex onshore infrastructure, particularly energy projects, were considered.

Image:
Courtesy of MeyGen

It very soon became apparent that the scale of the risks involved in developing a commercial tidal stream project (many of which were largely unknown) meant that there was very little chance of a single contractor being able, or willing, to wrap the whole risk in a single EPC (Engineer Procure Construct) turnkey contract. It was far more likely that the project would be split into smaller chunks so that each contractor carried less of the overall risk and better understood the risks it was taking on, as its scope of work would be more closely aligned to its own area of expertise.

This approach is relatively common in both onshore and offshore procurement. The trick is to make sure that the interface risk (the risk that the contractors will not work well together or that crucial elements of their designs will be incompatible) are adequately covered off. This process has already been fairly well explored in offshore wind and conventional energy projects, where the number of packages is usually small. However, in the MeyGen project it became clear that the technology solution and the desire of contractors to only take on the elements of risk they felt comfortable with meant that there would be nine package contracts. This increased the interface risk by an order of magnitude and could have created a deal breaker for potential investors if it was not adequately dealt with. Notwithstanding the legal and commercial challenges of this approach to procurement, the nascent state of the industry meant that the problem could not be avoided by simply consolidating packages.

A workable legal solution was required that gave investors sufficient confidence to commit. The answer was to let each package on contracts based on a standard template but with bespoke amendments to reflect the nature of the works and the risks associated with each. It was essential to maintain absolute consistency in certain provisions, most notably the interface provisions which placed rights and obligations on the developer and contractors to cooperate, swap design information and align programmes. Delicate negotiations were required to make this happen as, understandably, each contractor was concerned not to get saddled with the risk of others simply failing to perform. Critical to the effectiveness of the contracts and the interface provisions is the role of the engineer. He is tasked with administering the contracts and ensuring that the package contractors' inputs are coordinated.

Looking forward, it is likely that tidal stream projects will continue to be procured on a multi-package basis (with more packages than an analogous project in a more mature sector) for the foreseeable future. This is likely to be the approach until sufficient experience is gained in commercial roll-out to give key supply chain members the confidence to assume a greater scope of responsibility, thereby reducing the number of packages. This may ultimately result in two packages becoming the norm as in onshore wind (one for turbine supply and one for everything else). Together with the benefits of economies of scale derived from large-scale arrays, this should bring down costs thereby attracting more investors to ensure that the MeyGen project is the first of many and secure work and renewable tidal energy for decades to come.

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