## An insight into the engineering perspective of EIA

Having worked as a site developer at a marine renewables technology company before moving into environmental consultancy, I have had the benefit of experiencing two sides of the development process and gained valuable insight into how a primarily engineering company views and deals with the EIA process.

As a small start-up company attempting to develop reliable, cost-effective energy generating technology in the extremely challenging marine environment with limited access to funds, the environmental aspect was often misunderstood by engineers whose main focus was to develop pioneering renewable technology. To the engineers, EIA was often seen as a hoop to jump through and a barrier to development, with the potential to cause project delays and seemingly unjustified costs for surveys, monitoring and mitigation measures.

Baseline data collection is a key component of EIA for all projects, however it is important that the level of survey required is proportionate to the scale of development and that survey scopes are effectively designed to ensure sufficient data are collected without wasting effort. To date there has been a lot of uncertainty amongst regulators, stakeholders and environmental consultants alike as to the potential environmental impacts of the new marine renewables technologies. Consequently, the precautionary principle has often been applied, with the developer having to undertake a wide range of surveys and wildlife monitoring, which sometimes felt like collecting data for data’s sake.

In the marine environment these surveys are often extremely costly, and for start-up companies solely dependent on inward investment, this can result in a significant drain on an already limited budget, which can ultimately impact on the success of the company.

When preparing a project description on which to base the assessment, there was a considerable timeline disconnect between when information was required for EIA and when it was realistically going to be available from an engineering perspective. Having worked on other EIAs since joining Xodus, I acknowledge that this issue is common to many projects, but for a young company developing a new technology the demand for extensive project details well in advance of detailed engineering often exasperated the engineers. Often data requests are all-encompassing, which has the potential to turn engineers off the process of providing data. EIA consultants must try to find a balance between the key information required to allow robust assessment of the potential impacts and the ‘nice to haves’. It is also important to get buy-in to the EIA process from engineers and management early on, explaining the EIA process, legal requirements and the potential consequences for non-compliance. Early engagement with environmental consultants should be encouraged to ensure the benefits that the iterative process of EIA can bring to a project, such as reducing future costs and de-risking a project, are fully realised.
This buy-in must continue throughout the EIA, especially when proposing mitigation. If environmental requirements are viewed as onerous, costly or simply inappropriate by the project team they become a chore and are potentially side-stepped or even rejected. There were several instances where the scale of development and geographical setting was not properly understood by environmental consultants that had not visited the site and were simply working from previous experience. One example was the construction of a small stream crossing to provide access to an onshore site. A road with an adequately-sized culvert had been proposed by the engineers but following a terrestrial ecology survey in which one old otter spraint was observed at the top of the stream, an otter tunnel was subsequently proposed. This added not-insignificant cost to the road construction and required substantially more excavation of the banks and beach, thereby having more physical impact. During the construction period and site operation, no otters were observed; more appropriate mitigation may have been a ‘Beware – otters crossing’ sign before the stream crossing. If there had been better understanding of the setting, including a site visit, the consultant would have realised that it was impossible to drive at speed when crossing the stream due to the gradient and bends in the access track, so the likelihood of impacting an otter was insignificant.

As well as the benefits of having local knowledge of a site, good awareness of the type of permits required for certain construction activities and when it can be appropriate to challenge the guidance is useful. It was discovered relatively late on in the EIA process that there was a requirement to extract freshwater from the stream for drilling activities. Normally extraction of freshwater requires a Controlled Activities Regulations Licence, which was ultimately obtained.

However, the point at which the water extraction took place was three metres upstream of where the stream discharged on to a stony beach, so the extraction would have had absolutely no impact on the hydrology of the area; a sensible assessment of the situation and timely consultation with the regulator could have removed the need for a licence altogether.

These lessons are important in helping both developers and consultants deliver better EIA that costs less, frustrates less and gains more buy-in, which ultimately aids in reducing impacts on sensitive receptors.


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