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To Whom it May Concern:

Fife Energy Park Offshore Demonstrator Wind Turbine (FEPODWT): Section 36 Application

In July 2012 Arcus submitted applications on behalf of Scottish Enterprise ('The Applicant') for a test facility for the demonstration of new designs of offshore wind turbines on the northern shore of the Firth of Forth at Methil, Scotland. The project, to be known as Fife Energy Park Offshore Demonstration Wind Turbine (FEPODWT), is located offshore approximately 35 m below Mean High Water Springs (MHWS) mark and 48.3 m from the Fife Energy Park (FEP) boundary and would be operational for 5 years.

Consent for this project is sought under Section 36 of the Electricity Act 1989. In conjunction, two Marine Licence applications have also been made one for a 'Marine Renewable Energy Project in the Territorial Sea and UK Controlled Waters adjacent to Scotland', and one for 'Dredging and Deposit of Solid Waste in the Territorial Sea and UK Controlled Waters adjacent to Scotland', as required by the Marine (Scotland) Act 2010.

The applications were accompanied by an Environmental Impact Assessment (EIA) prepared in accordance with the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000 (as amended) and the Marine Works (Environmental Impact Assessment) Regulations 2007 (as amended). The EIA was presented in the form of an Environmental Statement (ES).

The project description in the ES stated that the turbine will sit on a steel jacket foundation which will be secured to the sea bed with piles. It further stated that the piles will be a maximum of 20 m long and approximately 2 m in diameter. The piles for the foundation will be put in place by drilling boreholes into the sea bed and extracting the material to leave a hole into which the piles can be inserted and grouted into place.

Since the submission of the ES there has been progression in the engineering design which requires an amendment to this pile size and hence the size of the borehole. This will increase the size of the boreholes to up to 3 m in diameter and up to 37 m in depth, to allow the insertion of a pile of up to 2.7 m in diameter and 37 m in depth. There will be no change to the installation method stated in the ES, the piles would still be installed by drilling of a borehole, and the piles inserted and grouted into position, all as set out in the ES.

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The potential impact of the pile installation relates to noise generation and resulting disturbance to marine mammals. As stated in Section 7.7.4.2 of the ES:

During construction it is proposed to drill and grout the supporting piles into position. This method of construction will cause low levels of noise emissions. Taking this into consideration, works are highly unlikely to cause harm to marine mammals. However construction works may cause temporary disturbance to any marine mammals present in the area at the time of works, this would be a negative temporary effect which is unlikely to occur.

Various methods are available for the installation of piles for marine developments. In many cases a pile hammer is used to drive the solid pile into the sea bed. This essentially uses a hammer to drive the pile through the sediment and rock within the sea bed. The blow force associated with this process is an issue of concern due to potential effects on marine species which rely on hearing, in particular marine mammals and certain fish species. The development does not use this method of pile installation. As stated in the ES the method for the development involves drilling a hole into the sea bed, into which the pile is inserted. This is done through utilising a specific drilling method which extracts the sediment from within the borehole in water solution as the drill progresses, thus minimising the resistance and easing the drilling process. As stated in the ES Section 7.7.4.2 above the level of noise from this drilling activity is low and is unlikely to cause harm to marine mammals. The increase in the borehole and pile size makes no change to this method and the levels of noise it may generate. The piles will take slightly longer to install however this timescale remains within the 4 month construction period as stated in the ES (Section 3.2 page 3-1). Table 1 below provides an indicative construction timetable for the key construction activities associated with the turbine to demonstrate this activity remains within the 4 months construction period.

Table 1. Indicative Construction Timetable

Activity	Timescale
Seabed preparation	2 weeks
Installation of piles	6 weeks
Completion of substructure installation	3 weeks
Installation of turbine	4 weeks

As stated in the ES, mitigation would also be utilised as best practice to further minimise disturbance to marine mammals. This mitigation remains as stated in Section 7.8.3 of the ES. The JNCC best practice guidance will be followed to develop a protocol for a marine mammal observer (MMO) who will be present on the site during the pile installation process. Whilst the JNCC guidelines relate primarily to pile driving, these guidelines would also be followed at the development site as best practice during the drilling process.

As stated in the ES, the material from the borehole will be removed and disposed of offshore at an existing offsite disposal facility through the Marine Licences.

The EIA team have reviewed this change to the borehole and pile size. As there is no change to the method of pile installation, and the works remain within the duration of construction as stated in the ES, this change does not affect the conclusions of the ES or change the required mitigation.

We therefore request MS-LOT confirm acceptance of this amendment to the project description and incorporate this into the consent decision for the submitted application.

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Yours sincerely,



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