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MEYGEN TIDAL ENERGY PROJECT PHASE 1 - ELECTROMAGNETIC FIELDS BEST PRACTICE REPORT – MARINE SCOTLAND SCIENCE COMMENTS

Marine Scotland Science (MSS) has reviewed the submitted documents and has provided the following comments.

Marine Scotland Science comments on diadromous fish

MSS have found this report to be well prepared and informative.

Regarding the magnetic fields in the vicinity of the cables, the report indicates that there will be a high level of mitigation, even though the main sections of cable will not be buried.

This is for the following reasons.

The cables will each carry three phase AC within each single cable – there are two sets of three conductors contained within each cable – a main and an auxiliary set. With three phase AC current, if the conductors are close together, as they are in this case, the field vectors largely cancel out other than in the immediate vicinity of each separate conductor, so the magnetic field is very low other than in the immediate vicinity of each separate conductor.

The steel cable reinforcement material will attenuate any residual magnetic field further.

Horizontal directional drilling is to be used at the landfalls. This removes the possibility of effects very close to the shore, where on the basis that salmon smolts and adults swim close to the surface, and cables would be closer to the surface because the water would be shallower, there would be a greater potential for interactions between salmon and any fields associated with bed laid cables.

The typical magnetic field strength of approximately 1.6 μ T immediately next to offshore wind development cables cited on page 6 of the report from the COWRIE EMF study (CMACS 2003) can only be as low because of factors such as the use of three phase AC, conductor layout etc, although this is not stated.

There is nothing we would wish you to raise with MeyGen in connection with this report, at this stage.

Marine Scotland Science comments on elasmobranchs

The report covers the main issues and references the few bits of research that have been done. The reality is that the evidence for EMFs having an adverse effect on sharks etc is ambiguous and this is noted in this report.

Undoubtedly the Pentland Firth is important for those species mentioned. It is also known to be an area where Porbeagle sharks aggregate during winter. It's not known why, but anglers target them there (catch and release). This species is not explicitly mentioned and perhaps should be as it has 'protected' status. Likewise for common skate (see Orkney Skate Trust).

The section on mitigation is reasonably comprehensive and we believe they have given due consideration to potential issues.

Hopefully these comments are helpful to you. If you wish to discuss any matters further contact the MSS Renewables in-box MS_Renewables@scotland.gsi.gov.uk.

Yours sincerely

Paul Stainer

Marine Scotland Science

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