

## GBEP Appendix B – Summary EMF - Applicant Response to Roy Clegg Submission

Questions REP-089	Applicants Response	Response from Roy Clegg
<p>1. The Cottam Solar Project states: “that in the absence of information relating to the potential for impacts, the Proposed Development on fish species, the Inspectorate does not agree to scope this matter out”.</p> <p>2. The ES should include a description of the sensitivity of relevant watercourses and any seasonal constraints on such crossings, assessing likely significant effects on riverine species where they are likely to occur”.</p> <p>3. The developer has only made a minor consideration of EMFs in human life but nothing on the significant impact on aquatic life, flora and fauna with wildlife, and biodiversity, where all the later are intrinsically linked to each other.</p> <p>4. Existing exposure standards are for humans only; aquatic life, flora and fauna and its wildlife are unprotected including within the safety margins of existing guidelines, which are inappropriate for trans-species sensitivities and different non-human physiology.</p> <p>5. The developer has identified a myriad of cable runs in the project resulting in connections carrying up to 400Kv to transport electricity from the solar panels to the National Grid at Cottam Power Station using transformers, inverters etc., all of which transmit EMF’s.</p> <p>6. The cables carrying power lines at ground level in the project of 400Kv will have a greater effect on Electromagnetic Fields than if they were 7 metres above ground level.</p>	<p>1. No response required.</p> <p>2.The Applicant has provided information on the approach to watercourse crossings in a comprehensive screening exercise that was undertaken for determining where open span bridges or culverts were required. This is contained within Appendix A of the signed Statement of Common Ground with the Environment Agency which was submitted at Deadline 1 [REP-014/4.3E]. The Environment Agency have agreed with this approach.</p> <p>3. A comprehensive aquatic desk study has been completed (see Appendix 8-E Aquatic ecology report [APP-129/3.3]), along with targeted aquatic surveys, which has informed the ecological appraisal and impact assessment.</p> <p>4. No attempt has been made to apply existing exposure standards for humans to important ecological features identified within Chapter 8 of the ES [APP-017/3.1], are assessed with regard to their specific sensitivity to a particular impact pathway.</p> <p>5. No response required.</p> <p>6. The 400kV grid connection circuit is proposed to be underground and is anticipated to be buried to depth of at least 0.9m. Therefore, the potential sources of EMF that might act in-combination with other sources are removed.</p>	<p>1. No response required.</p> <p>2. No Response required.</p> <p>3. The desk studies undertaken in Environmental Statement Volume 3 Appendix 8-E: Aquatic Baseline Report 2.5.1, identifies species which are protected, but the references used, <b>do not take account of the effect of EMF</b> on the species noted.</p> <p>4. The applicant has not responded to the question asked of the ExA.</p> <p>5.The applicant has accepted that the cable runs carrying up to 400Kv to transport electricity are all transmitting EMF’s.</p> <p>6. An Electromagnetic Field is a circular vector field that radiates out centrally from its stronger central core with a magnetic influence on moving electric charges, electric currents, and magnetic materials. The electromagnetic fields will not be mitigated or stopped by covering them over or burying to a revised depth. In effect the EMF will at its core be distanced 2.9 metres and have an effective band width across the River Trent estimated at 12 metres.</p>

7. The magnetic fields created on the development site will be significantly stronger, and the effect of EMF will be distanced further away by at least 7 metres.

8. A magnetic field measuring 57.5 milligauss immediately beside a 230 kilovolt transmission line measures just 7.1 milligauss at 100 feet, and 1.8 milligauss at 200 feet, according to the World Health Organization in 2010.

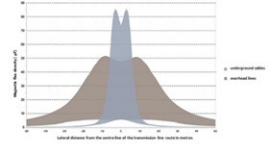
9. This WR has shown that almost 100 years of research identifies that all species in aquatic life, flora and fauna and its wildlife and associated biodiversity are affected by EMF. **Is the Developer, Examiner and the Secretary of State satisfied that there is no risk to any species from the effect of EMF and its features because of the Project?**

7. As set out above, the cables will be buried to a depth of at least 0.9m which will greatly limit the transmission of any magnetic fields.

8. No response required, but the Applicant would again re-iterate that all cabling will be buried.

9. The Applicant acknowledges the research identified in the WR but highlights that there is no evidence of significant adverse effects to biodiversity from the specific elements of cabling being sought through this application. As set out above, the 400kV cable will be buried to a depth of at least 0.9m, with cable design following all relevant safety guidance. As such, the Applicant is satisfied that there is no potential for significant adverse effects on the important ecological features identified in Chapter 8 of the ES [APP-017/3.1].

7. and 8. The diagram, when enlarged will show the effect of EMF field strength set against underground and overhead cables and lateral core



So how do you mitigate?  
Revert to using overhead cable lines for water crossings and other buried large power lines on site.

9. See previous responses.