Freephone: 01962 893 869
Email: aquindconsultation@becg.com
Website: www.aquindconsultation.co.uk
Freepost: AQUIND CONSULTATION

Mr James Veryard
[redacted]

31 May 2019

AQUIND Interconnector Consultation – Response to EMF Query

Dear Mr Veryard,

I write to follow-up on discussions which you have had with members of the AQUIND project team at public exhibition events as part of the statutory consultation on proposals for AQUIND Interconnector, as well as subsequent written and telephone correspondence between the project team on 8th January, 10th January, 11th February, 23rd February, 25th March, 23rd April, and 24th April 2019 respectively.

More specifically, this letter seeks to address the general and specific concerns which you raised in your written response to the Land Interest Questionnaire (LIQ) on 8th January, regarding the potential Electric and Magnetic Fields (EMF) impacts of the Converter Station, High Voltage Alternating Current (HVAC) cables and High Voltage Direct Current (HVDC) cables associated with proposals for AQUIND Interconnector – a new marine and underground transmission link between the south coast of England and Normandy in France.

At the public exhibition event, and within your subsequent written correspondence, it is noted there was a particular concern relating to whether the potential EMF from the HVDC cables associated with the proposals will reduce property prices, increase the risk of cancer and potentially affect the ongoing [redacted].

Thank you for taking the time to contact the project team to share your concerns and, if we may, please allow me to provide some further information which we hope will go some way to addressing your recent queries.

The Project

AQUIND Limited is proposing to construct and operate an electricity interconnector between France and UK. This Project includes a new marine and onshore High Voltage Direct Current (HVDC) power cable transmission link between Normandie in France and the south coast of England, converter stations in both England and France, and will also include fibre optic data transmission cables.

With a net capacity of 2000 megawatts, the Project will significantly increase the cross-border capacity between the UK and France, increasing competition and improving security of the electricity supply in each of the respective countries. To enhance the security of supply and the availability of its power transfer capability, the Proposed Development is being designed as two independent pairs of cables, each with the net capacity of 1000 MW and a total import capacity of up to 2000 MW.

Freephone: 01962 893 869
Email: aquindconsultation@becg.com
Website: www.aquindconsultation.co.uk
Freepost: AQUIND CONSULTATION

Electric and Magnetic Fields (EMF)

The subject of EMF is comprehensively addressed in several publicly available reports produced by various organisations, including academia, media, political and technical bodies. These are compiled by National Grid on the website www.emfs.info. This website contains a wealth of knowledge regarding the sources, evidence, the policies and legal limits of EMF which apply in the UK.

Focusing on HVDC cable installations in particular, the diagram below *(Figure 1) shows* a typical underground cable trench layout and the associated preliminary calculations of peak magnetic field (calculated in units of microTesla - µT) due to the 2 HVDC circuits, consisting of 4 cables in total, operating under the following conditions. Note that the HVDC cables do not emit any significant electric fields due to earthing of the cable sheath. The initial design assumptions for these calculations are as follows:

- Installation depth: 1m
- Cable spacing: 300mm
- Circuit spacing: 5m, between the closer cables of each circuit
- Current: 1620A, the maximum specified rating, in both circuits
- Reference height: 1m above ground level

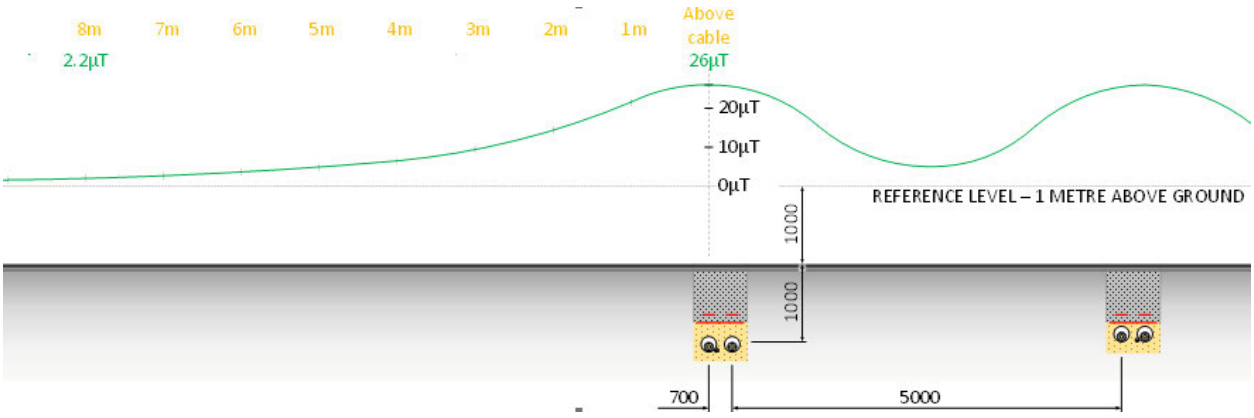

Figure 1 – Cable proximity and indicative field strength

Based on the initial design works and expected HVDC cable parameters, preliminary calculations show that the maximum calculated static magnetic field strength 8m (the approximate distance of your dwelling from the nearest circuit) is expected to be approximately 2.2µT; though this can be lower, as it depends upon the variation of current flow.

To put the above value into context:

- The allowable limit for public exposure to static (DC) magnetic fields, where time of exposure is significant is 40,000µT. This limit was proposed by the International Commission on Non-Ionizing Radiation Protection in 1994 and subsequently adopted by EU recommendations and are adopted as policy in the UK.
- The ICNIRP issued new guidance for static fields in 2009 in a document titled “ICNIRP guidelines on limits of exposure to static magnetic fields” which revised the guidelines to 400,000 µT however this increased figure has not (yet) been adopted by the UK.

Freephone: 01962 893 869
Email: aquindconsultation@becg.com
Website: www.aquindconsultation.co.uk
Freepost: AQUIND CONSULTATION

- The Earth's naturally generated static magnetic field is approximately 50μT but varies depending on geographic location.
- In comparison with the above, the fields generated by the Aquind Interconnector can therefore be considered negligible in relation to the guidance limits.

Regarding the impact on [redacted], we reached out to the manufacturer via an online enquiry on 28th April. So far, no response has been forthcoming.

Though it is not specific to [redacted], the ICNIRP 2009 guidance does indicate that some interference to impanated medical devices from low-intensity devices has been recognised; however, it qualifies this "*In general, the operation of these devices is not adversely affected by static fields below 500* μT". The maximum expected fields from the cables would be 26μT or 5% of this cautionary guideline level directly above the cable, and 2.2μT or 0.4% at your dwelling.

Summary

In summary, whilst there will be electromagnetic fields associated with the AQUIND Interconnector HVDC cables, the expected exposure of the design falls well within applicable public exposure limits and is expected to be negligible in relation to natural everyday fields at your dwelling.

Further detail on EMF will be prepared as part of the Development Consent Order (DCO) applications, which is anticipated to be submitted Q3 2019.

In the meantime, I trust this letter provides a useful update and if you have any further queries, please do not hesitate to contact us via the contact details provided at the top of this letter.

Yours sincerely,

James Wood
AQUIND Community Engagement Team