



Centre for Marine and Coastal Studies Ltd

# Electromagnetic Fields (EMF)

Underwater power cables generate electromagnetic fields (EMF) in the surrounding environment which have a magnetic and induced electrical component. Certain marine species, including sharks, skates and rays are electrosensitive and a great many species, including marine mammals and shellfish may be magnetically sensitive. There is potential for impacts to occur.

CMACS, and collaborators at the Universities of Cranfield and Liverpool, have led research into the understanding, detection and assessment of ecological effects of EMF.

Our experience includes:

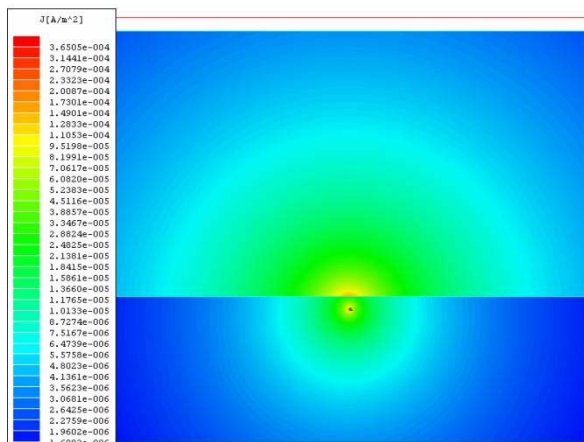
- EIA;
- Advice and modelling\* for offshore wind farms in the UK and Scandinavia;
- measurement of EMF at a UK offshore wind farm
- large scale field experiments.



Measuring EMF over a buried cable.

## Summary of Services

- **Modelling magnetic and electric field strengths for offshore developments**
- **Environmental impact assessment (fish, mammals and invertebrates)**
- **Measurement of EMF in situ**
- **Monitoring of ecological effects**
- **Expert advice to developers and regulators**



\*Current density in seawater and the seabed for a 132 kV cable buried at 1m.

Research has been presented at international conferences, including the inaugural Danish offshore wind farm conference and European Wind Energy Conference 2006 in Athens.

CMACS is involved in ongoing research with the Universities of Cranfield and Liverpool and CEFAS to determine the ecological significance of EMF.