



Chairman's Report October 2014

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The impact of offshore wind around the UK continues to grow, though a number of consequent onshore grid developments are in abeyance. National Grid's Electricity Ten Year Statement (ETYS) continues to be a helpful resource, though it does not include all potential projects.

Following last year's good example of the RWE fully-undergrounded 1.2 GW 220/132 kV AC connection over 100 km, in two sections, from the offshore Triton Knoll to Bicker Fen, this year ABB launched the world's most powerful underground / undersea HVDC cable, at 525 kV and about 2.6 GW, with a range to 1,500 km. The potential for underground and undersea transmission options continues to advance.

Many new or re-emerging UK onshore powerline proposals are likely to be contentious over the next few years, while the possibilities of relief from offshore HVDC links and nodes remain uncertain. There is concern about the implied west-to-east powerflow through Wales and central England from windfarms in Ireland and Wales, as well as about north-to-south powerflow from Scotland, all destined for south-east England and the continental mainland. Of course, wind variability also requires back-up flow in different directions. The revived interconnector proposal from Norway to Blyth, and Dogger Bank Teesside windpower, take up old grid connections from closed power stations, but worryingly add to the loading on the onshore grid. It would be helpful to engage stakeholders early in the formative grid strategic stages.

The EU Renewables Grid Initiative (RGI) drives PR and engagement to promote more electricity grid to support renewable energy. Similarly in the USA the organisation Re-Amp promotes expansion of grids for the same purpose. Our American correspondent Luther Gerlach reports strong public opposition to and suspicion of Re-Amp, while such opposition is less evident in the EU. Revolt has been invited to take part in RGI consultations and keeps in close contact. It remains to be seen how genuine the engagement will be, bearing in mind the range of Transmission System Operators (TSOs) and attitudes.

Evidence on EMF effects continues to grow, and the complexities and possibilities increase. An epidemiology study showed a decline over time of an association with proximity to powerlines, which might reflect population mobility or more ubiquitous EMF exposures confounding the association. Both the magnetic particle mechanisms and the radical pair mechanisms have gained in evidence and in potential for effects at very small fields. The charity Children with Cancer UK held some important workshops this year to focus the evidence. The Royal Institute of Navigation Animal Navigation Forum, with its collection of thousands of research papers, continues to access new studies with effects at very small field levels.

The old idea of "biophysical implausibility" has been used to undermine precaution, and has been abused by misrepresentation as "impossibility" (not least by the Irish government). It is looking more and more churlish. With a fuller view of practical evidence of real biological effects, notwithstanding uncertainty of complex mechanisms, the possibility of human health effects at the levels of fields from powerlines seems more and more plausible. Indeed, the idea of zero biological effect seems implausible.

A special issue newsletter373 marked the passing of Prof Gerald Scott, the polymer chemist and a central member of Revolt from its beginnings in 1991/2. As an expert in oxidative chemistry Gerald was ahead of his time in understanding the potential for bio-chemical effects from EMF. Gerald is dearly missed.

On a lighter note, this summer Revolt was especially pleased to host "*Thank You for the Music*", a collection of powerlines protest songs from around the world, in a special edition newsletter383. It has to be worth a listen and maybe a singalong! We would be delighted to hear of more.

Mike O'Carroll, Chairman