

## **Eskdalemuir - Interim Guidance – 22 May 2014**

The Eskdalemuir Seismic Array is one of 170 seismic stations across the globe used to monitor compliance with the Comprehensive Nuclear-Test-Ban Treaty. The UK is bound by the Test-Ban Treaty not to compromise the detection capabilities of the Eskdalemuir station, and it is the responsibility of the MoD to safeguard this station.

This interim guidance updates existing guidance on Eskdalemuir and provides advice to planning authorities in dealing with applications in Scotland for wind energy development within the 50km Eskdalemuir Consultation Zone. This follows research work undertaken by the Eskdalemuir Working Group (EWG) entitled *Seismic vibration produced by wind turbines in the Eskdalemuir region*, and is pending an announcement by the Scottish Government which will accompany the publication of the research undertaken.

The Scottish Government has sought to guarantee the continued safeguarding of the Eskdalemuir Seismological Monitoring Station (EKA) in a way that maximises the potential for wind energy deployment. Recently completed research commissioned by the EWG has confirmed that there is headroom which would allow for further wind farm consents without breaching the 0.336nm seismic ground vibration threshold.

The Ministry of Defence (Eskdalemuir Seismic Recording Station) Technical Site Directions 2005 continue to apply. With regard to future safeguarding arrangements, the EWG has concluded that the Ministry of Defence's (MOD) current safeguarding approach, whereby developments are considered in chronological order as they are notified to the MOD by the relevant planning authority, remains appropriate. The MOD will therefore retain its existing safeguarding approach in this respect.

The research has demonstrated that the impact of seismic vibration from wind turbines on the EKA decreases rapidly with distance from the Array and that the installation of wind turbines in close proximity to the EKA would rapidly exhaust any available headroom in the seismic ground vibration threshold (also commonly known as the 'noise budget'). The EWG has therefore concluded that it would be advisable to extend the current 10km Exclusion Zone, where wind development is not permitted, outwards. It is therefore the intention of the Scottish Government shortly to publicly consult on an extension of the current exclusion zone from 10km out to 15km (this would continue to be sited entirely within Scotland). Planning authorities are therefore advised to delay determining any applications within 15km from the Array pending the outcome of the consultation. Subject to the conclusions drawn from that consultation, The Scottish Government intends to seek powers to introduce a statutory non-development zone with a radius of 15km from the centre of the Array.

This interim guidance coincides with the withdrawal of objections (in relation to the operation of the seismological monitoring station) from the MOD to wind development proposals within the 50km Consultation Zone that were submitted prior to December 2013 – these all lie outwith the proposed 15km exclusion zone. In addition, the MOD has committed to use its best endeavours to withdraw objections to proposals which have come forward since December 2013, in advance of a fully functional IT solution being developed for calculating the budget implications of these proposals and in accordance with this interim guidance.

The new model uses hub height, rotor diameter and distance from the array to calculate the predicted seismic noise from turbines. These parameters can vary when a

development is actually constructed (through turbine choice and micro-siting), therefore it is important that the MOD is notified of the final built positions and specifications of turbines for the purposes of managing the noise budget efficiently. Planning authorities should therefore ensure that a planning permission condition ensures that the developer submits final details of hub height, rotor diameter and location of turbines as implemented to the MOD. Planning authorities should monitor and take any necessary enforcement action to ensure that such conditions are timeously discharged. The seismic ground vibration contribution for any development will ultimately be that which is calculated from these final parameters.

The model developed through the research which calculates the seismic ground vibrations from wind turbines was developed using data from large, triple-bladed, upwind technologies, and has not yet been verified or adapted to deal with small turbines under 40m to hub, twin-blade turbines or down-wind technologies. The EWG have therefore concluded that, until such time as any further research which may be undertaken can extend the model, the MOD should use a precautionary approach for these turbines, which involves representing them with a standard 40m to hub, triple blade, upwind turbine as a proxy.

It is the intention of the Scottish Government and the UK Government to undertake a future review of the arrangements put in place once the seismic ground vibration contribution of turbines within the 50km consultation zone reaches 90% of the available threshold.