

Power station noise affecting housing



Dunedin Property had acquired a disused and derelict market garden with the potential for 500 houses. The site, in Prestonpans was affected by noise from the nearby Cockenzie coal fired power station operated by Scottish Power.

The local planning authority, East Lothian Council required a detailed noise impact assessment and the adoption of suitable mitigation measures to ensure that the amenity of future residents was not adversely affected.

An additional complicating factor in this application was Scottish Power, who understandably were concerned about new houses closer to their site boundary.

Noise sources at the power station included the medium range frequency noise at basement height, low frequency breakout from the turbine hall. Additional noise came from the overhead coal conveyor and stockyard. Considerable negotiations were required to agree the background noise, and the worst case scenarios e.g. the number of turbines, the conveyor operations, the height of the coal in the stockpiles, the number of coal trucks etc. Joint surveys were conducted with Scottish Power to agree source conditions over an extended period.

A complex noise prediction model was used to predict the noise levels across the site and validated against existing measurements. A range of abatement options were assessed before designing a 6m acoustic bund. Noise levels inside dwellings were also protected by specific measures. Planning permission has been granted and the site has been developed by Persimmon Homes and George Wimpey.

