National Operational Guidance

NFCC National Fire Chiefs Council

Developed and maintained by the NFCC

Contents

Wind turbines

Information

There are various wind turbine models, with two main designs - horizontal axis wind turbines and vertical axis turbines - both of which are installed on tall masts.

Turbines have a brake and gearbox mechanism behind the blades, which allow for greater control of the system and for the generator to be shut down in case of a fault.

The control systems are electrical and computerised, with several automatic brake systems that are able to shut down the generator in adverse conditions or if a fault occurs. It may be possible for this to be carried out remotely by a monitoring station.

Large-scale wind farms will have multiple large turbines, all connected to the grid, and comprehensive control mechanisms. They are also likely to have an on-site transformer, which is required to increase the voltage of the generated electricity before being fed into the grid.

Hazards (for further information refer to National Operational Guidance: Utilities and fuel)

- Remote locations for access
- Risk of collapse if damaged
- Difficult to isolate and control without specialist advice or assistance
- Whenever a turbine is moving it is generating electricity
- Falling or 'planing' debris over large area

References and further reading

www.r-e-a.net/renewable-technologies/wind

Wind energy