

Wind Incident Emergency Response Plans

Wherever wind turbine are being erected, used, maintained and inspection the evacuation and rescue of personnel from height, although required infrequently, should be planned for. Health and safety legislation requires that 'safe systems of work' are in place for all work activities[1][2][3].

The Health and Safety Executive state[4], "Reg. 4(2) [of WAHR] requires duty holders to plan for emergencies and rescue. Effort should be in proportion to the risk and should cover reasonably foreseeable situations ... The duty holder needs to have plans in place to deal with such situations. Workers need to be trained ...". Also, "Duty holder's arrangements for emergency and rescue should not rely on the fire brigade". Since publication the ability of the emergency services to provide rescue from height has improved considerably. Many are now able to provide advice on evacuation and rescue, when planning rescue from height within wind turbines.

When developing an Emergency Response Plan (ERP), consideration must be given to the remoteness of the site location, response times and the equipment and training provided, in order to promote self-sufficiency and preservation of life until the emergency services are in attendance.

Guidance on health and safety in the wind energy sector is given by RenewableUK[5]. The benchmark for work at height training and rescue is contained in an approved training standard[6]. The latter has been developed in consultation with key industry representatives with the aim of ensuring that all personnel are able to demonstrate a common level of basic competency[7].

The two-day course includes both basic and specific rescue principles and techniques, including techniques for the recovery of a casualty from a vertical ladder, nacelle and hub. It includes casualty handling techniques and the selection, inspection and use of equipment. Any work at height training should be conducted in accordance with BS 8454[8].

Every type of turbine, indeed perhaps every individual turbine, is different. An ERP must be practiced and reviewed periodically and any risk assessment must take account of the prevailing weather conditions, the nature of any work being undertaken, the handling of loads, radio-frequency isolation, electrical issues, communications, safe access and egress, tools and equipment and the level of competence of workers.

heightec® has undertaken a number of exercises with wind turbine clients, and in collaboration with the emergency services, to test the arrangements in place for the deployment of rescue equipment. All have led to recommendations for the improvement of rescue planning and, in some instances, the installation of new equipment. The exercises have also identified 'skills gaps', requiring an assessment of further specialist training or refreshers. Offshore rescues are challenging, particularly those involving rescue from hub to nacelle, nacelle to transition piece, transition piece to vessel, vessel to vessel and, finally, vessel to shore. Depending upon location this can take anything up to two hours.

There is much to be gained from multi-agency exercises. The main benefit is an improved chance of a casualty being recovered safely, in time to administer medical help (and without putting further people at risk).

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Products, training and operational support services for professional work at height and rescue

1. The Health and Safety at Work etc. Act 1974 (HSWA) – Sections 2 and 3
2. Work at Height Regulations 2005 (WAHR) – Regulation 4(2)
3. Management of Health and Safety at Work Regulations 1999 (MHSW) – Regulation 3
4. OC200/31, Work at Height Regulations (Paras. 60 and 61) (HSE, 2006)
5. Guidelines for onshore and offshore wind farms, Health & Safety in the Wind Energy Industry Sector (RUK, 2010).
6. RenewableUK - Working at Height and Rescue Training Standard, Issue 1: 2010
7. This standard applies to large wind turbines, i.e. those with a swept area of >200m² and where the primary means of access to the nacelle is internal to the tower.
8. BS 8454:2006, Code of practice for the delivery of training and education for work at height and rescue

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