



Advanced rescue concepts gain in importance

When it comes to occupational safety, emergency rescue plans are a critical factor that should not be overlooked. Every company is obliged to create these as part of a risk assessment — including the wind energy industry, which employs tens of thousands of people. For example, if an accident occurs during maintenance or servicing of a wind turbine, basic rescue concepts may not be sufficient. In such cases, personnel with specialist training in rescuing accident victims may be required — individuals who have completed advanced rescue training of the kind that manufacturers of fall protection equipment, such as SKYLOTEC provide. The German company develops and manufactures complete solutions ranging from harnesses to descend devices and rescue stretchers, and also offers a comprehensive training programme worldwide.

Maintenance technicians in the wind energy industry typically work several hundred metres above the ground — and must therefore protect themselves against the dangers of a fall from height. They are required to wear fall protection equipment by law, and for good reason. However, occupational safety is not solely the responsibility of the employees themselves — their companies must also fulfil certain obligations, for example by formulating a carefully planned response in the event of an emergency. Legally speaking, there is no room for manoeuvre here — employers are obliged to develop rescue plans that enable the fastest possible response to any emergency situation.

This is essential because wind turbines are usually to be found in remote locations, making it extremely unlikely that external rescue teams or fire fighters would reach the site in time. Therefore, each company must ensure that accident victims can be



can be prepared as realistically as possible to make daily practical use of the skills they learn. An additional advantage is that the VRC instructors have many years' experience in mobile phone mast construction, rescue at height or in the wind energy industry.

During their training, the participants practise dealing with emergencies using the same equipment that they employ in their daily work. When rescuing accident victims, a range of proven rescue and descend devices equipped with centrifugal brakes are also used. These allow safe, hands-free abseiling at a constant speed. In the wind energy sector, the 'Milan' from SKYLOTEC has established itself in recent years as a standard-issue device, for the rescue of casualties and the fast evacuation of multiple personnel. The company, which develops and manufactures its products in Germany, is the market leader for rescue devices that include a centrifugal brake. Two users can be rescued from extreme heights simultaneously using the 'Milan', which enables an abseil distance of up to 500 metres.

The ability to reach accident victims using rescue devices such as the 'Milan' must be mastered by every employee on a wind turbine. 'For all companies, this is the minimum requirement in terms of their basic rescue concept, which should be based on a risk assessment,' says Steve Ceunen. The Belgian has worked as a freelance rope access technician on offshore turbines for several years. As an instructor at SKYLOTEC's Vertical Rescue College, he now leads training courses and helps companies to carry out their risk assessments. As a rescue specialist he frequently observes that, in many cases, a basic rescue concept is no longer sufficient. 'This may be due to various factors, such as legal requirements, work instructions for employees or complex local conditions,' says Ceunen.

On wind turbines, employees are required to work in the hub, on a blade or in other places where their freedom of movement is limited — almost every day. These areas are among the most hazardous in terms of occupational safety. If an accident occurs, it may be difficult or almost impossible for the victim's colleagues to reach him. To make matters worse, there is often no direct line of sight to the casualty. 'A basic rescue concept typically specifies the use of equipment that includes, among other things, a rescue device such as the 'Milan'. However, in some cases a rescue may no longer be possible,' explains Ceunen. 'Then you have to bring in an advanced rescue team with specialist equipment and skills. A carefully prepared risk assessment will always arrive at this conclusion.'

In the field of wind energy, some companies have already realised that a basic rescue

rescued by its on-site personnel.

An emergency may occur, for example, if a maintenance technician slips and falls or collapses, due to a medical problem that brings on a dizzy spell or even a heart attack. An injured person left hanging motionless on a rope will usually experience a restriction of their blood circulation. After only a few minutes this can lead to a life-threatening state of shock known as suspension trauma. If this occurs, the victim will lose consciousness and may even die within only a few minutes unless assistance arrives. For this reason, every second counts when it comes to rescuing people under such conditions.

Anyone wanting to work as a maintenance technician on wind turbines in the offshore or onshore industry must therefore also have the necessary knowledge to respond properly in an emergency. For the employees of wind farm operators or

companies commissioned to maintain wind turbines, there is simply no room for compromise here. Only personnel who have completed a training course that meets the standards set out by the Global Wind Organisation (GWO) should be permitted to work at height in a wind turbine environment.

These courses are provided by training companies or manufacturers of fall protection equipment — such as SKYLOTEC. The renowned rescue equipment manufacturer conducts training courses worldwide via its Vertical Rescue College (VRC). Furthermore, the training of employees from suppliers or maintenance firms in the renewable energy industry is part of SKYLOTEC's core business.

These training courses can also be carried out directly at a company's location and can thus be tailored to the specific on-site requirements. This ensures that employees



In its Vertical Rescue College, SKYLOTEC provides realistic replicas, such as the hub of a wind turbine. This is where participants are trained to use the rescue stretcher 'Conrest' for accident victims.



Workplaces on wind turbines, are among the most hazardous in terms of occupational safety.

concept is insufficient if they want to offer the highest possible level of safety to employees working at height. 'For this reason, the large wind farm operators in particular have developed their own training concepts,' says VRC instructor Ceunen. The background to this is that, to date, companies have had to face the challenge that there is not yet any standardised way to provide their employees with specialist advanced rescue training.

However, recent developments are heading in exactly this direction. The Global Wind Organisation has long been tackling the issue of 'advanced rescue training' and is

developing a training course that meets the organisation's standards and is certified accordingly. In the future, the goal is for this course to be delivered by independent providers. For this reason, the GWO recently launched a pilot project to examine the practical feasibility of the possible contents of its training programme. In this context, it is working with three selected companies, including SKYLOTEC.

Together with Ceunen and his colleagues, the GWO recently organised a training course in SKYLOTEC's VRC at its headquarters in Germany. The GWO issued the following announcement^[1]: '[...] The pilots were designed to rigorously test the standard modules' duration, lessons, learning objectives and facilities prior to their scheduled release in Q4 2018'. The training within the pilot project focussed, among other things, on rescues from confined workplaces such as containers, false ceilings and enclosed spaces. In each case, the rescue scenarios involved the use of specialist equipment that is not typically issued to every employee.

Without these devices, it would simply not be possible to carry out an advanced rescue. In recent years, SKYLOTEC has further developed its product range in the rescue segment and now offers complete solutions that meet the demanding requirements of almost every application area. These include, for example, pulley systems, the 'Gordon' and 'Gordon Rescue' fall arrest blocks, the 'Conrest' rescue stretcher and the 'Milan' rescue device. 'These are usually sufficient to perform a rescue in a confined space,' says Ceunen. For an advanced rescue scenario, he also

recommends — depending on the application — specialist rope access products or other rescue stretchers, such as a spine board for stabilisation and onward transport of the casualty.

By the end of 2018, the GWO intends to introduce the new training modules in accordance with its standards for the wind energy industry. In the meantime, SKYLOTEC is working to expand its advanced rescue training programme to cover additional applications. 'Of course, the fact that a basic rescue concept may not be adequate also applies to other sectors, such as energy providers, fire brigades, rescue units, the police and the military,' explains Ceunen.

The company plans to differentiate the contents of its expanded training courses depending on the qualifications that the participants are required to obtain. As a result, its Advanced Rescue Training course will include a basic module aimed at individuals who will actually be required to perform a rescue in case of emergency.

There is also a professional module, which is designed to prepare employees who will lead rescue teams in emergency situations. These training courses are carried out worldwide at SKYLOTEC's training centres. 'Naturally, we are also able to adapt to the specific conditions within each company in order to provide advanced rescue training that is as realistic as possible,' says Ceunen.

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[1] http://www.globalwindsafety.org/gwo/news/news_q2_2018/new_standards_complete_latest_pilot_tests.html