

Northern conditions pose challenges to wind power transport



Wind power transport requires extreme precision during the planning phase. The route choices and changes required by the roads can be anticipated during the planning phase, but the changing weather conditions in northern Europe can still surprise. The northern conditions require special transport expertise and an ability to act even in unforeseen circumstances. When large transport is involved, success depends on seamless cooperation and a multitude of details.



ground frost. Despite the tight schedule, the Silvasti personnel decided to delay the start of the transport to ensure safety.

Everything depends on the safety of transport equipment

In northern conditions, the wind power transport equipment is subjected to heavy strain. The strain is caused by factors such as freezing weather, which is hard on the engines and pneumatic systems. In addition to up-to-date and well-maintained transport equipment, it is also important to be able to carry out repairs immediately in case of a breakdown. Wind power transport often takes up the whole width of the road. This means that the rest of the traffic comes to a complete halt if a breakdown occurs.

At the Roan site, Silvasti had an agreement with local partners concerning sudden maintenance and repair needs. Silvasti's own maintenance organisation, with its maintenance vehicles took care of the scheduled intervention on site.

Special transport is subject to many safety requirements monitored by the authorities. The objective is to ensure that special transport will inconvenience regular road users as little as possible.

'During the project in Roan last summer, the wind power plant components were mainly transported to the wind farm at night. Thanks to the midnight sun, the lighting conditions during the northern summer are perfect for this. By contrast, the sun does not rise at all during the winter,' Saukkonen laughs.

Safety and risk management are at the heart of wind power transport

In the past, quality was evaluated based mainly on timely deliveries, customer complaints and undamaged loads. Today, the emphasis is on the management and anticipation of safety-related and environmental hazards. An increasingly large portion of special transport project management is related to safety matters, such as risk evaluations and accurate work phase documentation. Consequently, accurate documentation and its proactive development in changing worksite conditions, are a central part of strategically sound safety management.

Special transport involves both external and internal risks. In addition to challenging weather conditions, these include, but are not limited to traffic accidents, chemical or toxic spills, thefts, technical failures, fires, ergonomic risks and mental stress. Every employee is trained to act in accordance with the safety instructions in case of an accident.

'At Silvasti, we aim for a zero-tolerance policy when it comes to accidents. We strive to maintain a safe and healthy work environment for our employees, our customers and the environment. No job is so urgent that we can't find the time to carry

Changing weather may catch you unawares

Last summer, the Finnish Transport Company Ville Silvasti Ltd, a company that specialises in wind power transport, participated with its partner in the transport of the largest onshore wind farm in Europe in Roan, Norway. The 70 or so kilometres of road from Monstad harbour, up to the wind farm in the highlands and surrounded by the mountains were geographically challenging due to the winding roads and the differences in altitude.

'In northern Europe, the weather may be dry, rainy, cold and slippery all during the same day. Despite the capricious weather, you have to be able to carry out special transport safely,' says Project Director Kimmo Saukkonen from Silvasti.

The spring started exceptionally late, which delayed the start of the wind power transport in Roan. Even though there was spring weather and unfrozen ground in the harbour near the sea, the road leading to the mountains was soft due to the melting



out each phase with absolute safety. Our goal is always to cause no damage to the transported items and as little damage to the environment as possible,' says Silvasti's QHSE Manager Marcin Skawinski.

Work safety is created together

Constantly increasing transport size, also increases various other risks, such as the likelihood of equipment failure. In turn, this increases the risk to other people on the road. Regular, periodic equipment maintenance operations are designed to prevent failures and their resulting negative effects on other traffic.

'All accidents, including near misses, are analysed and processed in order to avoid dangerous situations in the future. Regular and constant reporting from the worksite is very important to the development of safety, as everyday work is the most central starting point for developing safety practices,' says Kimmo Saukkonen.

Silvasti's most important resource is the company's knowledgeable and experienced personnel. Work safety is a responsibility shared by all. The personnel work as a team in which everyone has an important role in guaranteeing their own safety, as well as that of others.

'We want to encourage our people to communicate openly and maintain a positive work environment. When undertaking special transport. It's very important to be able to trust that your colleagues are carrying out their duties without compromising safety,' emphasises Marcin Skawinski.

Maintaining a safe work environment that supports well-being is an important part of taking implementing safety at work. At Silvasti, this means having up-to-date and

ergonomic transport equipment and with a GPS locator in all vehicles. This increases safety and makes organising transport easier. Thanks to the hydraulic and automated lifting equipment used at worksites, no one needs to use physical force to carry out their work.

'The planning, the systems and the equipment are all important, of course, but the most important aspect is the employees' know-how and motivation to contribute to work safety,' confirms Skawinski.

Larger components, longer blades

The size of wind power plant parts grows virtually year by year. The length of wind power plant blades has doubled since 2005. In order for the increasingly larger transports to reach their destination, the roads must be

in good enough condition to make the trip possible in the first place. Cooperation, with the authorities will become more important than ever, when more and more changes to the routes must be made in order to transport the components.

'Special transport companies must also be able to ensure that their equipment can meet the increasing requirements. Sometimes it's difficult to anticipate the needs, because we do not always know what size components we will be transporting in a year.'

Saukkonen continues, 'at some point, the challenging geography of the North with its mountains and demanding conditions will set a limit on the maximum size of wind power plants in general.'

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