

## AMEC Foster Wheeler - SKYSOK

Operating in the Overhead Powerline Industry, AMEC Foster Wheeler were devising a new solution to safely carry out overhead power line changes, upgrades and repairs, focusing specifically on locations where the Power Lines crossed roads, railways, rivers and other high risk obstacles. The specification for the project was to create an innovative solution to replace the traditional method of erecting huge scaffold towers & safety netting, which is expensive and time consuming. The target was to reduce operational time, risk to the surrounding area & cost, whilst increasing performance and safety.

The specification was dictated by the nature of the industry, demanding high levels of safety and TOTAL customer sign-off. The solution needed to be capable of supporting the design loads over spans of up to 450m, whilst allowing for flexibility in deployment. Conductivity, weight, simplicity of use and speed of deployment were key specifications, however due to the customers and working environment, the ultimate specification was safety.

The solution was a custom designed safety net manufactured from webbing, designed to be lightweight and adjustable when deployed. Following discussion with Harken UK, this was to be hauled into position and suspended from ropes, capable of spanning between towers.

The hauling lines were a 14mm Industrial Polyester rope, offering low stretch and conductivity. The tensioned lines required high strength to weight, the characteristics of STS Dyneema meant that the package remained as light as possible, reducing structural end loads and the demand on winches and human resources. The solution was fully verified by calculation and trials in conjunction with all relevant Clients and authorities, to ensure absolute compliance and sign-off.

The primary hazards are the high voltage power, this was mitigated where possible by the working methods, however the selection of materials including ropes was to ensure the lowest levels of conductivity possible.

The system itself was designed to catch the overhead powerlines should there be a failure or drop during works, to prevent damage and injury below. The system was proven to perform and was very effective. Harken Industrial were contacted as a specialist in load handling, ropes and safety.

AMEC selected the Harken Industrial load handling, ropes and safety systems including the Riggers Winch to create an innovative solution to replace the conventional method of erecting scaffold towers & safety netting.

Our involvement grew from our Industrial Riggers Winch range, with AMEC quickly engaging further with us.



The benefits of the Harken Industrial products, were their strength to weight benefits and ease of deployment. Allowing flexibility in the field, with lower operational logistical impact. The main specification obstacles Harken Industrial faced were to achieve the best balance between strength and size of ropes, providing the capabilities demanded within a package that could be worked with using as much of the existing equipment as possible. The other obstacle was providing sufficient information and demonstration to prove the safety and performance of a fibre rope, to an industry that is used to working with steel wire. The extensive documentation of equipment specifications, proof calculations and trial process that AMEC Forster Wheeler undertook in conjunction with suppliers including Harken Industrial, provided a platform for development and demonstrations, leading to a signed off solution now referred to as Skysok.



#### ABOUT Amec Foster Wheeler

With 160+ years of history, operating in more than 55 countries, Amec Foster Wheeler delivers consultancy, engineering, project management, operations and construction services, project delivery and specialised power equipment services to customers worldwide.

We trust you found this Harken *At Work* summary of interest. For further information on this and other *At Work* reports, contact your Harken representative, business partner or visit [www.harkenindustrial.com](http://www.harkenindustrial.com).

Harken Industrial has been in the business of designing, manufacturing, and marketing top-of-the-line products for over 40 years. We have world-renowned service, two state-of-the-art manufacturing facilities in the US and Italy, and professionals with decades of experience designing products that stand up to the harshest conditions. Harken has 11 offices worldwide and our distributor network spans 48 countries. Our philosophy is simple: lighter weight and less friction are better. Equipment is more mobile, your team is safer and more agile, there is less strain on workers and on load-bearing infrastructure, and your organization can complete jobs with smaller teams. These advantages translate into better safety as well as long-term benefits to the bottom line. At Harken Industrial, we value our next project with you as much as our first, so we dedicate ourselves to making sure you are satisfied with both the process and the end product. Contact us today to create a solution together.

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