

## FIRETRACE INTERNATIONAL (EMEA)



### Rising to the challenge of wind turbine fire

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#### **With their often remote location, the protection offered by conventional firefighting strategies is simply inadequate for wind farms.**

Without fast and effective fire protection, the inevitable consequence of a minor fire in the turbine is, at the very least, that it will be put out of action. Much more likely, it will escalate into a major fire that will destroy the \$ multi-million turbine that will take months, possibly years, to replace.

Even if the nacelle and the expensive technology it houses are not completely destroyed, repairing extensive damage can be challenging and dangerous. So, the goal should be to keep any fire damage, the cost of repair, and the time that the turbine is out of operation to an absolute minimum. Another important fire safety objective is to adopt a solution that is not prone to false alarm or unnecessary discharge that would result in needless and costly investigation and loss of revenue.



Although authoritative global statistics are not available to show, definitively, the causes of fire in wind turbines, anecdotal evidence clearly suggests that the majority are started by a lightning strike that sparks a fire, mechanical failure or electrical malfunction. These fires can be fuelled by up to 200 gallons of hydraulic fluid and other lubricants in the nacelle, which itself is made from highly flammable glass fibre.

Breaking systems are a particularly high fire risk. While they are robustly engineered, overheating has been known to result in pieces of the disc brake material breaking off the rotor and coming into contact with hydraulics hoses. The hot fragments of disk brake can easily rupture a hose, resulting in the highly combustible hydraulic fluid being expelled under pressure and coming into contact with the hot disk brake fragments. Even where disk brake failure is not involved, hydraulic pumps and connections have been known to fail, allowing the fluid to erupt into flames when it comes into contact with a hot surface.

Electrical equipment is another high risk area. Capacitors, transformers, generators, electrical controls and electrical transmission equipment, all have the potential to fail or catch fire, as do SCADA [Supervisory Control and Data Acquisition] and DCS [Distributed Control System] systems. There is also the ever-present threat of fire due to loose or broken electrical connections or the overloading of electrical circuits.

"The resolution to these challenges is readily available for both new-build turbines and for retro-fitting to existing equipment, in the form of FIRETRACE®," argues Nick Grant, EMEA Vice President & General Manager of Firetrace International, which champions the drive for automatic, reliable and fast acting fire detection and suppression for wind turbines. He continues: "The cost is infinitesimal compared with the capital cost of a turbine and the loss of revenue following its destruction. FIRETRACE also completely eliminates the costs associated with false alarms, as it is a genuine fire – and only a genuine fire – that will initiate an alarm and discharge of the suppressant agent."

Genuine FIRETRACE is the only UL [Underwriters Laboratories] listed, FM [Factory Mutual] approved and CE [Conformité Européene or European Conformity] marked tube-operated system in the world that is tested as automatic fire detection and suppression system. It is available only via Firetrace International's global network of authorised distributors; trading partners skilled in hazard analysis, agent and system selection, installation, commissioning and support, and committed to using only genuine FIRETRACE components. Details of these authorised distributors are available by contacting Firetrace International at [info@firetrace.com](mailto:info@firetrace.com).

ISO 9001:2008 registered Firetrace International is headquartered in Scottsdale, Arizona. Its EMEA head office is in the UK and can be contacted on +44 (0) 1293 780390. The company's website is at [www.firetrace.com](http://www.firetrace.com).

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