

FirePro.

Wind Turbines

Location: **Asia** Dealer: **FirePro Korea** Application: **Wind Turbine** Industry: **Renewable Energy**

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KOREA

The classified project involved a leading wind turbine supplier that has recently completed the commissioning of the largest wind farm in Asia. The **wind turbines**, measuring 100m hub height and 140m rotor diameter, can power up to 1000 average sized households per year. To do so the process involves powerful electrical and mechanical equipment that by harnessing wind power produce electricity and simultaneously convert it into high voltage that is then sent to sub-stations for distribution.

FirePro Systems Used

FP-3000

Risks Involved & Consequences

Research by Imperial College London and the University of Edinburgh makes fire the second-largest cause of accidents after blade failure. About 120 wind turbines catch fire each year. A predominant risk faced in this industry is fire developing in the electrical (from shorts) and mechanical (from flammable liquid leakages) equipment used as well as lightning strikes. Consequences include the loss of expensive equipment and cut-off of electricity supply to the grid that can in the best of scenarios only cause inconvenience to operators.

The Task

To design, install, commission and maintain a fully integrated fire detection and protection system in high tech wind turbine engine rooms (nacelle). Nacelles are in hard-to-reach locations in perched high up above ground level exposed to the often harsh elements of nature. The system inevitably needs to have a low weight load and of course be extremely space saving. Great importance was placed on factors such the ease with which maintenance was carried out and its frequency requirements. Speed of response and fire extinguishing completed the prerequisites demanded.



Why FirePro?

Wind farms are remotely situated notoriously raising many logistical problems. Modularity, ease of transport and installation, simple maintenance, low weight load and extremely space saving were the physical attributes that attracted the fire consulting engineers to opt for the FirePro system for the protection of this uniquely demanding application. Of course none of these would matter if FirePro was not at the cutting edge of technology and effective and efficient in extinguishing fires as the numerous tests and other certifications prove resoundingly. And in line with the eco-friendly doctrine of which wind farms are part FirePro also obliges by being Green labeled.

Results & Implementation

FirePro was installed with success, protecting the wind turbines from fire autonomously with a fail-safe mechanism whereby the fire extinguishing system will self-activate even if everything else fails. FirePro systems have the technology and means to provide the ultimate in fire protection for specialised applications like a nacelle nestling atop a 300-foot tall wind turbine tower that is located offshore and battered by high seas and howling winds.

