

## Wind Turbine Installation

Client:  
Hyundai Heavy  
Industries

Location:  
Korea

Project:  
Fire suppression  
inside wind  
turbine engine  
rooms



Hyundai Heavy Industries (HHI)

Leader since 1972 in seven major divisions:

- Construction
- Electro Electric Systems
- Engine & Machinery
- Equipment
- Green Energy
- Industrial Plant & Engineering
- Offshore & Engineering
- Shipbuilding

Project By:



Type of  
Protection:

Local in turbines  
fire detection &  
fixed fire  
suppression

Type of Protection:

“Renewable UK” figures show that in the UK alone there have been more than 1500 wind turbine accidents over the 5 - year period between 2008 and 2013 which led to 300 injuries and 4 fatalities. Therefore **Firepro** was the obvious choice to provide the automatic room flooding for the protection of the engine room. This was achieved with modular **Firepro** units that fitted directly into the wind turbine engine room.



Fire Protection:

**FP-3000**



The Task:

To design install commission and maintain, fully integrated fire detection and **FirePro** fixed fire suppression inside this high tech wind turbine engine rooms.



We **identify** risks - We **design** solutions - We **prevent** disasters

## Risks Involved & Consequences:

One of the predominant and challenging risks faced by the industry is fire and this is due to the combination of the large number of electrical and mechanical equipment used, the often hard-to-reach locations of the wind turbines and their exposure to the elements of nature.

Electrical faults, mechanical faults and lightning strikes are the major causes of fire in the nacelles perched high up above ground level. Large number of electrical and mechanical equipment used, the often hard-to-reach locations of the wind turbines and their exposure to the elements of nature.

## Solutions:



**FP-3000**

**Detectors**

**Controller**

Description/Details	Quantity	Type
Controller	1	Local
<b>Fire Protection Units</b>		
Full Flooding	4	<b>FP-3000</b>
<b>Fire Detection / Alarm System</b>		
Smoke Detector	1	
Flame Detector	1	

All **FirePro** units are manufactured under strict quality and environmental management standards according to international standards and requirements.

## Results & Implementation:

**FirePro** was installed with success fire protecting the wind turbines autonomously with a fail-safe mechanism whereby the fire extinguishing system will self-activate even if everything else fails.

**FirePro** fire extinguishing generators have the technology and means to provide the ultimate in fire protection for such difficult applications as a fire in a nacelle nesting a top a 300-foot tall wind turbine tower, located offshore, battered by high seas and howling winds. And under this type of extreme and treacherous conditions there is no margin for error.

## Advantages of **FirePro**:

- certified environment friendly “green” fixed extinguishing solution
- no harmful residues or deposits
- does not produce harmful or toxic gases when in contact with a fire
- does not reduce oxygen content within risk when discharged
- leading certified condensed aerosol product – represented in 70 countries
- no pressurised gas cylinders
- fully modular, protects the smallest risk to total flooding application
- installed in less time than conventional gas extinguishing systems
- rapid deployment & re-installation in hours to re-arm – not days
- wall or ceiling mounted for room applications, Installed inside risk also
- no gas pressure reduction arrangements to facilitate gas release
- no risk of operative injury - such as accidental cylinder detonation
- no distribution hydraulic design, pipe fabrication, or installation

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