The intelligent use of water...

“Knocks down high intensity gas turbine fires fast and speeds up unscheduled supply disruption”

The Challenge

Although fires in gas turbines are not frequent, the impact they can have on the supply line of “Business Critical” services can be catastrophic. High intensity fires involving gas turbine fuel or lubrication oil can threaten the stability of the turbine enclosure and even spread to other areas putting the entire facilities at risk.

Smoke and toxic fumes created by these types of fire are difficult to vent and hinder tenable access to firefighters to extinguish the fire.

When all these factors are added together, gas turbine fires can substantially raise the financial risk placed upon gas turbine operators.

The Tyco Fire & Integrated Solutions MicroDrop® High Pressure Water Mist system is recognised by the major gas turbine manufacturers as the foremost fire protection solution to meet the specialist needs of their industry.

In fact, not only have we been a single sourced provider for over 15 years to the major gas turbine manufacturers, we have also acted as consultants to some of these manufacturers in developing new fire protection technology for them.

On average, we complete over 50 gas turbine protection projects each year which supports our claim that there is no imaginable fire and safety risk within the gas turbine industry that we have not encountered and neutralised.

However, don’t take our word for it. Our MicroDrop® gas turbine protection “Fast Facts” illustrated overleaf speak for themselves.
**MicroDrop® Gas Turbine “Fast Facts”**

- The “Thermal Shock” reduction properties of MicroDrop’s unique system design on gas turbine fires is far superior to any other High Pressure Water Mist system currently available to date. This feature protects overheated turbine casings from cracking and creating significant and expensive damage.
- MicroDrop® gas turbine protection system uses less water than any other comparable HPWM system which ensures a far faster “Post Fire” clean up time and faster re-instatement of turbine operations.
- MicroDrop® rapidly reduces radiated heat and smoke formation to minimise damage to the turbine enclosure infrastructure and maximises tenable conditions for the fire brigade to ensure all traces of fire within the enclosure are eliminated so that power generation operations can re-commence with the minimum delay.
- No “Post Fire” contamination or environmental issues. MicroDrop® does not use or require performance enhancing additives (foam etc. to fight fires).
- No moving parts in the MicroDrop® nozzles ensure cheaper life cycle maintenance costs and higher reliability.
- MicroDrop® Pump systems have a smaller footprint than other conventionally designed HPWM pumps. This eliminates the need for large tanks and pumps and maximises efficient floor space use.
- The design efficiency of the MicroDrop® Pump system is more economical to maintain than other conventionally designed HPWM pumps and therefore reduces life cycle maintenance costs.

**MicroDrop® Systems**

In some cases, MicroDrop® open nozzles may be required to be integrated into an infra-red flame detection system, or linear heat cable detection depending on the type of risk to be protected.

These highly sophisticated systems will not discharge high pressure water mist through the open nozzles unless two or more detector devices detect a fire in its very early incipient stages and send a fire alarm signal to the main control panel.

This provides gas turbine operator staff with sufficient time to investigate the cause of the initiated fire alarm and probably prevent a small fire from becoming a large one in the first place.

The water supply to the nozzles is fed from either a high pressure 100 - 120 bar pump and small water storage tank or a bank of cylinders.

MicroDrop® High pressure water mist has a dramatic effect on fire. As the size of the water droplets are so small, they are lighter and remain airborne longer than conventional water based systems.

The micro droplets also provide a much larger surface area that enables the discharged water to more effectively cool and knock down the fire to a controllable size.

For further information contact your local Tyco Fire & Integrated Solutions office on: tfis.microdrop.uk@tycoint.com or visit our website at www.tycofis.co.uk

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