

# LIQUID FUEL FALLING FOUL ON QUALITY

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**T**oday, power generation is more essential than ever. Stability of electrical supply is high on every facilities manager's checklist, but so is business continuity; maintaining that ability to trade despite external influences.

## The problem with stored fuel

A UPS is the lifeline for a data centre in the event of a power cut. But the back up generators are only as good as the fuel they run on. Preserving your generator fuel supply is key to ensuring gen-set performance.

Unfortunately, over time, often as little as 6 months, fuel quality deteriorates and with external factors such as condensation and biofuel in the mix, it's a recipe for dirty fuel.

Given fuel tanks could be on standby for months if not years, when a power cut does happen, the back up generators struggle to work efficiently due to contaminated fuel.

Some of the many possible fuel contamination issues that need to be addressed, include:

- Water
- Bacterial infection
- Sludge
- Sediment
- Foreign bodies

If water alone is present, it cannot be compressed as fuel can inside an engine. This causes injector damage. Water, which could be as a result of condensation, is a breeding ground for bacteria in the right conditions.

With a food source (hydrocarbons) and the right temperature (from 10 to 40 degrees C), and time, the water-fuel interface is perfect for bacteria to grow on.

Fuel sludge is formed due to several factors, the biomass build-up from a bacterial infection; dust from the air, earth from the ground, or similar conglomerate materials.

Sediment is a fine sand-like build-up which can be a factor of the fuel degrading, it can be caused by fuel oxidisation (often as a factor of fuel contact with an incompatible material, such as brass), or even by the incorrect addition of fuel additives.

## Managing your fuel is essential

If you do not maintain your fuel quality, it will mean lower fuel efficiencies, less power, and more emissions. This could result in black-outs caused by fuel starvation/blocked fuel filters, or generator engine



Wasp fuel polishing-data centre installation



damage caused by water, leading to a complete generator failure; a high repair bill, and ultimately, no power. This is where fuel polishing comes in. It removes the contamination and maintains fuel in optimum condition.

Fuel polishing is the automated process of fuel cleaning by recirculation. It is a self-controlling, self-pumping, self-monitoring multi-stage filtration process, which

removes the fuel from the tank, cleans and then returns it. Fuel polishing systems contain a number of filters and sensors which work together to separate water, bacteria and sediment from the fuel. A system will clean a tank of dirty fuel in just a few passes to return fuel to optimum condition. To ensure fuel is ready for when it is needed most, the system is set up to run autonomously on a regular basis to

clean and maintain fuel quality. While the systems run independently of the generator's pipework, they have the capability to integrate with internal BMS programmes, providing feedback data for reporting.

Fuel polishing is therefore the answer to healthy stored fuel, saving you money for disposal of old fuel, new fuel production and delivery and saving you from complete power failure.

## Risking the lights going out? Ensure power continuity with FUEL POLISHING

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