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Diesel Fuel Cleaning-Fuel Polishing - Article by Diesel Fuel & Supply

It is estimated that 80% of diesel fuel powered generators fail because of bad/dirty fuel. Out of site - Out of Mind. Recommendation--- is to have your diesel fuel checked once a year by a professional and sampled by a LAB using ASTM Standards analysis. Clean fuel means less risk of having emergency power failure.

Diesel fuel can often last for 6 to 12 months without any maintenance and even longer in some applications but it certainly does not last forever. In years past diesel fuel had exceptionally long shelf life but the latest EPA regulated diesel fuel has changed that. While it may be cleaner on the CO2 output, the unintended consequence was we now have fuel that has many additives, that cause fits with engines not built for that, and requires much more management and monitoring than ever before because it is more susceptible to bacterial growth and sludge build up. All diesel fuel deteriorates over time, and the longer it sits inside of a storage tank or within your idle diesel generator, the more likely it will begin to degenerate. When a diesel power generator runs on dirty diesel fuel, the result can be sludge build-up, clogged filters and numerous other problems. Sludge build-up and clogged filters inside a diesel generator can cause the generator to function inefficiently or not at all during a power outage. The result of a dysfunctional power generator can be extensive - causing damage to the unit, not enough power to cover all primary systems and even threat of downtime during an emergency.

The overall condition of the diesel fuel located in the fuel tanks of your diesel powered generator should be an area of focus and definitely not overlooked. Diesel fuel is an organic substance that naturally begins to degrade over time. This process cannot be avoided, at some point water typically finds a way in either during fuel delivery or condensation and that is what starts the bacterial growth. The only defense against the breakdown of diesel fuel over time is regular fuel evaluation and cleaning - often referred to as fuel polishing. Fuel polishing usually involves fuel sampling, testing, and analysis plus sterilizing and cleaning particulates, bacteria, fungi, and rust out with chemicals and filters and sometimes algae based solutions, depending on the product or provider you are using for this type of service.

Benefits of Clean Diesel Fuel & Fuel Polishing

When a backup diesel power generator runs with clean diesel fuel, the following occurs:

- Cleans and lubricates the injection system
- Fuel injectors are far less likely to fail
- Maintenance expenses can be kept lower
- Sludge buildup (sediment, rust, water, etc...) becomes less of a problem
- The diesel power generator will run with less smoke
- More reliable fuel for outages and emergencies

Spotting Problems with A Diesel Generator's Fuel

If you have not had the diesel fuel in your diesel generator and/or fuel storage tank sampled, analyzed, and monitored, the following may occur either within the fuel tank or within the generator itself:

- The fuel inside the tank will appear dark
- The tank will emit an unusual odor
- Sediment will develop at the bottom of the tank
- Exhaust from the generator engine will be dark in color while running
- The generator's fuel lines and/or filters will appear clogged
- Starting system damage (battery, relays and electrical components)
- Fuel injection pump and injectors clogged or damaged
- The generator output and engine performance may be intermittent

Dirty vs. Clean Diesel Fuel

The point at which 'good' fuel turns 'bad' is not always readily apparent. In other words, the transformation is a gradual process that occurs over time. It is critical that a diesel generator's fuel be periodically sampled, tested, and maintained to ensure its integrity. The quality of the fuel is directly correlated with the reliability of the diesel generator.