

Importance of using best lubricants for generators

South Africans have been told to brace themselves for load shedding over the next two years, with significant shedding expected over the next few months.

Many businesses have already invested in generators in order to reduce the impact of load shedding on production. In the case of large generators, these are normally automatically started as soon as a power cut occurs, and power is switched over as soon as the power from the generator is stable.

Not only do power cuts (and the resulting switch) have an impact on the generator set itself, but it also impacts the equipment being operated. In the case of the generator set, the lubricant needs to protect against a high load from a cold start, and in the equipment operated from the generator, an unexpected shut-down and restart is the challenge to the lubricant.

Strain on engine

This process happens within seconds to single minutes. The load on the generator is normally fairly high right from the outset, as the process is automatic and no equipment had been shut down in the interval between the power cut and changeover to generator power. This places significant strain on the cold engine (and lubricants). The right lubricant can help reduce damage to equipment.

Additionally, the generator would typically have been standing for a full day, so most of the lubricant would have drained back to the sump of the generator engine. The high capital cost of generator sets elevates the importance of protecting the asset using the best possible lubricants.

The equipment being operated faces less of a challenge, as the lubricant is still in place and at operating temperature after the short interruption of the changeover to generator power. The only concern is the unexpected shut-down, which is typically less problematic than cold starting (when the majority of equipment wear takes place).

The most important characteristics to look for in a lubricant, includes cold-start performance, protection at high temperatures and loads, and wear protection. High quality (e.g. synthetic) lubricants have improved temperature characteristics (less variation in viscosity across a wide temperature range) than cheaper mineral oils, resulting in excellent protection at cold start as well as high operating temperatures.

Impact on operating costs

Cutting costs by using a lower specification oil, compromises either cold start performance or at operating temperature.

Choosing the correct lubricant can also impact operating costs directly (synthetic oils typically improves energy efficiency through their excellent low friction characteristics). Synthetic oils also last longer, due to their inherent ability to withstand oxidation (the primary cause of lubricant degradation).

The higher levels of protection offered by synthetic lubricants also protects equipment during start-stop operations, such as the conditions experienced by plant equipment unexpectedly shutting down during power failures.

Shell offers a range of lubricants designed to protect equipment under extreme temperatures, including cold starts and high operating temperatures. These lubricants, made with high quality synthetic or gas-to-liquid (GTL) derived base oils are engineered for excellent low-temperature flow properties, high resistance to thermal degradation and low oil consumption. This results in products that are well placed to deliver best-in-class equipment protection and can help extend equipment life.

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