How to *save money and cut emissions* with KOHLER's Conscious Care™ maintenenance program

Vital infrastructure such as hospitals and data centers depend on mission-critical power. Should the grid fail, generators play a crucial role in providing always-ready electricity.

Most mission-critical generators are not used daily, but they still need to be run regularly as part of maintenance programs. These exercise runs use expensive diesel and create emissions.

In these regular exercise runs, the generator must reach the required operating temperature. This is needed to burn any unspent fuel from the combustion process, so it does not become excess fuel in the exhaust system. If this is not done, then 'wet stacking' will occur – this is hydrocarbon build-up in the fuel system, which will lead to decreased generator performance over time.

With the traditional regiment, the exercise is conducted at around 30% load in order to reach operating temperature - but this requires additional fuel. There is also the labor to set up load banks, and all the cabling that goes along with that – which quickly gets expensive. And using more fuel means more emissions.

CONSCIOUS CARE PROGRAM SAVES MONEY

To address these issues, Kohler has launched its Conscious Care program, enabling exercises to run without a load. The unloaded test only requires the generator to be run for 10 minutes, compared to 30 minutes to one hour for a traditional loaded test.

The Conscious Care program is being rolled out on Kohler's KD Series generators. This modern engine utilizes the latest in fuel system and combustion chamber design to optimize the combustion process to the particular needs of the situation. For example, since the fuel system is able to accomplish multiple fuel injections per cycle, the combustion of fuel can be done efficiently reducing hydrocarbon accumulation at low loads and emissions.

These advances allows exercising to be done with no load. It is then followed by an annual loaded exercise on the engine. By not having to do a loaded exercise every month, the operator reduces fuel consumption, saves money, and cuts their emissions.

QUANTIFYING THE SAVINGS

The exercises are usually run as often as once every month, or as rarely as once every four months, depending on the application. For monthly exercises, changing to 'no load' will give the operator a 44% savings in fuel consumption. If they then choose to run the exercise every four months, they will achieve a 71% saving in fuel consumption.

The emissions benefits are of a similar scale. By switching to a monthly no-load exercise, the operator will reduce emissions from the exercises by 40%. With a four-monthly exercise schedule, the reduction is nearly 70%. Running 'no load' also reduces noise and exhaust smoke.

The new approach delivers over $800 per year of savings for just the exercise fuel. If we take that same evaluation and run the exercise every four months, there are over $1,300 per year savings in fuel. With multiple generators, the financial savings add up quickly.

A WIN-WIN: SAVING MONEY AND REDUCING EMISSIONS

By switching to 'no load' exercising in their maintenance program, generator operators can achieve significant reductions in both costs and emissions, with no decrease in the performance or reliability of the generator. These financial savings lead to an overall decrease in the total cost of ownership (TCO).

And there is more to come. Kohler is working to add additional intelligence to the generator as it develops the Conscious Care program, reducing fuel consumption from today's levels and bringing down costs and emissions even further.

The Conscious Care program supports Kohler's Better Planet environmental sustainability strategy. Kohler is delivering cleaner energy solutions that are critical to building a more resilient and environmentally conscious future – developing innovative technologies in the mission-critical power generation market.

FOR MORE INFORMATION, VISIT CONSCIOUSCARE.POWERSYSTEMS.KOHLERENERGY.COM