Market Segment: Manufacturing/Combined Heating and Power (CHP)

POWER PROFILE

Customer: Red Stripe

Location:
Kingston, Jamaica

Customer Business Issue:
Reducing electricity costs with a reliable, energy-efficient solution in a CHP system

Solution:
Two Cat® CG170-16 gas engines

Cat® Dealer:
IMCA Jamaica Limited

Red Stripe installed a CHP plant to increase effectiveness and reduce the amount of fuel used in operation.

The two Cat® engines supplied a combined 2,060 kW, which is 80% of Red Stripe's requirement.

POWER NEED
Founded in 1928, Red Stripe is a pale lager proudly brewed in Kingston, Jamaica. Serving Caricom, Canada, the UK, the EU and the U.S., this growing brand became part of the Heineken family in 2015.

Prior to 2013, electricity costs at Red Stripe were high at the plant; a plan was created to save on electricity costs, reduce their carbon footprint and become more energy efficient.

SOLUTION
In 2014, Red Stripe installed a CHP plant as part of this plan. CHP plants simultaneously generate heat and electricity during the same process, therefore increasing effectiveness and reducing the amount of fuel used in operation. By using heat that is wasted during the conventional production of electricity, the CHP plant offers significant environmental benefits. The system requires less fuel to produce the same amount of energy, which reduces greenhouse gas emissions such as carbon dioxide.

"CHP is a highly efficient way to produce energy and the technology is both proven and very reliable in achieving significant cost savings, environmental benefits, enhanced energy security and overall efficiency in excess of 80%," said Neil Grant, engineering and maintenance manager at Red Stripe.

Red Stripe's CHP system was designed by Caterpillar and included two Cat CG170-16 gas engines as the main components. These provided the average power needs for Red Stripe plant, as well as steam and thermal energy.

RESULTS
The two Cat engines supplied a combined 2,060 kW, which is 80% of Red Stripe's requirement.

However, Red Stripe encountered a failure with an engine within the CHP plant. IMCA, the local Cat dealer in Kingston, Jamaica, supported the plant by providing spare parts and the necessary service to fix the engine within the established timeline and the continuation of the cost saving projections.

"By engaging IMCA to do the repairs on the engine for us, we noticed a few things," said Grant. "First, the service was approximately 20-30% cheaper than the overseas supplier. Second, the capability, professionalism and responsiveness made IMCA easy to work with. It was more of a partnership, and that made a world of difference in the relationship between IMCA and Red Stripe."

The repair to the CHP plant resulted in savings of approximately 5 million Jamaican dollars (40 thousand U.S. dollars) per month in electricity costs.

"This has resulted in IMCA becoming our first-choice provider for the service of our engines," noted Grant. "We now have a renewed confidence in the customer service and support from IMCA as our Cat dealer."

For more information, please visit http://www.cat.com/powergeneration.

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