

Regulating motor efficiency will help stabilise SA's supply

South Africa could go a long way to cut the risk of future load-shedding by adopting a minimum efficiency performance standard (MEPS) for electric motors. This is the opinion of Fanie Steyn of Zest WEG Group, who maintains that an MEPS would significantly reduce peak power demand on the national grid.

According to Fanie Steyn, manager of rotating machines at Zest WEG Group, a minimum efficiency performance standard (MEPS) for electric motors would significantly reduce the peak power demand on the national grid. Importantly, the step could be made at no cost to government and would also bring substantial savings to industry's electrical energy costs.

"The MEPS would phase out the least-efficient electric motor classes by setting a minimum standard for the efficiency of motors imported and sold in South Africa," he says. "The essential challenge now is that about 280 000 electric motors are imported each year, many of which are low efficiency motors rated at IE1 level as standard."

Steyn highlights the great strides recently achieved in the efficiency of electric motors. Energy savings of between 2.1% and 12.4%, depending on the individual power rating, can be made by converting from a standard

efficiency IE1 motor to a premium efficiency IE3 motor. The capital cost differential is slight and is quickly recouped through lower operating costs.

"It is estimated that as much as 30% of all energy produced globally is consumed by electric motors," he says. "It is therefore easy to see why improving motor efficiencies has a huge impact on national energy consumption," Steyn points out.

It is significant that more than 42 countries already have MEPS in place. These standards apply mostly to three-phase low voltage motors in power capacities from 0.75 kW to 375 kW. The MEPS is applied at import stage, so the process would be handled in the conventional manner by customs agencies.

"If the 150 000 low voltage motors entering the country each year were IE3 rated instead of IE1, the national grid could be relieved of about 195-million kWh in a single year," says Steyn. "This accumulates to almost



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three billion kWh over the next five years."

He adds that this would also mean lower carbon emissions from power stations. South Africa has committed to reduce these emissions by signing the Paris Agreement in 2016.

"Implementing MEPS will have significant benefits for everyone," Steyn concludes.

The Zest WEG Group, a subsidiary of leading Brazilian motor and controls manufacturer WEG, has a strong commitment to contributing to the development of the African region, and has been servicing the continent for more than 37 years. □



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