

## CASE STUDY

<b>Project:</b>	Generator diesel fuel reduction at GSM sites using the Sollatek AVR
<b>Country:</b>	Tanzania
<b>Project value:</b>	Various
<b>Year:</b>	2008 - ongoing
<b>Product:</b>	AVR Including Isolating Transformer



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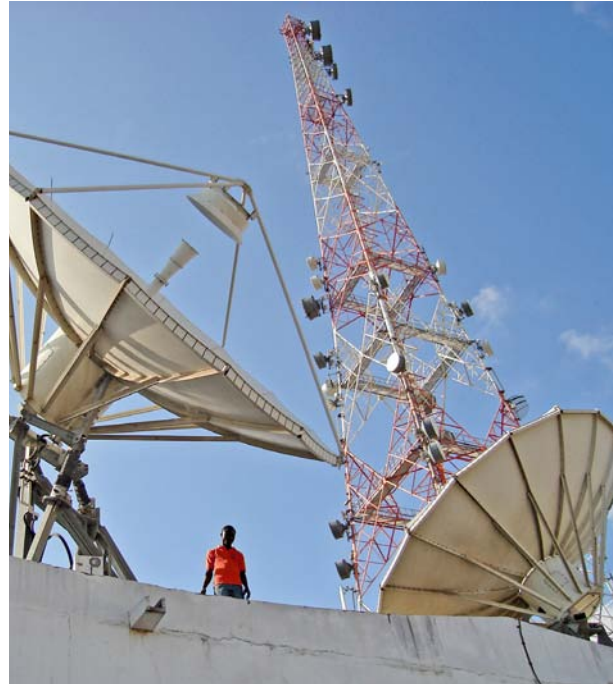
tigo

## Tigo slashes its energy costs for their GSM sites in Tanzania.



Switched-on GSM managers are cutting energy costs and increasing operational efficiency by installing Automatic Voltage Regulators (AVR) developed by Sollatek, the UK-based world leader in the field of voltage regulation

and protection. The AVR solution not only halves the cost of running on the diesel generators on which GSM (global systems for mobiles) sites depend, it reduces the generator maintenance requirement and enhances working conditions.



COST OF FUEL WITHOUT AVR	Cost of diesel		Litres per annum Operational 24/7/365	=	Annual cost of fuel
	\$2.00/litre	X	18000 litres	=	\$36,000.00
FUEL SAVINGS WITH AVR	Cost of diesel		Litres per annum Operational 12/7/365	=	Annual cost of fuel
	\$2.00/litre	X	9000 litres	=	\$18,000.00

In locations where the grid power fluctuates outside the voltage limits set on advanced telecom systems, GSM sites rely on diesel generators to ensure service reliability. The annual fuel costs for a 20kVA diesel generator (using approximately 18,000 litres of diesel) are in excess of \$35,000, with additional expenses incurred for generator monitoring, frequent maintenance and servicing, plus spare parts.

Sollatek's Automatic Voltage Regulator has an extremely wide input voltage range, so that diesel generators need only operate in cases of total power-cut or severely inefficient voltage supply by the local grid. Ideal for use with sensitive electronic equipment in harsh working environments, the AVR's solid state design (no moving parts) means it requires little or no maintenance. With a rapid response time (within 15 milliseconds) the AVR delivers 'over' and 'under' voltage protection, with class 1 lightning protection as an option.

So, using Sollatek's AVR, GSM sites enjoy significantly lower fuel and energy costs, reduced time and inconvenience in running diesel generators, as well as unbeatable protection from surges and spikes.

According to Manhal Allos, Sollatek Managing Director, 'With a Sollatek AVR solution, Tigo, a major telecommunication firm in Tanzania found that its diesel generator's runtime could be reduced from 24-hour operation to only 10-12 hours per day. This saves the company at least \$18,000 per annum on fuel costs, the AVR paying for itself in a very short time. Additional benefits of Sollatek AVR for the Tanzania site include silent, fume-free running for much of the day, in contrast to the constant high noise levels experienced previously.'



### Lightning protection using the Sollatek DSP

As an additional option, extra surge/spike suppression is available on the Sollatek 3 Phase AVR range with the DSP. This will provide a high level of protection from lightning induced voltage and other voltage surges on the mains supply.



The Sollatek DSP



Internal view of a Sollatek Outdoor Isolating AVR.

- Designed to handle surges of up to 20,000 amps
- Auto resetting
- Remote status indication via volt-free contacts
- Can be built-in or ordered separately in a plastic wall mounting enclosure
- Suitable for all current rating as the unit is shunt connected
- Peak surge current 20kVA
- Limiting voltage 750V
- Multiple discharge current 20 shots @ 10kA
- Filtered option attenuation 65dB @ 10 Mhz

#### DSP TECHNICAL SPECIFICATIONS

Maximum let through voltage (8/20 ms)	750V
Response time	10 ns
Peak discharge current	20kA*
Nominal voltage	380/415V
Total energy (DSP3P)	2560 J

\* higher rating available up to 150kA



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## The Sollatek AVR Range

The Sollatek range of Automatic Voltage Regulators covers single and three phase applications. From small domestic (250 watt) to large industrial 500kVA applications, single and three phase applications, the Sollatek range of voltage regulators is your solution in the most erratic of power conditions.



AVR single phase

AVR single phase

AVR single phase

AVR single phase

AVR single phase

AVR three phase

AVR three phase OI