

Boost SA's Electrical Uptime By Quickly Catching Failing Components

Whether caused by poor maintenance or shoddy workmanship; the fact is key power generation, transmission and distribution components across the length and breadth of South Africa's electrical grid are falling like flies. That's the bad news.

The good news, according to certified thermographic specialist Philip Smerkovitz, is that identifying failing components before the lights go out, and flagging the same just as soon as they have given up the ghost, could radically improve Eskom's uptime.

"Much of our current electrical downtime can be attributed to the search for failed components. We could improve power uptime statistics by using products from FLIR's extensive range of handheld, roof-mounted and thermal inspection cameras and drones, as well as optical gas imaging solutions, to efficiently troubleshoot issues with the national grid," explains Smerkovitz.

This 20-year veteran of the thermal imaging, instrumentation and automation sector says there are a range of high-tech tools available from FLIR that can flag in real-time actual and imminent failures on critical electrical generation, transmission and distribution equipment such as boilers, DB boards, motors, power lines, transformers and generators.

Mr Smerkovitz is the founder and Managing Director of approved local FLIR partners www.GoThermal.co.za, www.GoUAV.co.za and www.teleeye.co.za. "First and foremost, FLIR technology allows one to visualise temperature which is ideal for the national grid because most electrical components heat up before they fail.

"By addressing the usual pattern that sees components heat up, fail and cause subsequent electrical fires that plunge communities into the dark and sometimes even kill or injure homeless people using substations as shelter, the powers that be would be saving lives and saving our economy at the same time," says Smerkovitz.

Eskom has previously demonstrated a willingness to bring on board best-of-breed thermal and gas imaging technologies to firstly prevent and secondly identify issues with power generation, transmission and distribution which makes the current round of loadshedding particularly regrettable.

One can't eliminate overnight the shoddy workmanship that sees boilers, for instance, routinely fail. However, SA can employ world-leading technological solutions to help our electricity supply become more reliable by focusing on the real-time, thermal monitoring of key components within the country's national grid.

"By using FLIR thermal imaging cameras and automation software, impending equipment failures that increase the incidence of load-shedding can be quickly detected, enabling early remedial action," Smerkovitz explains.

FLIR solutions, for example, can measure slight changes in surface temperature to detect hotspots in overheating substation equipment that may lead to blackouts and brownouts. In addition, FLIR is the first manufacturer in the world to combine thermal and visible light video security imaging with automated safety monitoring based on the detection of temperature measurement thresholds. This means dual perimeter protection and critical equipment monitoring. The net effect of pairing automation and temperature analysis is increased reliability and reduced cost.

Power utilities in South Africa and overseas are looking for cost-effective ways to quickly and safely address the issue of aging infrastructure. FLIR thermal imaging cameras and

automation software can detect impending equipment failures and security breaches at any remote monitoring location, 24/7.

Insulation breakdowns and fluid leaks are relatively minor mechanical failures at substations that routinely cascade into massive electrical outages that simply didn't have to happen. With remote thermal monitoring equipment that also increases asset security, impending electrical failures can be nipped in the bud.

"Issues impacting the reliability of our national grid are not always visible to the naked eye and this means more downtime as engineers are unnecessarily dispatched to locate the smallest of leaks and verify repairs when a technological solution would have sufficed. Traditional electrical inspection methods are simply too labour-intensive and South Africa cannot afford to take Eskom equipment out of service to properly analyse it," says Smerkovitz.

"South Africa needs to make sure thermal cameras, gas imaging and other technologies appropriate to power generation, transmission and supply are standing watch over our national grid to catch critical events in real-time before they become avoidable disasters," concludes Smerkovitz.

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