

Catch Components Before They Fail with FLIR Thermal Optics

Whether one attributes South Africa's continued electricity woes to cyclones in neighbouring countries or poor maintenance at home, one thing is abundantly clear, says Philip Smerkovitz, managing director of TeleEye SA.

"Most electrical components heat up before they fail," explains this 20-plus year veteran of South Africa's thermal imaging, instrumentation and automation sector.

"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.

The recent Allandale, Midrand, substation fire in late March is a classic example of how heat-detecting cameras could've alerted technicians to a potential problem.

Media reports at the time indicated it took 'hours' for the blaze to be extinguished. "It's unacceptable for hundreds of thousands of people living in surrounding townships and informal settlements to have to revert to dangerous paraffin stoves and exposed flames for cooking and lighting because of the absence of locally-available thermal imaging technology at their local substation," Smerkovitz adds.

However, it's not all doom and gloom at the crucial substations that dot the country. Eskom has demonstrated a willingness to bring on board best-of-breed technologies like thermal optic cameras to help solve our current power issues.

Smerkovitz believes TeleEye SA is uniquely-placed to play a leading role in helping South Africa's electricity supply become more reliable by focusing on the real-time, thermal monitoring of key components within the country's municipal substations.

"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.

The FLIR A310PT, for example, measures slight changes in surface temperature to detect hotspots in overheating substation equipment that may lead to blackouts and brownouts that lead to a drop in voltage. In addition, FLIR A310F and A310PT cameras are the first in the world to combine thermal and visible light video security imaging with automated safety

monitoring based on the detection of temperature measurement thresholds. Substation operators get the dual perimeter protection and critical equipment monitoring advantage. 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.

There have been predictions of triple-digit increases in power outages across South Africa in 2019 and, so far, that looks to be one expectation we will meet. "Make sure thermal cameras are standing watch to catch critical events in real-time before they become avoidable disasters," concludes Smerkovitz.

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