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THE SYSTEM AS IT IS ... UTOPIA IN THE ELECTRICAL INDUSTRY DOES NOT EXIST

I was somewhat astonished to read the comments made by one of my fellow columnists in the August issue of this journal when he referred to the Electrical Installation Regulation 4 – functions of Approved Inspection Authorities (AIAs) for electrical installations.

The realisation that someone of his standing still seems to be somewhat in the dark as far as AIAs are concerned made me re-evaluate my understanding of how electrical AIAs are perceived throughout this industry.

I would like to take this opportunity, therefore, to shed some light on the subject.

Although co-incidental, my column published in *Sparks Electrical News* in the same month gave an outline of the AIA process currently being implemented by the Department of Labour, which I believe may assist my colleague in his understanding of AIAs.

Perspective

There are some principles that need to be put into perspective before targeting the AIA as an entity when referring to organisations used by the government “to do their work for them”. When “dissecting the Occupational Health and Safety Act” as a whole, reference is made to AIAs “performing work on behalf of the government” in other regulations but it appears that it is only the Electrical Installation Regulations (EIR) that are problematic here.

When looking at this principle, therefore, my colleague may be correct in his summation that if we pay taxes, why do we need an entity other than the one established by government to provide us with protection when regulations or laws are contravened?

In particular, I need to quote verbatim my colleague's statement:

“Now here's the thing: who pays this AIA for services rendered? Pardon me if I sound a little harsh or even blasé on this topic but if someone comes into my premises, he or she will need a very good reason and they would have to be in possession of all the required paperwork. Now, let's assume that because I am a good and obliging citizen, and after some contemplation, I allow the AIA onto my premises, it does not mean that I have to pay that AIA as, in my opinion there is no contract between us. But wait, does the government actually pay these AIAs? And does the entity that requests such an AIA to come and do an inspection, expect to pay for a service by an agent of the government? Maybe not ... It may be a little ridiculous to think like this, but it's like asking the SAPS to investigate a disturbance at your neighbour's house and then getting a bill for it.”

Now, when dissecting the relevant regulation – that is, EIR 4(1) b – it is clear that an AIA would not enter my colleague's premises unless that AIA was invited by him to do so. A good reason may very well be that my colleague had an electrical installation that was considered unsafe and that required some form

of inspection; or, alternatively, he had been issued with a Certificate of Compliance (CoC), which did not measure up to minimum safety standards.

In such a case, I think that any obliging citizen (or otherwise) would, having invited the AIA to his/her premises, pay for such services. In terms of payment, that requires no further clarification as I am sure my colleague charges for the services he renders and, should I request him to perform a service for me, he would indeed charge for those services. I, as an obliging citizen, would be morally and legally obliged to pay him.

That aside, let's look at the services/payment issue in the context of governmental obligations.

My colleague used an interesting analogy when he mentioned the SAPS in the same breath as the AIA. So, let's look at this analogy in context: We have an established SAPS force that is mandated by government to look after the safety of this country's citizens by responding to our calls when we are the victim of criminal acts.

I, along with millions of my fellow citizens, choose to not rely on this government intervention (although I get it for free), but rather choose to pay for my own policing by appointing an armed response service (a private company, no less) that I invite to my premises when my safety is threatened rather than wait for the SAPS to arrive (even though this is a ‘free’ service).

We choose to pay for a service that is expedient, meets our requirements and achieves resolution long before the government reacts. This is certainly not Utopia, but we accept it as the world in which we live. It seems my colleague would like to see this Utopia in the electrical industry but, unfortunately, it does not exist.

When an electrical practitioner does not apply the legislated safety regulations – which is a criminal act – the affected person may report this to the Department of Labour and they can expect some form of intervention at no charge. But this may take some time.

The affected party has the right to decide to pay for the services of an AIA rather than wait for a DoL inspector. By choosing to pay an AIA, they receive services that are expedient, meet their requirements and, in most cases, achieve resolution long before governmental intervention.

So, there's no rocket science here. Any person may elect to invite an AIA to their premises, expect to pay for those services and look to the AIA as a consumer protection agency ... therein is the answer. My colleague need not fear that an AIA will enter his premises unannounced but should he at some point require an AIAs services, he may certainly invite one in, but be prepared to pay for those services.

One more thing: my colleague also appears to have some concerns about how I, as an AIA, can make money as I cannot operate as an electrical contractor. In referencing the AIA appointment throughout, it must emphasised that I am firstly an ‘Accredited

Inspection Body’ in terms of ISO/IEC 17020; 2012 and, as such, my independent findings are sought after by many ISO-accredited companies that are prepared to pay for professional inspection services.

That being said, I hope my colleague can finally drop the ‘hot potato’ and, considering the current system of things, that he will be granted “the serenity to accept the things he cannot change, courage to change the things he can, and wisdom to know the difference” (Reinhold Niebuhr).

UK VISITORS SEAL AGENCY DEAL



Stuart Murlis (Pico product specialist); Barend Niemand (Comtest CEO); and Paul Allen (Pico distribution sales manager).

NEWLY SIGNED Comtest agency, Pico Technologies – a leading UK-based design, development and manufacturer of affordable PC oscilloscopes and data loggers – recently sent two company representatives, Paul Allen (distribution sales manager) and Stuart Murlis (product specialist) to meet South African dealers and other stakeholders at Comtest's Linbro Park offices.

Paul Allen says Pico scopes are a modern, affordable alternative to traditional bench top oscilloscopes. “When technicians combine Pico's versatile, individually programmable hardware with Pico-Scope 6 software – which is free and includes a lifetime of free upgrades – we believe we have an attractive alternative to what is usually considered to be a large capital outlay.”

Comtest's CEO, Barend Niemand adds, “We welcome Pico's range to our product basket, where it meets an education sector requirement and are a cost saver for students in these tough economic times.”

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NORTH-WEST UNIVERSITY SOLAR CAR NOW TO DEFEND AFRICA TITLE

Almost a year after the North-West University's solar car crossed the finishing line at the World Solar Challenge in Australia – the first African team to do so – the team will be defending its title as the best in Africa at the local Sasol Solar Challenge – but this time against even stronger international competition.

According to Prof Albert Helberg, team leader, they are not only focusing on competing against local teams this year but also on rubbing shoulders with world champions – such as the Nuon Solar Team of Delft University of Technology in the Netherlands and the Tokai University of Japan – on the winners' podium.

For the first time in the history of the Sasol Solar Challenge these world champions will be battling it out simultaneously.

From 24 September to 1 October this year, the NWU-team's car, the Sirius X25, will be competing against 12 other teams in the race from Pretoria to Cape Town. Six of these teams are international teams. “This year's Sasol Solar Challenge has the strongest international representation ever, among others the first and the third place winner of the World Solar Challenge in 2015. The NWU solar car team see it as a challenge to become the number-one South African team on the podium this year,” Helberg says.

The NWU-team comprises 25 engineering students who will be participating in this year's ‘Challenger Class’. The provisions of this class are that the entered car must have four wheels, may only use solar energy to complete the entire route and may only use a maximum surface area of 6 m² of solar panels.

NWU participated in its first Sasol Solar Challenge in 2012 with only three months' preparation and a very limited budget. Exceeding all expectations, they were the winners of the Olympia Class. They also improved the South African record for the longest distance covered. In addition, they received the coveted International Federation Internationale de l'Automobile (FIA) Award for Renewable Energy. They finished the race in fourth place in 2014 and again improved the record for the South African team by covering the longest distance in a single day.

Helberg says various improvements were made to the new solar car, thus enabling it to perform about 20% more effectively. “We are the first users of solar panels that are brand new on the market. We are using solar panel technology of Gochermann, a German company, which has given us exclusive rights to use it this year. Our students developed new electronics and, combined with new control systems that make this year's car some 4 kg lighter than its forerunner, we have a winning car,” he says.

Students built the entire Sirius X25 by hand. Several sponsors contributed to the hefty price tag of a little more than R1-million currently hanging on the solar car's steering wheel. This amount represents only the materials as the students do the construction and the labour without any payment.

Helberg says the biggest improvement since previous competitions is probably the team's strategy. “We approached students of the subject group Business Mathematics and Informatics (BMI) to build us a system that determines the car's optimum speed, given the road profile and the expected solar energy. The purpose is to find a recipe for optimal performance at minimum energy for the race. They succeeded,” says Helberg.

The system broke down the entire route of 2 000 km into 100 m ‘virtual segments’ – taking into account uphill, downhill, weather variables and altitude to determine exactly which sections of the route must be driven at what speed to minimise the vehicle's energy consumption as best as possible. This has to be done because the batteries may only be charged by the sun and no other external energy sources may be used.

In their first Sasol Solar Challenge in 2012, the team could travel slightly more than 1 000 km. In 2014, during the same competition, slightly more than 2 000 km and in last year's World Solar Challenge, they covered a little more than 3 000 km.

“Even though the direct route is only 2 000 km, we are aiming to cover more than 3 200 km by travelling additional routes because the race is against time and distance rather than against



other teams. The team covering the longest distance over the eight days is crowned the winner.”

The Sirius X25 and its batteries weigh a mere 196 kg. It can reach a top speed of 135 km per hour, is 4,5 m long and 1,8 m wide. It is built mainly of carbon-fibre, with selected aluminium components.

Students will be the drivers, and each one must weigh less than 80 kg. “However, they must not be too light because the driver's weight is adjusted up to 80 kg by means of weights. Most of our drivers have the perfect weight; the others still have to shed a kilogram or two,” says Helberg.

As in previous years, the Sirius X25 has the theme Proudly South African and will be ‘clothed’ in a (very thin) national flag.

Please visit the NWU Solar Car team at:

Website: www.nwu.ac.za/solarcar

Facebook: <https://www.facebook.com/NWUSolarCar/?fref=ts>

Twitter: @NWUSolarcar,

YouTube: <https://www.youtube.com/user/PUKKEtv>

Regular updates will be given on social media during the competition; please follow them.