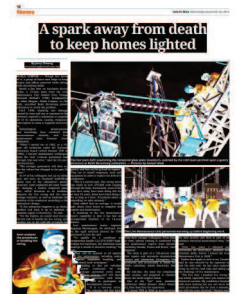


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A spark away from death to keep homes lighted

By Jerry Choong

jerrychoong@mmail.com.my

KUALA LUMPUR — Though few know of it, a group of brave men helps to keep homes and offices powered while dicing with electrifying death.

Barely a day after an insulation device broke, a 15-man team from the Live Maintenance Unit headed from Tenaga Nasional Berhad's (TNB) headquarters in Jalan Bangsar, Kuala Lumpur, to the hilly, sun-dried Bukit Beruntung power substation to rectify the problem.

Until 1998, repairing any damage caused by wear and tear or exposure to the elements required a substation to suspend all of its operations, causing temporary interruption in areas it supplied electricity to.

Technological advancements and knowledge have rendered that inconvenience obsolete, said live maintenance team foreman Azmi Mohamed.

"When I started out in 1982, as a 19-year old technician under the National Electricity Board (which became TNB in 1990), I learned maintenance techniques from the 'otai' (veteran personnel) and through trial and error," said the 53-year-old electrician.

"The younger generation still does so, but the culture has changed in the past 34 years."

As 14 of his colleagues suit up in safety gear and erect an insulated scaffolding frame next to the substation's gantry structure, Azmi explained the team would be changing a broken tempered glass disc, which functions as an insulator between the live wiring and the zero-voltage structure, as well as maintain the position of the conductor according to the substation's design.

"If this substation happens to go down, another will back it up to maintain a constant supply of electricity," he said.

"For the repairs, we would need two on the hot side to handle the live wiring, and another two on the cold side to handle the

gantry, and four on the ground as support. They are to install temporary tools and equipment in order to replace the defective component.

"This is a serious task. One wrong move can result in over 275,000 volts surging through the body. Fortunately, most of the men here today have been doing this for at least 10 years. Some have been doing it for as long as I have. Procedural safety is something we take seriously."

Azmi added that on average, it would take about three hours to complete the repairs and maintenance.

A testament to the live maintenance team's capability is that it has had no occupational fatalities in its 18-year history.

Live maintenance senior engineer Sugumar Shunmugam, 40, attributes this to the rigid selection process for TNB personnel to join the unit.

"To qualify for a certificate to competently handle 132/275/500kV high-voltage live hardware, the individual must undergo a month of intensive training," he said.

"They will be exposed to all aspects of live maintenance, including safety aspects, equipment handling, and related work techniques."

Adding to this are refresher courses conducted for the younger personnel every year, where veteran staff will share their experience with them as well as participate in development courses.

"It is a two-way street. The veterans will also learn from their younger colleagues. From time to time, special training is conducted by live maintenance experts from abroad, including Canada, France and Brazil," said Sugumar.

The team is part of a 106-person unit that repairs and maintains transmission towers and substations throughout the

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peninsula, and occasionally in Sabah for TNB's subsidiary Sabah Electricity Sdn Bhd.

By mid-day, the team has completed their routine, and prepared to clamber down the metal support beam.

One of the "hot" men, assistant technician Mohd Husaini Abdul Ghani, 32, later describes his experience.

"I joined TNB in 2006 as an apprentice for nine months and then as part of an ordinary electrical maintenance team," he said.

"Over two years, I obtained my

certificates for electronics, dashman and wireman skills, before I joined the Live Maintenance Unit in 2009."

Rather than apply or seek it out, Husaini said he was selected by his superiors to join the elite unit. He has since enjoyed being on call for road trips and taking up the challenge of live maintenance.

"The first time I handled live wiring I was afraid, especially since you cannot see electrical currents. My confidence boosted with more training but you can never let strict procedures slip for even a moment, not with the costs involved," Husaini said.

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The Live Maintenance Unit personnel warming up before beginning work.



The hot team (left) examining the tempered glass plate insulators, assisted by the cold team perched upon a gantry structure at Bukit Beruntung substation. — Pictures by Azneal Ishak

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**Azmi explains
the procedures
in handling live
wiring.**

