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Addressing system losses in Sabah Electricity

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ALTHOUGH system loss has somewhat been reduced from 17pc in 2023 down to 15.8pc last year, it remains to be another major challenge confronting Sabah Electricity Sdn Bhd (Sabah Electricity).

Essentially, system loss is contributed by both technical and non-technical losses.

In terms of the technical losses, (which is about 11pc or RM 363 million of the total system loss) it is inherent in the complexity of the entire supply system which is contributed to by 5pc transmission and 6pc from distribution.

These losses occur due to several unavoidable physical factors such as resistance in electrical wires, voltage drops over long distances, transformer losses, and even insulation deterioration over time.

Sabah's geographical landscape and wide rural coverage only add to the problem, as energy must travel far across various landscapes before reaching consumers.

So, in most utility companies around the world, 11pc technical losses are a common feature.

It can only be effectively addressed through the installation of new technologies which call for investment financial considerations which is another challenge that we have to resolve.

Therefore, efforts to reduce system losses are largely focused on the non-technical losses.

Non-technical losses or primarily electricity theft and illegal connections are equally significant.

These are equally harder to track and harder to solve, but they are just as serious to address the bigger challenges of power supply interruption.

We have reduced the non-technical from 7pc in 2023 to about 4.8pc which contributed by 3.2pc-meter tampering and 1.6pc direct tapping largely by squatters.

As you can see, we are dealing with consumer behaviour here and Sabah Electricity is doing whatever it takes to reduce the non-technical losses down to 3pc by 2030 through various strategies including acting against meter tampering.

In monetary terms 1pc non-technical loss on the average is equivalent to RM33 million.

So, at the present moment the 4.8pc non-technical loss is equivalent to RM 191.4 Million which is enough to purchase power from the Independent Power Producer (IPP) for two months' supply.

It is on this note that we are consistently taking action against meter tampering and preventing direct theft which are challenging and dangerous.

There have been instances where staff members are physically abused by aggressive consumers.

In all these cases lodging police reports is our only avenue because Sabah Electricity is not empowered by law to enforce the Sabah Electricity Supply Enactment 2024 to act against electricity theft.

Another important metric linked to system losses is the System Average Interruption Duration Index (SAIDI), which reflects the average duration of power interruptions experienced by customers.

In short: it represents the "blackout hours" per person per year.

Our data from last year shows that the SAIDI performance across Sabah and Labuan has improved.

This is a positive progress due to the dedication and hard work of our personnel, team of engineers and development planners.

But we must also be honest, progress in statistics doesn't always translate into a seamless electricity supply experience for the average consumer when in reality there are still many communities facing frequent disruptions.

During a recent work visit to the eastern zone of Sabah, which includes Telupid, Beluran, and Sandakan, I witnessed first-hand how our technical infrastructure and on-the-ground realities are intertwined.

This zone is served by a 275kV trans-



mission line connecting Pencawang Masuk Utama (PMU) Kolopis, Penampang to PMU Segaliud, Sandakan spanning a distance of 255 kilometers.

It forms the backbone of power transmission from the west to the east coast which is literally keeping the energy flowing across Sabah.

This region is home to roughly 83,000 registered customers, covering domestic, industrial, and commercial consumers.

In Sandakan alone, losses arising purely from non-technical causes are estimated to cost around RM10 million annually.

That is a tremendous financial burden, not just on Sabah Electricity, but indirectly on the paying consumers who bear the consequences.

And yet, when discussing electricity theft, it's so convenient to point fingers at Sabah Electricity as the utility company and at the same time expect swift enforcement. But the truth is far more complicated.

For the most part, Sabah Electricity has been actively involved in joint operations together with the Police and the Sabah Energy Commission (ECOS) to curb illegal connections because we are not empowered to take action against theft on our own.

I wish to point out that very often our field teams work beyond the call of duty, conducting dangerous operations with their life at stake sometimes even camping out at targeted locations for days to ensure that illegal reconnections don't happen immediately after we've cut them.

In one particular case shared with me by the on-ground staff, wires confiscated during an operation were replaced by the perpetrators the very next day.

Despite repeated actions from our team, the illegal activities only ceased after consistent and relentless monitoring.

This incident is not an isolated case. In fact, it happens repeatedly across districts.

And with our limited manpower, (many of whom have additional responsibilities other than addressing power theft), a wider strategic option is being considered to resolve it effectively.

It's also worth noting lodging police reports against these illegal activities, and taking sustained operations to cut illegal connections numbering in the thousands during an operation, our capacity ends there.

As I said Sabah Electricity does not have legal enforcement powers. Out of thousands of reported cases last year, only about 15 saw actual legal action taken by the relevant authorities.

In our experience addressing system loss isn't just about upgrading our cables or increasing patrols.

It requires an integrated approach involving awareness raising, enforcement, and community collaboration. Consumers play a crucial role too.

They simply have to stop stealing electricity.

At the same time, we need to foster a culture where electricity is seen as a shared resource, where theft isn't just an issue for the company but a direct harm to the community and the economy at large.

It might be worth considering how other regions have structured their approach to enforcing regulations in the energy sector.

In some places, power utilities have been entrusted with greater responsibility and authority to handle enforcement matters directly, helping streamline efforts to address illegal connections and system losses more effectively.

Perhaps this is something we could explore further as we look for long-term solutions.