

THE UNDERGROUNDING OF ELECTRICITY - A BRIEF DISCUSSION

The Barbados Light & Power Company has always been committed to safe, reliable delivery of electricity service to customers across Barbados. We know how much customers depend on energy to power their homes and businesses, and that they count on us for electricity to power every moment of every day.

Light & Power has built its generation, transmission and distribution system to international standards, encompassing both above and underground cabling as appropriate to the needs of customers and communities, designed to deliver electricity safely, respond to faults and minimize power interruptions.

After the passage of Hurricane Elsa in July 2021, there was much talk of undergrounding the country's energy transmission network. Strategically, undergrounding is always a matter for discussion at Light & Power and it is replacement of overhead wires with underground wires. Underground infrastructure is installed in trenches that run the length of the transmission or distribution line.

The Company's Manager, Resource Management Centre, Cori Kings explains, "While the vast majority of customers are served by the overhead wire network, there are some who have underground supplies. We have underground networks in place for critical national infrastructure and services such as Belle Pumping Station, Q.E.H., the airport and seaport, greater Bridgetown and government headquarters, and our transmission network between substations to these critical sites is also underground."

According to Mr. King, the benefits of undergrounding are:

- In comparison to overhead lines, underground lines are not subject to damage from severe weather conditions such as lightning and hurricanes.
- Underground cables pose no hazard to low-flying aircraft, birds, monkeys or other animals.
- Underground cables have a greatly reduced risk of damage caused by human activity such as theft, sabotage and damage from vehicle and other accidents.
- Increased aesthetics and property values.

However, there are also several drawbacks:

- Costs - to the utility, government agencies and other stakeholders, and, ultimately, to every customer. It's expensive. The lifecycle cost of an underground power cable is two to four times the cost of an overhead power line. In cities such as Bridgetown, the cost of underground transmission can be six to ten times as expensive as overhead.
- Repairs to underground systems can take longer, impacting the customer, and be more costly.
- Underground cables are subject to damage when, unwary contractors or 3rd party entities perform excavation works, thereby also exposing themselves to serious safety risks.
- Underground infrastructure is subject to damage by flooding and even earthquakes.
- At times, rodents and ants can also be a threat to underground cables.
- Specialized confined space training is required for those building and maintaining the underground system.

Light & Power's Managing Director Roger Blackman adds, "It's complex, and there is a lot to consider as we ensure the most reliable, long-term transmission and distribution network to best serve the energy requirements of the country – today and for many years to come."

Similarly, we balance the cost of electricity with the need for reliable, efficient and safe service, and we'll always strive to maintain that balance as we move forward in the best interests of customers.



Cori Kings
Manager, Resource Management Centre

Be safe, everyone.