

## **LUCELEC Liquid Nitrogen Generator To Boost Reliability And Efficiency**

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**Castries, December 3, 2025** – St. Lucia Electricity Services Limited (LUCELEC) has taken a significant step forward in operational innovation with the acquisition of a liquid nitrogen (LN?) generator. This investment is set to streamline critical engine maintenance thus enhancing LUCELEC’s supply reliability to its over 70,000 customers across Saint Lucia.

The LUCELEC Cul-de-Sac power station houses ten generation engines. Like all engines, these require routine service to maintain optimal performance and ensure reliable electricity supply. A key part of this servicing process is the engine overhaul, during which liquid nitrogen plays a critical role.

Lincoln Francis, a LUCELEC Trainee Engineer in the Generation Department, says overhauls keep the company’s engines in optimum operating condition and ensure they are always available for use.

“When the engine has operated for 20, 000 hours, we do a major overhaul or servicing of the engine where we shut it down and according to the manufacturer’s specifications, there are certain parts that need to change because they’ve run their course, run their life,” he says.

Overhauls decrease the possibility of catastrophic failure of the engine, and ensure it is in top condition, always ready to deliver firm capacity. The company’s Trainee Engineer says the decision to invest in its own supply of the liquid nitrogen that facilitates this maintenance ensures a more reliable and efficient process.

“Our engine parts are designed by the manufacturer in such a way that during an overhaul they need to be cooled so that they shrink and in this smaller form can be replaced safely in the engine.”

Before the purchase of its own liquid nitrogen generator, LUCELEC procured liquid nitrogen from Martinique at an average of 2 to 3 times a year. Not only was the purchase costly, but it also had another drawback, potential losses of liquid nitrogen during shipment.

This forward-thinking investment demonstrates LUCELEC’s commitment to innovation, operational efficiency, and cost-effective solutions, while supporting the company’s balanced approach to a sustainable energy future.

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