# LUCELEC's Operations

OPERATIONS

LUCELEC is in business for the people of St. Lucia. We are working hard to build for the future - staying ahead of demand, improving safety and reliability, and introducing the most efficient, state of the art technologies available. We are striving for better communications with our customers to respond even better to their needs.

LUCELEC has twelve major departments grouped into two main categories; Technical and Administration Divisions.

The Technical Division is made of the Business Development Unit, Planning Department, Generation Department, Transmission and Distribution Department, and System Control Department.

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GENERATION

The Generation Department is responsible for producing a reliable and cost effective supply of electricity for the citizens of St. Lucia. It operates a modern computerized generating facility, namely the Cul-de-Sac Power Station which houses 10 generators with an available capacity of 86.2 MW and the 3MW solar farm in La Tourney, Vieux-Fort.

Over 360 million electricity units are generated each year from available generation of 88.4MW.  Annual load growth is expected at an average of 1.97% over the next five years.

There are three main sections within the Generation Department, namely Operations, Maintenance and Garage Services. The Operations Section ensures the safe and efficient running of the generators, and all existing equipment in the station. The section is staffed with Shift Operators, a senior supervisor, and Shift Attendants who rotate on an eight hour shift system, twenty four hours a day, seven days a week. A computerized distributed control system is used to monitor and control plant operations. They also oversee operations at the solar farm.

The Maintenance Section has the responsibility of maintaining all plant at the facility. This maintenance is done in conjunction with approved practices and recommendations from the equipment manufacturers. There is also a computerized maintenance management system which facilitates the tracking and planning of all maintenance activities. A team of experienced supervisors, mechanics, electricians and technical clerks combine their efforts to ensure the continued long life and excellent service of the plant.

Garage Services maintains the fleet of about 80 vehicles which are ever present in the community attending to problems and providing supplies to new and existing customers. The section is staffed by the Garage Supervisor and his team of experienced mechanics.

In 2003 the Company received an award for consistently being the best maintained Wartsila Diesel Power Plant

Worldwide from 1998 – 2002.

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## TRANSMISSION & DISTRIBUTION

The Transmission & Distribution Department is responsible for the overall management of the Transmission & Distribution system. This includes the design, erection, operation, maintenance and security of all facilities used to transmit, distribute and supply electricity to individual customers. This includes all poles, lines, transformers and substations. There are 7 substations, located at Cul De Sac, Castries, Union, Reduit, Soufriere, Vieux Fort, and Praslin. The Department comprises five major sections: Inspection & Maintenance, Substation Maintenance, Metering, Customer Care, and Construction.

Transmission voltage is 66kV across 75 miles of transmission lines. Distribution voltage is 11kV across 2,643 miles of distribution lines. Customers are supplied at 240V Single Phase, and 415V three phase.

The Department has a regular and strict maintenance regime that ensures the transmission and distribution infrastructure functions optimally and is robust enough to deliver power that is safe, reliable and of the highest power quality.

Some recent initiatives aimed at upgrading the transmission and distribution infrastructure, improving reliability and reducing system losses, include the introduction and roll out of an advanced metering infrastructure (AMI), the upgrading of low and high voltage conductors on the system, more optimal loading of transformers, and increasing proficiency in live line work. The AMI project includes the replacement of electro-mechanical meters with ‘smart meters’ that will allow for the introduction of such services as automated meter reading, remote disconnections and re-connections and pre-paid metering. To date, 99.99% of customers have been equipped with these metres.

A lot of work has also gone into expanding the Distribution Automation programme which includes the deployment of auto reclosers and remotely controlled switches. This allows the System Control Department to remotely reconfigure the system when faults occur, significantly reducing the length of outages, fault finding and response times.

The Department is currently engaged in some pilot projects to assess the impact of using various types of energy efficient street lighting in order to make decisions for the future.

See map of Transmission & Distribution Infrastructure

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## SYSTEM CONTROL DEPARTMENT

The System Control Department is often referred to as the nerve centre of LUCELEC’s technical operations. It is responsible for the coordination of the safe and economic operation of the Company’s power systems and keeps interruptions to the electricity supply to a minimum. A Supervisory Control And Data Acquisition (SCADA) system allows monitoring of voltage and load at all seven (7) substations located across the island. The system also allows control of the electricity supply to various areas on the island via a number of switching points on the transmission and distribution networks. This department operates 24 hours a day, 7 days a week.

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## PLANNING DEPARTMENT

The Planning Department is part of the Business Development Unit and provides technical support to the

Generation and Transmission Departments. It is responsible for producing proposals for the development of the generation, transmission and distribution systems, including the Company's load forecasting. The Department has three main sections - System Planning, Distribution Planning and Protection and Communication, and also includes a Drawing office and Laboratory.

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## THE BUSINESS DEVELOPMENT UNIT

The Business Development Unit was formed in September 2008 to identify new revenue streams and to develop and ensure proper implementation of major capital projects in the Company. It is also responsible for oversight, monitoring, updating and ensuring implementation of the Company's Strategic Business Plan. Very importantly, the unit has to understand and predict trends so that LUCELEC remains a leading electric utility by being proactive and not reactive.

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## ADMINISTRATION

The Administration Division provides associated service and support functions for our core business and comprises the Customer Service Department, Accounts and Finance Department, Human Resources Department, Information Systems Department, Corporate Services Department, Internal Audit Department and Corporate Communications Department.

LUCELEC is committed to improving customer service and reducing the cost of operations in all areas of the Company.

Currently all customer enquiries, requests and payments are handled at the Company's three administrative offices in Castries, Rodney Bay and its Southern office in Vieux Fort. Payment transactions can also be conducted through its online MyAccount service, at a number of banks, Sure Pay outlets, and at Credit Cooperatives island wide. Online banking is also available to customers of 1st National Bank, Republic Bank, Bank of St. Lucia and First Caribbean International. There is also an automated telephone inquiry service, which allows customers to receive 24-hour account information at a time of their convenience.

The Company utilises the most advanced computer systems available today, and a specialised software module for its billing operations. This enables us to effectively manage over 68,000 customer accounts, providing all operating centres access to the information they need to manage efficiently all customer needs.

All employees are required to have a formal qualification for employment, and approximately 18% are professionally qualified to degree level. There is an in-house training capability for all but the most skilled professional needs. There is a continuing focus on the need to prepare for the future and all the Company's training programmes place a high priority on this.

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**Maintenance work during an overhaul of a diesel generator**

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**Maintenance work at the Soufriere Substation**

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**Operating generators from a Breaker Room**

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**Maintaining Computer Network Servers**

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