



St. Kitts Electricity Company Limited

Electrical Power Systems Engineer - Planning and Development

Principal Accountabilities:

Provide technical leadership and expertise to the T&D-Planning & Development Department's technical and administrative functions, ensuring all internal and external stakeholder processes, and deliverables are completed to the standards prescribed by SKELEC's reliability, budgetary, and safety KPI's.

Job Description

ROLE AND RESPONSIBILITIES

- 1. Review and update existing T&D network diagrams and maps:**
 - a. With the assistance of assigned staff members review drawings of the T&D network, correlate to in field structure, and correct discrepancies.
 - b. Update the power system model in allocated software to reflect the above.

- 2. Develop and implement UG and OH network construction standards:**
 - a. Review existing standards for overhead (OH) and underground (UG) network construction and installations.
 - b. Develop and implement improved standards for OH and UG network construction and installations towards reliability and resilience of the T&D Network.

- 3. Develop and implement GIS database for T&D infrastructure:**
 - a. With assistance from the local Department of Physical Planning GIS Lab, develop a GIS database of SKELEC's T&D assets.
 - b. Train staff of the SKELEC Planning and Development Department in the use and manipulation of the database.

- 4. Incorporate GIS database, into a T&D infrastructure asset management database including best practices for monitoring and periodic inspections:**
 - a. Transformers (pole-mounted and ground mounted)
 - b. Substations, switchgear (oil filled and SF6), and load breakers
 - c. Distribution lines (OH and UG) and termination points
 - d. Train staff in the use and manipulation of database

- 5. Load flow, loss reduction and forecasting analysis:**
 - a. Perform power systems load flow and forecasting including but not limited to the projected upscaling of distributed rooftop solar PV generators and the



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inclusion of electric vehicles. Identify node and bus constraints making recommendations for systems upgrades.

- b. Perform grid loss analysis and implement loss reduction strategies.
- c. Develop a 66KV Transmission network model in software including an interconnection to the island of Nevis.
- d. Train staff in the use of software to perform load flow analysis, load forecasting and loss reduction analysis.

6. Feed-In Tariff (FIT) and Net Billing/Metering assessments:

- a. Assist the office of the EM and executive management in performing grid assessments and developing interconnection requirements for solar PV generators eligible for FIT and Net Billing/Metering applications.

7. Any other duties within the scope of expertise as assigned.