



**11-12 MAY 2017**

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## SMART GRID POWER DISTRIBUTION

The electric grid is undergoing a transformation from a centralized electrical grid system to a distributed electrical system. Smart grids are a key component of this transformation and has drawn tremendous attention in recent years. This course deals with the essential aspects of distribution system engineering, starting with estimation of the loads on the network to the detail design of the distribution system networks. The contents of this course are divided into three categories; Planning, design and operation. In the planning part load forecasting, and planning strategies as well as distribution automation are discussed. The design part includes the design of sub-transmission lines, distribution substations, and primary and secondary systems design considerations. The operation part includes the voltage drop and power loss calculations, voltage regulation and application of capacitor to distribution systems.

TO BOOK, CONTACT: [LERATOL@SANEDI.ORG.ZA](mailto:LERATOL@SANEDI.ORG.ZA)

# WHO SHOULD ATTEND

The course is designed to support utilities or organisations involved in managing distribution networks. It includes:

- Utility staff involved with distribution networks
- Project managers
- Measurement and verification professionals
- Analysts working for national regulators in the power sector
- Utility engineers
- etc.

# BENEFITS OF ATTENDING

- Understand smart grids and its impact on the power distribution grid.
- Understand the key distribution system components.
- Understand load modelling, power system economics, power cables, capacitors and protection systems.

# KEY PRESENTERS

## DR. R. NAIDOO

**RAJ** is leading smart grid research at the University of Pretoria. He has over 20 years of experience as an electrical engineer and has been involved with field implementation of DG and PQ projects.

## DR. V. DLAMINI

**MUZI** is an electrical engineer with hands on experience in designing electrical engineering solutions. He is currently with SASOL where he leads large scale engineering projects.

## MR. M. SLABBERT

**MARTIN** is an electrical engineer with hands on experience in designing protection systems. He is currently with ESKOM transmission where he leads protection projects.

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## DAY 1

- Introduction to the power grid
- Smart grids explained
- **Mid morning break**
- Distribution system automation
- **LUNCH**
- Network Planning within a smart grid
- **Mid afternoon break**
- Load modelling

## DAY 2

- Power system economics
- **Mid morning break**
- Power cables
- **LUNCH**
- Power capacitors
- **Mid afternoon break**
- Power system protection