

Technical Tour 3: 4 October 2019, 08:00 – 16:00

Eskom National Control Centre, Germiston

Cost: R1250.00 per person departing Misty Hills



Travel from Misty Hills to the National Control Centre in Germiston. The Eskom power grid is operated from the National Control Centre. The transmission power grid must be monitored and controlled at all times to ensure safe and reliable supply of power to all customers. After induction and evacuation procedures, the presentation and tour will commence. On the return to Misty Hills, you will stop for lunch at the acclaimed Roots Restaurant in the Letamo Game Estate, Kromdraai, After lunch you will return to Misty Hills.

More about the National Control Centre

The Eskom power grid is operated from the National Control Centre. The transmission power grid must be monitored and controlled at all times to ensure safe and reliable supply of power to all customers. In fact, if the power grid is left unattended it could move to an unstable state within 15 minutes. This unstable state could lead to black outs which will have a highly negative impact on South Africa both socially and economically.

The tasks of the Control Room are divided between several desks as described below:

Loading Desk: Throughout the day the demand for electricity in South Africa will vary. The loading desk is responsible for ensuring that there is enough generation to meet the power network's demand and hence to control the frequency to between 49.85 Hz and 50.15 Hz. If the frequency is too high, generators can start to trip which could lead to black outs. If the frequency is too low, Under Frequency Load Shedding (UFLS) will occur where a large amount of customers' power is disconnected until the frequency is recovered. The controller at the loading desk controls the frequency by increasing/decreasing generation as the frequency varies due to demand changes. Automatic Generation Control (AGC) is used to aid the operator by automatically increasing or decreasing generation on certain power stations to cater for small variations in the system frequency.

Transmission Desk: This desk is primarily responsible for legally handing over outages of Transmission lines, busbars and transformers for maintenance. This includes inspecting the power network around the outage for possible weaknesses and ensuring that the outages cause no unsafe conditions or unexpected loss of power supply.



Voltage Desk: Any changes in the power network (i.e. increase/decrease of demand or generation or scheduled or non-scheduled outages of plant) will affect the voltages within the system. High or low voltages can cause plant to trip or damage customer equipment. The voltage desk thus controls the voltages of the busbars by using tap-changing transformers, reactors, shunt and series capacitors and Static Var Compensators (SVC's). Statutory limits are negotiated with the customers every year to ensure that the supply best meets their requirements. The voltage must then be controlled to within these limits.

Power System Manager's Desk: The power system manager oversees all decisions made and advises all desks on any operation. The shift manager is inherently responsible for any decisions taken during his or her shift. The shift manager also investigates the power network to anticipate any possible contingencies which could hinder the network's stability and has the final say on any plant changes to the system.

PROGRAMME

Date, Time	Activity
Friday 4 October 2019	
08:00	Assemble at Misty Hills hotel reception
08:15 – 09:30	Bus departs Misty Hills hotel reception
09:30 – 09:45	Sign in and Safety & Security briefing
09:45 – 10:45	Presentation in the Auditorium
10:45 – 11:15	National Control Centre Gallery – Technical Tour
11:15 – 12:15	NMC –Telecommunications
12:15 - 12:30	Assemble at National Control parking
12:30 - 13:30	Bus departs National Control to Roots restaurant
13:30 – 15:30	Lunch at Roots restaurant
15:30 – 16:00	Returning to Misty Hills

General

- All participants will need to submit a copy of their passport/ID to register for the technical tour.
- All participants will be required to carry a visitor pass and adhere to visitor restrictions and access limitations throughout the tour.
- Bookings can be made via the registration
- The technical tour is limited to 20 participants.

Secretariat

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