

National Energy Policy – Energy Security and Supply T&TEC



T&TEC VISION STATEMENT

- Leadership in Energy Delivery,
Excellence in Customer
Service...enhancing the quality of life
for all.

T&TEC MISSION STATEMENT

- To provide a safe, reliable, high quality electricity supply, in an environmentally responsible manner, utilizing best practices, through empowered employees committed to excellence and customer satisfaction.

Energy Supply – T&TEC Distribution Tobago

- Tobago Peak Demand = 43MW
- Installed Capacity
 - Two submarine cables of total capacity 50 MW (20 and 30 MW).
 - Four (4) 16.4 MW dual fuel generator at Cove Power Station (CPS) of total capacity approximately 65.6 MW.
 - Scarborough 11 MW standby.

Cove Power Station

- The Cove Power Station was officially commissioned on 23rd October, 2009.



Cove Power Station

- **Installed diesel fuel capacity:** 3,000,000 liters. This is able to satisfy Tobago's present demand for 17 days.
- **Installed gas capacity :** No on-site storage. On-demand delivery by pipeline. However, gas is not yet available.

Cove Power Station

Challenges:

Diesel is supplied from NP's filling station to Cove Power Station (CPS) by mobile fuel tankers. NP's diesel storage capacity, which caters for the whole of Tobago, is less than that at CPS.

Cove Power Station

Present Situation (Diesel Operation)

- Two generators are run in parallel with the grid at approximately 10 MW each in droop mode during the period 6:00 a.m. to 10:00 p.m. One generator is run at approximately 10 MW from 10:00 p.m. to 6:00 am.
- No more than three (3) generators (50MW) are run at any time.

Cove Power Station

Present Situation (Diesel Operation) Continued:

- Typical total cost of diesel per month: TT\$ 4.6 million.
- Cost per KWh: 32.49 TT cents.
- Typical Heat rate: 8700 kJ/KWh (efficiency of 42%).
- Typical Reliability = 97%.

Cove Power Station

- **Future Situation (Gas Operation with Diesel as back-up)**
- We expect gas will be available in the second quarter of this year.
- Total cost of gas per month; TT\$902,000.00 (approximately five times less than diesel).
- Cost per KWh: 6.37 TT cents.

Cove Power Station

- **Future Situation (Gas Operation with Diesel as back-up) Continued:**
- Three (3) generators will run in parallel with the grid to satisfy the power demand of Tobago continually, and maybe that of upper eastern Trinidad, intermittently.
- Units will automatically switch to diesel if they detect any gas parameters that are out of specification.

Cove Power Station

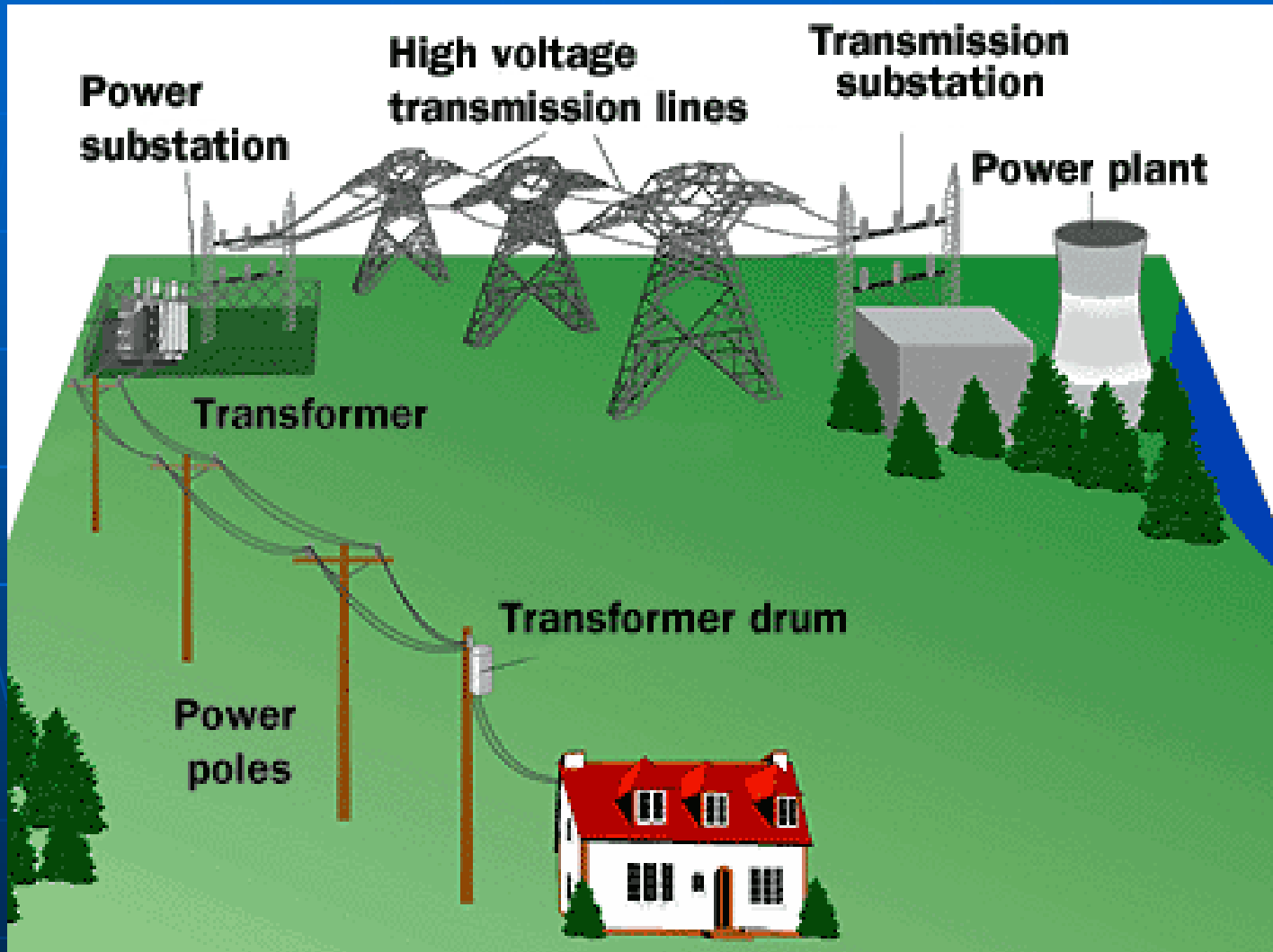
- **Future Situation (Gas Operation with Diesel as back-up) Continued:**
- Expected total cost of gas per month; TT\$902,000.00 (approximately five times less than diesel).
- Expected cost per KWh: 6.37 TT cents.

Cove Power Station

Environmental Effects:

- The emissions from the engines were tested at factory and found to be superior to the standards set in the Pollution Prevention and Abatement Handbook, WORLD BANK GROUP.
- Fuel, lubricating oil and oily water storage are designed to prevent any spillage from entering soil or drains.

Energy Supply Interconnection



Energy Supply Interconnection

- One 66 kV transmission line connecting CPS to Milford Bay substation was commissioned in Q4, 2009.
- A second 66 kV transmission line is currently under construction.
- The first phase of the Milford Bay Substation upgrade to receive power from Cove Power Station has been completed. The second phase is due to commence shortly.

END
Q&A