

Team of Mega prize winner of Rs. 1,00,000 /- (Rupees one lakh) Issue #12

Dahanu Thermal Power Station, REL Limited, Dahanu Road Thane Distt- 401 608 , Maharashtra

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Introduction to the Plant

Dahanu Thermal Power Station- Reliance Energy Limited, a part of Reliance Group of Industries, to be rechristened as Reliance Energy Limited, is a state of art 2x250 MW Coal Based Thermal Power station, supplying power to its customer in Mumbai.

The Power station has two units each of 250 MW Capacity, totaling a capacity of 500 MW. The First Power Station in the country with a module of 250MW Units.

The following considerations have been made for the project

1. **All HT auxiliaries** of the plant (Unit #1&2) have been taken for the project
2. **All major LT Auxiliaries**, whose Current Rating and running hours are available, have been taken into account.
3. The Cost of Power has been taken @ **Rs.3.75 / kWh**
4. The economical life of a thermal power plant and its equipments have been taken **as 25 years**
5. Depreciation @ **4%** have been taken considering the economical life of a thermal power plant.
6. The actual procurement cost of the machines has been taken with reference to the **year 1991**.
7. An escalation of **5%** has been taken into account, where the actual new procurement cost is not available.
8. **Actual current, power factor, Voltage and running hours of the equipments for the last financial year (2002-2003)** have been considered for the calculation of the annual energy consumption.

About Dahanu TPS & Equipments

Dahanu TPS has **two units** of 250 MW each aggregating to a total capacity of 500 MW.

The Boiler & Turbo-Generator and their auxiliaries are separate for both the Units, while the offsite equipments are common for both the Units, which provide the common services to both the units.

The offsite plants include compressor house, Fuel oil handling plant, Cooling Water Pump House, Coal Handling and Ash handling plants.

Here all the major equipments (HT & LT) are taken into consideration for main plant (**Unit 1 and Unit 2 Separately**) into two sheets.

Sheet1- All auxiliaries for Unit 1 and offsite plant

Sheet2- All auxiliaries for Unit 2

The Sheet is programmed in such a fashion that by changing the parameters like

- Depreciation rate
- Cost of Electricity
- Inflation rate

the changes in R Value are easily visualized.

Important for the Excel Sheet

The values in the red are formulated. They should not be edited

The values in blue can be varied.

The procurement cost is taken as on 1991