Report on Industrial visit to 10MW Solar Power Plant

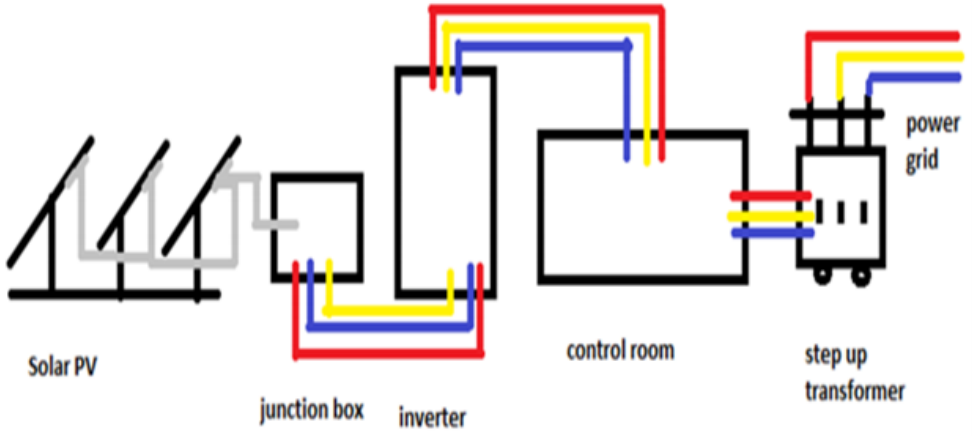
Industrial visit for 4th Semester Electrical and Electronics Engineering Students of New Horizon College Of Engineering to 10MW Grid connected Solar Power Plant in Mandya District on 18-03-2017.

Salient Features of the Solar Plant Installed in Mandya District

- **Capacity: 10MW Grid Connected**
- **Total Cost: 61.5 crores (approx)**
- **Energy: 8.322 Mu/annum**
- **Technology: Solar PV Crystalline**
- **Evacuation System: Through 66KV dedicated line connecting 66KV Shiva MUSS.**
- **Project allotted by: NVVN under JNNSM Phase-2, Batch-1 scheme at a tariff of Rs 11.69/-.**
- **Average Solar Insolation: 5.26KWh per sq.m. per day**
- **EPC Contractor: M/s. BHEL & KPCL**
- **Land acquired: 25 acres of Land in Shivasamudram in Mandya district.**
- **Date of LOA: 24.05.2011**
- **Date of Commissioning: 25.06.2012**

Finance
This project is financed by KPCL from its internal resources.

BLOCK DIAGRAM OF SOLAR POWER PLANT



Installation Features

1 Module = 285 watts

20 Modules in Series = 1 String

16 Strings = 1 S M U

7 S M U = 1 Inverter

- Each Module (panel) has a generation capacity of 285 watts, when 20 such modules are connected in series it forms **one String**.
- 16 Strings together is known as **One Sting Monitoring Unit** (SMU), the output of 7 such SMU's is given as input to **one Inverter**.
- One Inverter's output is 630kVA. There are two such Inverters.
- The output voltage of each Inverter is stepped up to 11kv using step-up transformer. Transformer capacity is 1600 kVA.
- The distribution voltage connecting to grid is at 66kV
- The complete process is observed & controlled in the control room using SCADA.

CONCLUSION

Industrial visit to solar power plant, at Shivanasamudra gave us an opportunity to correlate theory and difference, experience the generation, control & transmission of 10MW renewable energy and practical problems on site. The whole process was explained by the representative (Mr. Kumar) with detailed description of equipment's with their specification. Explanation was carried out in the control room.

This Industrial visit was informative and gives us all a good learning experience. It was the unique example of 'EDUTAINMENT' i.e. Education & Entertainment. Industrial exposure helped us to absorb the theoretical aspects of Solar Technology & Smart grids more effectively.

Our special thanks to Dr. Mahesh.K, guided us in each step of this Industrial visit.

On behalf of 4th Semester Students I thank for the support provided by our College Management, Principal (NHCE), HOD (EEE) & Faculty Coordinators (Ms. Deepa V Bolanavar, Ms. Priyanka S Kole, Mr. Lithesh.J & Mr. Mohan.B.S,).

Glimpse of Industrial Visit

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