



Experiences of SCCL in implementing Thermal & Solar Power plants



Singareni Thermal Power Project (STPP) – 2 X 600 MW

**As a policy for diversification, SCCL decided to enter
into
Thermal and Solar power generation**



STPP view



Strategies adopted

- SCCL divided the total project execution into 3 parts.
- Boiler Turbine and Generator (BTG) package, which forms the heart of the power project; By M/s BHEL - the leading manufacture of power generating equipment in India.
- Balance of Plant (BoP) package comprising works other than BTG works which are directly related to the power plant ; By M/s MBE with consortium partners, having versatile experience in construction of water system, cooling towers , Chimney , Coal handling plant and Ash handling plant.
- Ancillary works like Water works, Railway siding, Roads, township etc; By SCCL.



Strategies adopted

- M/s NTPC was selected as Technical Consultant who has versatile experience in Engineering, Construction and operation of the power plants with about 58,000 MW installed generating capacity.
- Mile stones achieved through Project management techniques on real time monitoring of Cash outflow Vs physical progress of activities, Continuous monitoring on scheduled works and vendors performance .
- The critical issues like resource mobilization for vendors was addressed for timely completion.
- Out sourcing of O&M activities of the power plant to O&M operator M/s Steag Energy Services for operation and maintenance of the plant.
- Coal supply from the nearest mines for optimization of energy charges.



Project Details : (Stage-1) 2x600 MW

- Location : Pegadapally Village, Jaipur Mandal, Mancherial (Dt), Telangana
- Site elevation : 144 meter above MSL
- Land : 2x600 MW Stage-1 – 300 Ha
- 1X800 MW Stage-2 – 127 Ha
- No Forest Land and No R&R
- Source of Water: 2 TMC: Pranahita River near Devulawada Village (43.5 Kms)
- 1 TMC : Godavari River at Shetpalli Village (8.6 Kms)
- Fuel requirement : 4.784 MMTPA(coal at 85% PLF)
- Project Cost : Rs. 8584 Crs.
- BTG package by : M/s BHEL
- BOP package by : M/s MBE
- Technical Consultancy : M/s NTPC
- O & M Agency : M/s Steag Energy Services



Major achievements of STPP

- Synchronization of Unit #1 & 2 was achieved in a span of 80 days against 120 days planned.
- Commercial operation declaration of Unit # 1 & 2 was achieved in a span of 68 days against 120 days planned.
- Unit # 2 COD declared within 7 days after achieving full load.
- During very 1st year of commercial operation, STPP achieved 17th position (2016-17) in PLF out of Top 25 best performing power stations in India.
- STPP has been ranked 5th position in PLF, among best 25 power stations of the country in FY 2017-18.
- STPP has been ranked 16th in PLF among best 25 power stations of the country in FY 2018-19.
- STPP has been ranked 11th in PLF among best 25 power stations of the country in FY 2019-20 up to Dec'2019.



Major achievements of STPP

- Total ash utilization for the year 2016-17 is 87%, 2017-18 is 91.02% , 2018-19 is 102.71% (The balance ash of 2016-17 & 2017-18 was evacuated during 2018-19) and in 2019-20 93.85% was evacuated.
- Ash users are cement Industries, Ready Mix Concrete (RMC), bricks & block manufacturers, Under Ground mines of SCCL for stowing, etc
- Coal Transportation through Rail Mode (17.5 Kms Distance from Coal Handling Plant, Srirampur to STPP)
- Reliable and continuous power generation to cater the needs of the state at competitive generation cost. STPP is meeting 15% of the states power requirement.
- Zero lost time due to injury since plant operation.



Physical Performance of 2x600 MW (Stage-1)

Unit	Capacity (MW)	2016-17	2017-18	2018-19	2019-20 (upto 10th Feb 2020)
PLF					
Unit 1	600	77.43 %	87.48%	84.75 %	86.54 %
Unit 2	600	83.10 %	94.29%	80.73 %	85.95 %
STPP	1200	79.64 %	91.09%	82.75 %	86.25 %
Generation (Mu)					
Unit 1	600	2098.03	4606.07	4455.09	3937.84
Unit 2	600	1443.43	4969.09	4243.39	3911.23
STPP	1200	3541.46	9575.16	8698.48	7849.07



Financial status of 2X600 MW,STPP

DESCRIPTION	2016-17	2017-18	2018-19	2019-20 (upto Jan'2020)
Turnover /Revenue in Rs. Crs.	1188.02	3435.97	3483.07	3236.53
Expenditure in Rs. Crs.	1032.35	2860.71	2943.83	2828.33
PROFIT (PBT) Rs.Crs	155.67	575.26	539.24	408.20



Expansion of the Project (1x800MW) Stage-2

- ❖ Government of Telangana accorded permission for expansion of 2x600 MW STPP by adding additional 3rd Unit (Stage-II) 1X800 MW Super critical Unit.
- ❖ MoEF &CC awarded EC clearance for the expansion of additional unit.
- ❖ NOC obtained from Airports Authority of India for Construction of Chimney.

Solar Power Generation



Solar programme

- 600 MW Solar Power Plants planned in next 2 to 3 years.
- Entered into MoU with SECI for Project management consultancy for tendering, engineering and development of solar plants in vacant lands of SCCL.
- Captive requirement is about 150 MW from solar plant implying a savings of Rs. 2.65 per kwh in power cost .

Phase-I:

- 129 MW Solar Power Plants at Four Areas are under construction and will be commissioned by March, 2020.(10 MW already commissioned in Mar,2020.)

Phase-II:

- 90 MW Solar Power Plants under construction and will be commissioned by Aug, 2020.

Phase-III:

- 81 MW Solar Power Plants are under process.
- NIT is under preparation, Planned on OB Dumps and Floating solar on Reservoir.
- Around 1500 Acres of non coal bearing Area was allotted.
- Further exploring the expansions.

Entering into Solar park

- It is being explored with TSIIIC for sparing the land for establishing the Solar Park for 500 MW in the state.
- It is being explored to establish solar parks outside the state with consultation with SECI.
- It is being explored to establish solar parks around 500 to 1000 MW on partnership basis with M/s NTPC and M/s NLC in India.



THANK YOU

