

OVERVIEW OF ANNUAL PERFORMANCE REVIEW OF THERMAL POWER STATIONS FOR 2014-15

PARTICULARS	2011-12	2012-13	2013-14	2014-15
ALL INDIA GENERATION (BU)	876.89	912.06	967.150	1048.67
THERMAL GENERATION (BU)	708.81	760.68	792.477	878.320
NUCLEAR GENERATION (BU)	32.29	32.87	34.228	36.102
HYDRO GENERATION* (BU)	136.12	118.51	140.448	134.25
THERMAL PLANT LOAD FACTOR (%) **	73.32	69.93	65.57	64.29
NUCLEAR PLANT LOAD FACTOR (%)	76.90	78.49	81.74	80.74

* Hydro generation includes import from Bhutan

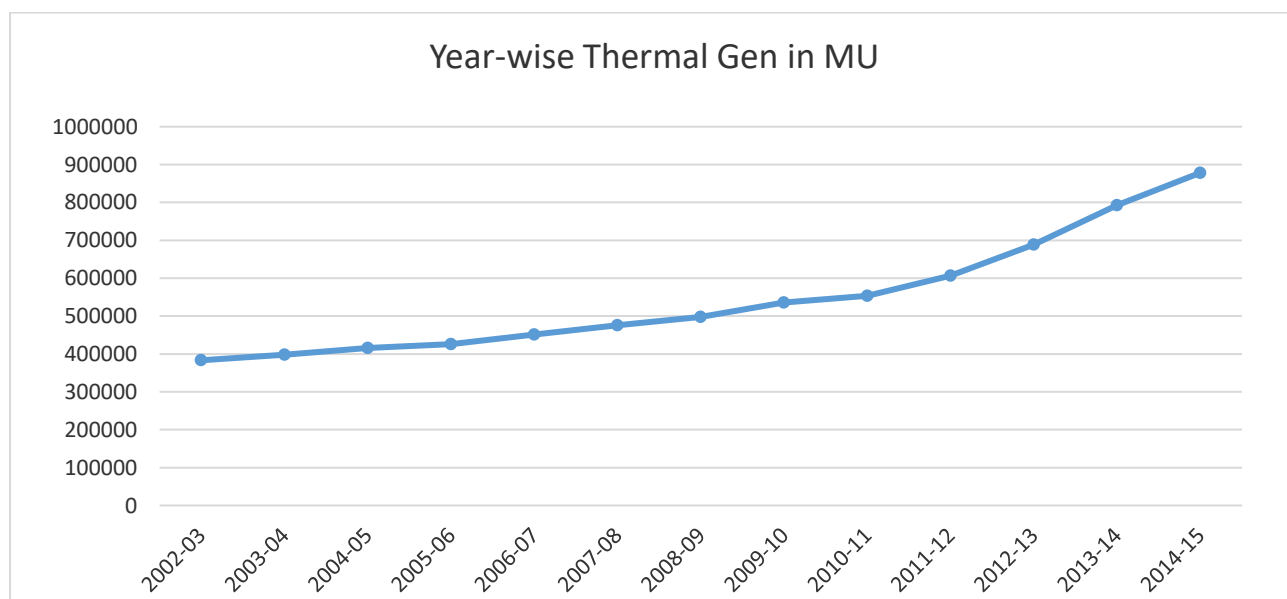
** Coal & lignite based stations

PERFORMANCE OF THERMAL STATIONS CONSIDERED IN THE REVIEW

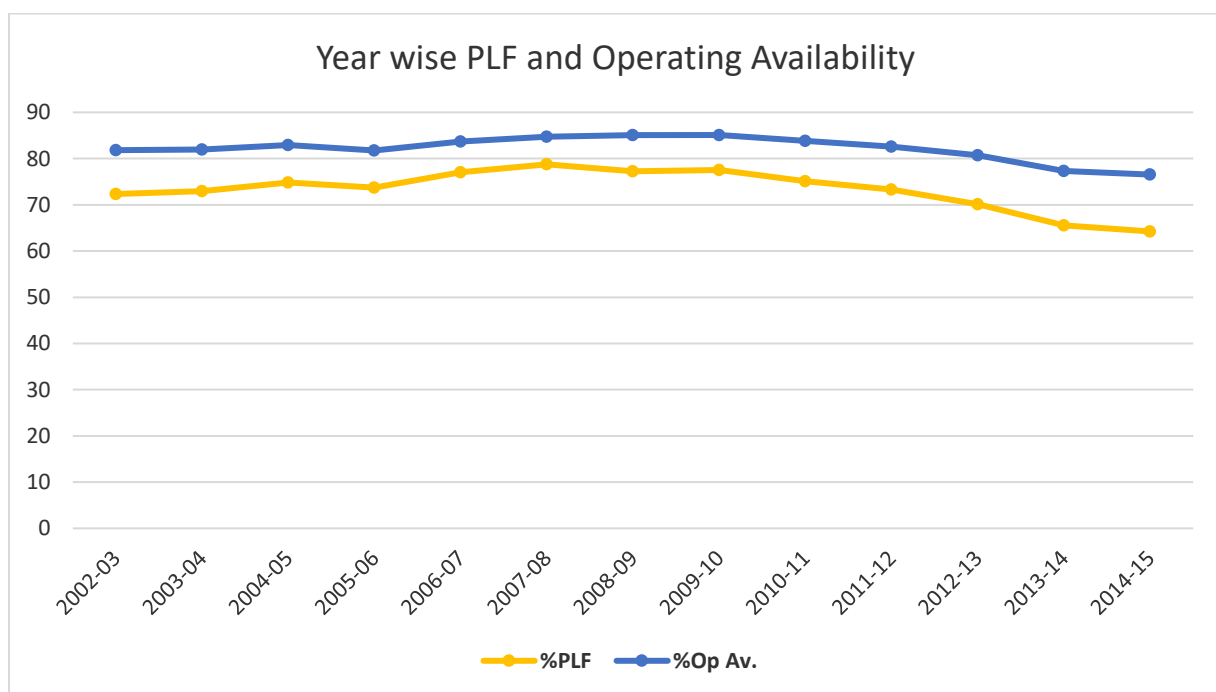
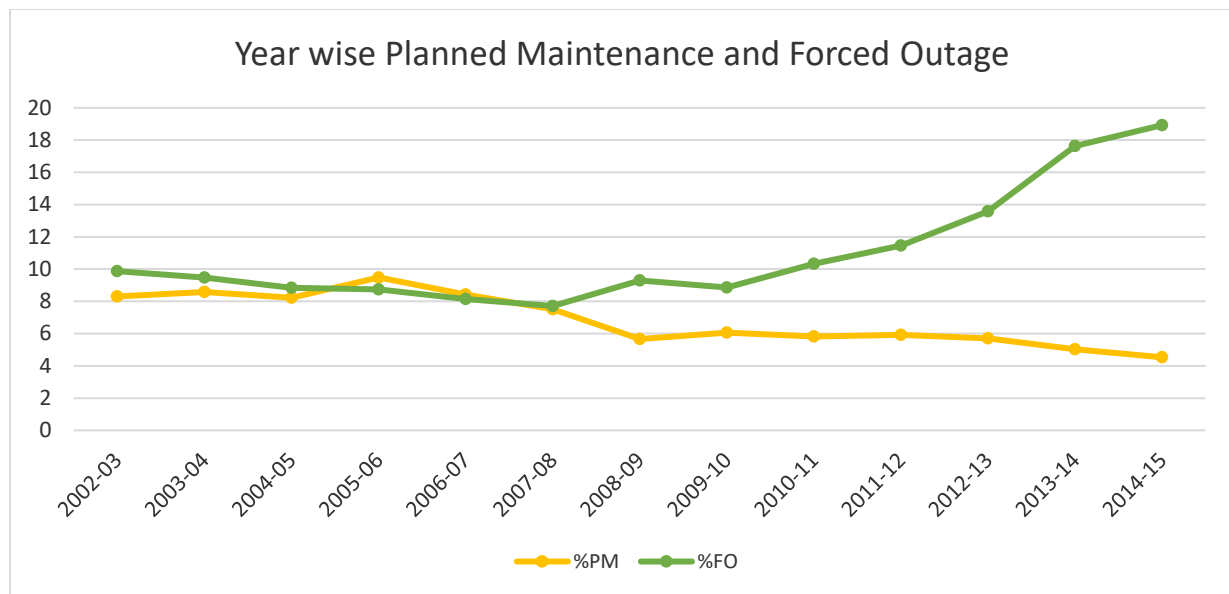
PARTICULARS	11-12	12-13	13-14	14-15
1. COAL & LIGNITE BASED UNITS REVIEWED				
(a) NUMBER OF UNITS	454	506	539	570
(b) CAPACITY (MW)	97768	118024	132625	147297
(c) GROSS GENERATION (MU)	606684	689036	746090	835830
2. FORCED OUTAGE (%)	11.46	13.59	17.64	19.05
3. PLANNED MAINTENANCE (%)	5.93	5.71	5.01	4.66
4. OPERATING AVAILABILITY FACTOR (%)	82.61	80.69	77.35	76.29
5. PARTIAL UNAVAILABILITY DUE TO INTERNAL AS WELL AS EXTERNAL PROBLEMS (%)	9.43	10.77	12.12	11.62
6. LOW SYSTEM DEMAND & RESERVE SHUTDOWN (%)	1.9	2.24	8.57	8.03
7. PLANT LOAD FACTOR (%)	73.32	69.93	65.57	64.29
8. AUX. POWER CONSUMPTION (%)	8.44	8.15	8.16	8.02
9. (a) AVERAGE TIME TAKEN IN DAYS FOR BOILER OVERHAUL	30	30	33	31
9. (b) AVERAGE TIME TAKEN IN DAYS FOR CAPITAL MAINTENANCE	58	52	43	35

PERFORMANCE OF COAL/ LIGNITE BASED THERMAL POWER STATIONS DURING 2002-03 TO 2014-15

Year	Capacity (MW)	Generat ion (MU)	PLF (%)	PM (%)	FO (%)	Op.Av. (%)	Aux. Cons (%)	Sp. Coal cons. (kg/ kWh)	Sp. Sec. Fuel oil cons. (ml/ kWh)	Partial Loss (%) due to	
										Equip ment etc.	LSD/ RSD (%)
02-03	61152	383379	72.34	8.30	9.87	81.83	9.55	0.71	0.68	9.55	1.57
03-04	62727	398412	72.96	8.59	9.48	81.93	9.91	0.70	2.30	9.09	1.98
04-05	64646	415484	74.82	8.23	8.84	82.93	8.57	0.71	1.37	8.35	0.92
05-06	66449	426138	73.71	9.48	8.74	81.78	8.44	0.70	1.77	7.08	2.10
06-07	67596.5	451480	77.03	8.43	8.14	83.72	8.29	0.72	1.89	6.15	1.02
07-08	70569.5	475552	78.75	7.50	7.71	84.76	8.17	0.73	1.40	6.30	0.52
08-09	74914.5	498019	77.22	5.66	9.29	85.05	8.33	0.74	1.93	8.21	0.27
09-10	80439.5	535433	77.53	6.05	8.85	85.10	8.34	0.72	1.51	7.57	0.46
10-11	86137	553696	75.08	5.83	10.32	83.85	8.49	0.72	1.85	9.88	1.43
11-12	97768	606684	73.32	5.93	11.46	82.61	8.44	0.72	1.83	8.34	1.09
12-13	118024.5	689036	70.13	5.71	13.59	80.69	8.15	0.70		9.8	0.88
13-14	132624.5	792477	65.56	5.02	17.64	77.35	8.16	0.69		8.96	3.16
14-15	147297	878320	64.29	4.66	19.05	76.29	8.02	0.68		9.41	2.22



OVERVIEW OF ANNUAL PERFORMANCE REVIEW OF THERMAL POWER STATIONS FOR 2014-15



HIGHLIGHTS

- The review covers the performance analysis of 570 coal / lignite based thermal units (25 MW & above capacity) of 184 thermal power stations aggregating 147297 MW.
- During the financial year 2014-15, the capacity addition of 22566.31 MW (25 MW & above capacity) (Thermal, Nuclear and Hydro) was achieved.
- All India electricity generation in the country during 2014-15 has been 1048.67 BU representing a growth rate of 8.43 % as compared to the generation of 967.15 BU during 2013-14.
- Thermal Generation stood at 878.32 BU representing a share of 83.76 % of total electricity generation in the country.
- Coal/ Lignite based plants continued to have major contribution towards electricity generation with a major share of 95.2 % of the total thermal generation,
- During 2014-15, the total thermal generation achieved a growth rate of 10.83%. Coal based generation recorded a remarkable growth rate of 12.12%.
- The thermal generation in the country during 2014-15 was 102.3% of its target fixed for the year.
- Operating Availability of 76.29% was achieved during the year 2014-15 as against 77.34% achieved during 2013-14.
- 34 thermal stations achieved the Operating Availability more than 90% during 2014-15.
- Plant load factor (PLF) of thermal power stations at the national level, during 2014-15, reduced to 64.29% from 65.57% achieved during previous year. The Lower PLF was due to increased generation loss due to coal supply problem, transmission constraints and Reserve Shut down/Low system demand.
- Plant load factor (PLF) of Central Sector units was highest at 74.2%. However, the PLF of IPP was reduced from 61.4% during 2013-14 to 59.59% during 2014-15.
- Plant load factor (PLF) of BHEL/BHEL make units (323 units aggregating to 82923 MW) registered the PLF of 66.99% among units of different makes. However, the PLF % of BHEL / ABL make units reduced from 41.67% during 2013-14 to 40.57% during 2014-15 due to increased forced outages of BHEL / ABL make units.
- Energy loss on account of planned maintenance was 4.66% as compared to 5.01% during 2013-14. The % decrease in planned maintenance was due to decrease in unscheduled Capital maintenance and in unscheduled R&M activity of some units.
- The average duration of boiler overhaul and capital maintenance was achieved as 31 days and 35 days respectively.
- The loss of generation due to non-availability of thermal units due to forced outages during 2014-15 increased to 19.05% as compared to 17.38% during 2013-14. The increased forced outages were due to increased forced shutdown of units due to coal supply problem and transmission constraints and equipment problems of some new units.
- The generation from gas based plants had negative growth rate on account of low schedules from the beneficiaries coupled with shortage of gas. During the year, the generation from gas based plants (including liquid fuel, Diesel etc.) was 42.49 BU in 2014-15 in comparison to 44.51 BU in 2012-13. As such the % PLF was also reduced from 24.85% during 2013-14 to 20.82% during 2014-15.

OVERVIEW OF ANNUAL PERFORMANCE REVIEW OF THERMAL POWER STATIONS FOR 2014-15

- Energy loss due to partial unavailability of the thermal generating units operating in the country during 2014-15 had decreased to 11.62% of the maximum possible generation during the year in comparison to the 12.13% in 2013-4.
- The All India average auxiliary power consumption by the thermal stations during 2014-15 decreased to 8.02% from 8.16% during 2013-14.