

भारत सरकार
Government of India
विद्युत मंत्रालय
Ministry of Power
केन्द्रीय विद्युत प्राधिकरण
Central Electricity Authority
तापीय परियोजना नवीनीकरण एवं आधुनिकीकरण प्रभाग
Thermal Project Renovation & Modernization Division

No.2/4/Flexible/TPRM/CEA/2022/

Dated: 01.05.2023

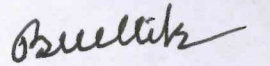
Sub: Phasing plan for implementation of 40% technical minimum load -reg.

As per the CEA (Flexible operation of Coal based thermal power generating units) Regulation 2022 notified on 25.01.2023 the coal fired generating units shall achieve minimum power level of 40% according to the phasing plan specified by the Authority from time to time.

Subsequently a draft phasing plan has been prepared for achieving 40% technical minimum load at coal based generating units. Different factors such as pit-head/ non-pithead, RE concentration, units having latest control system, CFBC technology, ball & tube mill, vintage units, cost etc. have been taken into account during preparation of phasing plan.

It is, therefore, requested to examine the enclosed phasing plan and furnish comments. If no comment received by 16.05.2023, the draft phasing plan will be considered as final.

Encl: As above.



(B.C. Mallick)
Chief Engineer

To:

All concerned

Draft Phasing Plan for achieving 40% Technical Minimum Load (TML)

The inconsistency and intermittency of solar & wind power has to be managed by flexible power from other sources in order to ensure security, reliability and stability of electricity grids. Coal-fired power plants are capable to provide comparatively cheaper flexible power in the grid. Thus, flexible operation of coal fired unit is essential for handling the instability of renewable generation by tuning of control system or few retrofitting.

The flexibilisation of coal fired units shall have to be done in phased manner looking at 597 units of 213.55 GW capacity to be refurbished. The preliminary phasing has been worked out in the **CEA report “Flexibilisation of coal fired power plant - A road map for achieving 40% technical minimum load” published in Feb 2023**. Wherein, it was proposed to be accomplished in four phases based on the date of commissioning of the units. Before first phase there is a *pilot phase* which shall be an experience gaining phase, in which few thermal units from central/state/pvt utilities shall be considered for refurbishment. The subsequent phases shall have to be fine-tuned considering the above mentioned aspects. The comprehensive phasing plan has been prepared considering various factors as mentioned below:

a) Units design criteria:

The design of the coal fired units plays an important role in facilitating faster implementation of flexibilisation. The units having coordinated controllers can be advantageous to operate in flexible mode. **As per the CEA report “Flexibilisation of coal fired power plant - A road map for achieving 40% technical minimum load” latest commissioned units has been considered in 1st phase.** It has been assumed that these units would be constructed as per the Regulation 8 (11) of Central Electricity Authority (Technical Standards for Construction of Electrical Plants and Electric Lines) notified on 20.08.2010 that pulverised fuel combustion-based steam generator shall not require oil support above 40% unit load. Therefore, measures/ retrofits may not require in these units for operation up to 40% load. Hence it would be easier and faster to adopt them for the flexibilisation by tuning of control system.

b) RE intensive state:

Presently the RE intensive states are Rajasthan, Gujarat, Tamil Nadu, Karnataka, Maharashtra, Andhra Pradesh etc. Hence it is essential to accommodate more thermal units of these states in 1st phase.

c) Pithead units:

The flexibilisation of pit head power plants shall have to be avoided as long as possible as ECR of these units is low compared to units operating at load centre. These units shall be considered in last (4th) phase. However, supercritical units commissioned in 2016 onwards may be taken in 1st phase/2nd phase as capital cost for retrofit will be negligible. It is expected that non-pithead thermal power plants shall be given minimum technical generation schedule in first instance and thereafter pit head plants if required.

d) Ball tube mill:

Total 30 units of 8673 MW capacity running with ball and tube mill in the grid have difficulty in operation at less than 55% loads. Thus, subcritical units having ball and tube mill may be considered in 3rd phase seeing the result of pilot test if found suitable for 40% MTL.

e) CFBC Boiler:

Lignite (comparatively low heat content coal) based generating unit having CFBC boiler may be exempted from 40% load operation as they have inherent problem in operation below 55% load. Total 54 units of 5438 MW are operating with CFBC boiler in the country.

f) Two-shift operation:

Old units of more than 35 years age may be allowed for 2-shift operation. An operation that requires a generating unit to run and supply power only during 2-shifts (8 hours < Operation < 16 hours) and required to be shut down for the next shift (around 8 hours) is termed as “2-shift operation”. The startup and shut down on the same day, can be even twice daily (e.g., run from 6:00 a.m. to 12:00 p.m. and again from 6:00 p.m. to 11:00 p.m.). Alternatively in some cases plants may be required to run in single shift (Operation < 8 hours) only for peaking power requirements.

Pilot Phase (May, 2023 - Dec, 2023):

11 units of central/state/pvt sector have been identified in a meeting held on 19.04.2023 for lowering the MTL to 40% of rated capacity for the pilot phase, (Table-I). Concerned utilities shall arrange test run to understand the capability of the machine and identify measures, if any required for 40% load operation. Utility shall complete the refurbishment for flexibilisation by December, 2023, which shall be followed by performance evaluation and rectification period of six months. The experience gained in pilot phase shall be useful for 1st phase implementation. Summary of phasing plans is given in Table-II.

Table-I

Sl. No.	Sector	Organisation	Unit Name	Unit No.	Capacity (MW)
1	Central	NTPC	MAUDA TPS	1	500
2	Central	NTPC	SIMHADRI	3	500
3	Central	NTPC	DADRI	6	490
4	Central	DVC	MEJIA TPS	8	500
5	State	KPCL	YERMARUS TPP	1	800
6	State	GSECL	WANAKBORI TPP	8	800
7	State	RRVUNL	SURATGARH SCTPP	8	660
8	Private	CEPL	MUTHIARA TPP	2	600
9	Private	SEIL	SGPL TPP	2	660
10	Private	Rattan India	Nasik(P) TPP	5	270
11	Private	PPGCL	PRAYAGRAJ TPP	2	660

1st phase (July, 2024-Jun, 2026):

In the 1st phase, units commissioned between January 2016 and December 2022 has been considered. Additionally few units commissioned before January, 2016 in RE rich states have also been kept under this phase. Similarly few units situated in states where RE capacity less have been shifted to 2nd phase. Two years' time has been considered to be required for completion i.e. July, 2024 to June, 2026. List of units under 1st phase has been enclosed in Annexure-I.

2nd phase (July, 2026-Jun,2028):

Units commissioned between January 2011 and December 2015 shall be taken in 2nd phase. Additionally few units under 1st phase and 3rd phase shall be accommodated in this phase considering RE concentration. Two years' time has been considered to be required for completion i.e. July, 2026 to June, 2028. List of units under 2nd phase has been enclosed in Annexure-II.

Table-II

Phase and time period	Sector	No. of units	Capacity (MW)	Time (year)
Pilot May,2023-December,2023	Central	4	1990	1
	State	3	2260	1
	Private	4	2190	1
		11	6440	1
Jan,2024 - Jun,2024	Performance analysis and modification, if required.			
1st July,2024-Jun,2026	Central	32	20110	2
	State	28	16410	2
	Private	39	20030	2
		99	56550	2
2nd July,2026-Jun,2028	Central	27	11850	2
	State	24	10980	2
	Private	66	30495	2
		117	53325	2
3rd July,2028-Dec,2029	Central	8	2630	1.5
	State	35	10800	1.5
	Private	36	12055	1.5
		79	25485	1.5
4th Jan,2030-Dec,2030	Central	79	26760	1
	State	104	23227.5	1
	Private	24	7657	1
		207	57644.5	1
Total	Central	150	63340	
	State	194	63677.5	
	Private	169	72427	
		513	199444.5	

3rd phase (July,2028-Dec,2029):

Unit commissioned between January 2001 and December 2010 shall be considered in 3rd phase and a shorter period one and half years' time is considered to be required due to the experience gained in earlier phase. Additionally few units under 1st phase and 2nd phase shall be accommodated under this phase considering less RE concentration. Further the units with ball and tube mill shall be taken under 3rd phase if they are found suitable in pilot test. List of units under 3rd phase has been enclosed in Annexure-III (excluding ball & tube mill). The time period for completion is July, 2028 to June, 2029.

4th Phase (Jan, 2030-Dec, 2030):

In the last phase, remaining units commissioned up to December 2000 shall be considered. The minimum age of units under 4th phase will be 30 years by 2030. It is, therefore, proposed that an option may be obtained in the year,2027-28 from utility to select either flexibilisation or 2-shift operation. In the year, 2030 about 144 units of capacity 32648 MW having age of 35 years & more may opt for 2-shift operation if not retired. Accordingly they may go for retrofitting and complete the same in one year time i.e. January, 2030 to December, 2030. Additionally pithead units are also included under 4th phase for compliance of flexibilisation. List of units under 4th phase has been enclosed in Annexure-IV.

Annexure - I

Phase	Sector	Organisation	Name of Project	Unit No.	Capacity (MW)	DT-of COMMISSIONING	Pit head
Phase 1	Central	DVC	BOKARO TPS 'A' EXP	1	500	3/22/2016	N
Phase 1	Central	DVC	RAGHUNATHPUR TPP	2	600	1/18/2016	N
Phase 1	Central	NEYVELI LIGNITE	NEYVELI NEW TPP	1	500	12/20/2019	N
Phase 1	Central	NEYVELI LIGNITE	NEYVELI NEW TPP	2	500	2/3/2021	N
Phase 1	Central	NTPL	Thoothukudi (JV) TPP	2	500	7/9/2015	N
Phase 1	Central	NTPL	Thoothukudi (JV) TPP	1	500	3/10/2015	N
Phase 1	Central	NTECL	VALLUR TPP	1	500	3/28/2012	N
Phase 1	Central	NTECL	VALLUR TPP	2	500	2/28/2013	N
Phase 1	Central	NTECL	VALLUR TPP	3	500	2/28/2014	N
Phase 1	Central	NTPC	SIMHADRI	4	500	3/30/2012	N
Phase 1	Central	NTPC	DARLIPALI STPS	1	800	12/30/2019	Y
Phase 1	Central	NTPC	DARLIPALI STPS	2	800	7/21/2021	Y
Phase 1	Central	NTPC	GADARWARA TPP	1	800	3/29/2019	N
Phase 1	Central	NTPC	GADARWARA TPP	2	800	2/16/2021	N
Phase 1	Central	NTPC	KHARGONE STPP	1	660	9/29/2019	N
Phase 1	Central	NTPC	KHARGONE STPP	2	660	3/24/2020	N
Phase 1	Central	NTPC	KUDGI STPP	1	800	12/25/2016	N
Phase 1	Central	NTPC	KUDGI STPP	2	800	3/23/2017	N
Phase 1	Central	NTPC	KUDGI STPP	3	800	3/12/2018	N
Phase 1	Central	NTPC	LARA TPP	1	800	3/23/2018	N
Phase 1	Central	NTPC	LARA TPP	2	800	7/12/2020	N
Phase 1	Central	NTPC	MAUDA TPS	3	660	3/28/2016	N
Phase 1	Central	NTPC	MAUDA TPS	4	660	3/18/2017	N
Phase 1	Central	NTPC	MEJA STPP	1	660	3/31/2018	N
Phase 1	Central	NTPC	MEJA STPP	2	660	1/12/2021	N
Phase 2	Central	NTPC	MAUDA TPS	2	500	3/29/2013	N
Phase 1	Central	NTPC	SOLAPUR STPS	1	660	4/7/2017	N
Phase 1	Central	NTPC	SOLAPUR STPS	2	660	3/30/2019	N
Phase 1	Central	NTPC	TANDA TPS	5	660	9/28/2019	N
Phase 1	Central	NTPC	TANDA TPS	6	660	3/31/2021	N
Phase 1	Central	NTPC	UNCHAHAH TPS	6	500	3/31/2017	N
Phase 3	Central	NTPC	UNCHAHAH TPS	5	210	9/28/2006	
Phase 1		Central Total		32	20110		
Phase 1	State	APGENCO	RAYALASEEMA TPS	6	600	3/12/2018	N
Phase 1	State	CSPGCL	MARWA TPS	2	500	7/15/2016	N
Phase 1	State	KPCL	BELLARY TPS	3	700	3/1/2016	N
Phase 1	State	KPCL	YERMARUS TPP	2	800	3/29/2017	N
Phase 1	State	MAHAGENCO	CHANDRAPUR(MAHARASHTRA) STPS	9	500	3/21/2016	N
Phase 1	State	MAHAGENCO	KORADI TPS	9	660	3/15/2016	N
Phase 1	State	MAHAGENCO	KORADI TPS	10	660	12/28/2016	N
Phase 1	State	MAHAGENCO	PARLI TPS	8	250	3/30/2016	N
Phase 1	State	MPPGCL	SHREE SINGAJI TPP	3	660	11/18/2018	N
Phase 1	State	MPPGCL	SHREE SINGAJI TPP	4	660	3/27/2019	N
Phase 1	State	TANGEDCO	METTUR TPS-II	1	600	10/11/2012	N
Phase 1	State	TANGEDCO	NORTH CHENNAI TPS	4	600	9/13/2013	N
Phase 1	State	TANGEDCO	NORTH CHENNAI TPS	5	600	3/9/2013	N
Phase 1	State	APPDCL	DAMODARAM SANJEEVAIAH TPS	1	800	8/28/2014	N
Phase 1	State	APPDCL	DAMODARAM SANJEEVAIAH TPS	2	800	3/17/2015	N
Phase 1	State	RRVUNL	CHHABRA TPP	5	660	4/4/2017	N
Phase 1	State	RRVUNL	CHHABRA TPP	6	660	3/29/2019	N
Phase 1	State	RRVUNL	Suratgarh SCTPP	7	660	3/15/2020	N
Phase 1	State	SCCL	SINGARENI TPP	1	600	3/13/2016	N
Phase 1	State	SCCL	SINGARENI TPP	2	600	11/25/2016	N
Phase 1	State	TSGENCO	BHADRADRI TPP	1	270	6/5/2020	N
Phase 1	State	TSGENCO	BHADRADRI TPP	2	270	12/7/2020	N
Phase 1	State	TSGENCO	BHADRADRI TPP	3	270	3/26/2021	N
Phase 1	State	TSGENCO	KOTHAGUDEM TPS (STAGE-7)	12	800	12/26/2018	N
Phase 1	State	UPRVUNL	ANPARA TPS	7	500	3/6/2016	Y
Phase 1	State	UPRVUNL	HARDUAGANJ TPS	10	660	1/29/2022	N
Phase 1	State	APPDCL	DAMODARAM SANJEEVAIAH TPS	3	800	3/9/2023	N
Phase 1	State	TSGENCO	BHADRADRI TPP	4	270	1/9/2022	N
Phase 1		State Total		28	16410		
Phase 1	Private	APL	MAHAN TPP	2	600	10/7/2018	N
Phase 1	Private	APL	RAIKHEDA TPP	2	685	3/28/2016	N
Phase 1	Private	BALCO	BALCO TPS	2	300	3/24/2016	N
Phase 1	Private	GPGL (GVK)	GOINDWAL SAHIB	1	270	2/14/2016	N
Phase 1	Private	GPGL (GVK)	GOINDWAL SAHIB	2	270	3/15/2016	N
Phase 1	Private	CGPL	MUNDRA UMTTP	1	800	2/25/2012	N

Phase 1	Private	CGPL	MUNDRA UMTTP	2	800	7/17/2012	N
Phase 1	Private	CGPL	MUNDRA UMTTP	3	800	10/16/2012	N
Phase 1	Private	CGPL	MUNDRA UMTTP	4	800	1/16/2013	N
Phase 1	Private	CGPL	MUNDRA UMTTP	5	800	3/18/2013	N
Phase 1	Private	APL	MUNDRA TPS	8	660	3/3/2012	N
Phase 1	Private	APL	MUNDRA TPS	9	660	3/9/2012	N
Phase 1	Private	SEIL	PAINAMPURAM TPP	1	660	2/7/2015	N
Phase 1	Private	SEIL	PAINAMPURAM TPP	2	660	9/3/2015	N
Phase 1	Private	HNPC	VIZAG TPP	2	520	3/30/2016	N
Phase 1	Private	IBPIL	UTKAL TPP (IND BARATH)	1	350	2/25/2016	N
Phase 1	Private	ITPCL	ITPCL TPP	2	600	4/18/2016	N
Phase 1	Private	JHAPL	SEIONI TPP	1	600	3/22/2016	N
Phase 1	Private	LPGCL	LALITPUR TPS	1	660	3/26/2016	N
Phase 1	Private	LPGCL	LALITPUR TPS	2	660	1/8/2016	N
Phase 1	Private	LPGCL	LALITPUR TPS	3	660	4/1/2016	N
Phase 1	Private	MBPMPL	ANUPPUR TPP	2	600	3/30/2016	N
Phase 1	Private	PPGCL (Tata)	PRAYAGRAJ TPP	3	660	5/22/2017	N
Phase 1	Private	RATTANINDIA	NASIK (P) TPS	2	270	2/15/2017	N
Phase 1	Private	RATTANINDIA	NASIK (P) TPS	3	270	4/14/2017	N
Phase 1	Private	RATTANINDIA	NASIK (P) TPS	4	270	5/19/2017	N
Phase 1	Private	RATTANINDIA	NASIK (P) TPS	5	270	5/30/2017	N
Phase 1	Private	RKMPL	UCHPINDA TPP	2	360	1/28/2016	N
Phase 1	Private	RKMPL	UCHPINDA TPP	3	360	9/12/2017	N
Phase 1	Private	RKMPL	UCHPINDA TPP	4	360	3/20/2019	N
Phase 1	Private	SEIL	SGPL TPP	1	660	11/12/2016	N
Phase 1	Private	SKS	BINJKOTE TPP	1	300	3/28/2018	N
Phase 1	Private	SKS	BINJKOTE TPP	2	300	4/25/2017	N
Phase 1	Private	SPPL	SHIRPUR TPP	1	150	9/28/2017	N
Phase 1	Private	SPPL	Thoothukudi St IV	1	525	11/30/2021	N
Phase 1	Private	TRNE	NAWAPARA TPP	1	300	8/14/2016	N
Phase 1	Private	TRNE	NAWAPARA TPP	2	300	4/18/2017	N
Phase 1	Private	TSPL	TALWANDI SABO TPP	3	660	3/29/2016	N
Phase 1	Private	WPCL	AKALTARA TPS	2	600	1/18/2018	N
Phase 1	Private Total			39	20030		
Phase 1 Total				99	56550		
Phase 1 Total (Percentage of Total Capacity)				16.58%	26.48%		

Annexure - II

Phase	Sector	Organisation	Name of Project	Unit No.	Capacity (MW)	DT-of COMMISSIONING	Pit head
Phase 2	Central	DVC	DURGAPUR STEEL TPS	2	500	3/23/2012	N
Phase 2	Central	DVC	KODARMA TPP	2	500	2/15/2013	N
Phase 2	Central	DVC	RAGHUNATHPUR TPP	1	600	8/24/2014	N
Phase 2	Central	NTPC	BARH II	4	660	11/20/2013	N
Phase 2	Central	NTPC	BARH II	5	660	3/4/2015	N
Phase 2	Central	NTPC	BONGAIGAON TPP	1	250	6/22/2015	N
Phase 2	Central	NTPC	INDIRA GANDHI STPP	3	500	11/7/2012	N
Phase 2	Central	NTPC	NABI NAGAR TPP	1	250	3/20/2016	N
Phase 2	Central	NTPC	NABI NAGAR TPP	2	250	4/3/2017	N
Phase 2	Central	NTPC	NABI NAGAR TPP	3	250	2/26/2019	N
Phase 2	Central	NTPC	NABI NAGAR TPP	4	250	11/10/2021	N
Phase 2	Central	NTPC	NEW NABI NAGAR TPP	1	660	7/12/2019	N
Phase 2	Central	NTPC	NEW NABI NAGAR TPP	2	660	3/31/2021	N
Phase 2	Central	NPGL	NABINAGAR STPP	3	660	3/6/2022	N
Phase 2	Central	NTPC	NORTH KARANPURA STPP	1	660	1/18/2023	N
Phase 2	Central	NTPC	DADRI (NCTPP)	5	490	1/25/2010	N
Phase 2	Central	NTPC	INDIRA GANDHI STPP	1	500	10/31/2010	N
Phase 2	Central	NTPC	INDIRA GANDHI STPP	2	500	11/5/2011	N
Phase 2	Central	NTPC	SIMHADRI	1	500	2/22/2002	N
Phase 2	Central	NTPC	SIMHADRI	2	500	8/24/2002	N
Phase 2	Central	NTPC	MUZAFFARPUR TPS	3	195	3/31/2015	N
Phase 2	Central	NTPC	BONGAIGAON TPP	2	250	3/22/2017	N
Phase 2	Central	NTPC	BONGAIGAON TPP	3	250	3/23/2019	N
Phase 2	Central	NTPC	BARAUNI TPS	8	250	1/11/2018	N
Phase 2	Central	NTPC	BARAUNI TPS	9	250	3/31/2018	N
Phase 2	Central	NTPC	BARH I	1	660	10/30/2021	N
Phase 2	Central	NTPC	MUZAFFARPUR TPS	4	195	3/24/2016	N
Phase 2	Central Total			27	11850		
Phase 2	State	CSPGCL	MARWA TPS	1	500	3/30/2014	N
Phase 2	State	DPL	D.P.L. TPS	8	250	3/31/2014	N
Phase 2	State	GSECL	SIKKA REP. TPS	3	250	3/29/2015	N
Phase 2	State	GSECL	SIKKA REP. TPS	4	250	9/25/2015	N
Phase 2	State	GSECL	UKAI TPS	6	500	3/5/2013	N
Phase 2	State	KPCL	BELLARY TPS	2	500	3/23/2012	N
Phase 2	State	MAHAGENCO	BHUSAWAL TPS	4	500	3/7/2012	N
Phase 2	State	MAHAGENCO	BHUSAWAL TPS	5	500	3/30/2012	N
Phase 2	State	MAHAGENCO	CHANDRAPUR(MAHARASHTRA) STPS	8	500	3/29/2015	N
Phase 2	State	MAHAGENCO	KORADI TPS	8	660	3/30/2015	N
Phase 2	State	MPPGCL	SATPURA TPS	10	250	3/22/2013	N
Phase 2	State	MPPGCL	SATPURA TPS	11	250	12/25/2013	N
Phase 2	State	MPPGCL	SHREE SINGAJI TPP	1	600	11/18/2013	N
Phase 2	State	MPPGCL	SHREE SINGAJI TPP	2	600	10/15/2014	N
Phase 2	State	RRVUNL	KALISINDH TPS	1	600	5/2/2014	N
Phase 2	State	RRVUNL	KALISINDH TPS	2	600	6/6/2015	N
Phase 2	State	TSGENCO	KAKATIYA TPS	2	600	12/31/2015	N
Phase 2	State	UPRVUNL	HARDUAGANJ TPS	9	250	5/25/2012	N
Phase 2	State	UPRVUNL	PARICHHA TPS	5	250	5/24/2012	N
Phase 2	State	UPRVUNL	PARICHHA TPS	6	250	3/11/2013	N
Phase 2	State	OPGC	IB VALLEY TPS	3	660	7/2/2019	Y
Phase 2	State	OPGC	IB VALLEY TPS	4	660	7/2/2019	Y
Phase 2	State	WBPDC	SAGARDIGHI TPS	4	500	12/15/2016	N
Phase 2	State	WBPDC	SAGARDIGHI TPS	3	500	12/14/2015	N
Phase 2	State Total			24	10980		
Phase 2	Private	ADHUNIK	MAHADEV PRASAD STPP	1	270	11/19/2012	N
Phase 2	Private	ADHUNIK	MAHADEV PRASAD STPP	2	270	3/29/2013	N
Phase 2	Private	APL	AVANTHA BHANDAR	1	600	3/31/2014	N
Phase 2	Private	APL	KAWAI TPS	1	660	5/28/2013	N
Phase 2	Private	APL	KAWAI TPS	2	660	12/24/2013	N
Phase 2	Private	APL	MAHAN TPP	1	600	2/24/2013	N
Phase 2	Private	APL	RAIKHEDA TPP	1	685	2/24/2015	N
Phase 2	Private	APL	TIRORA TPS	1	660	9/11/2012	N
Phase 2	Private	APL	TIRORA TPS	2	660	3/25/2013	N
Phase 2	Private	APL	TIRORA TPS	3	660	6/10/2013	N
Phase 2	Private	APL	TIRORA TPS	4	660	3/23/2014	N
Phase 2	Private	APL	TIRORA TPS	5	660	9/25/2014	N
Phase 2	Private	BALCO	BALCO TPS	1	300	6/4/2015	N
Phase 2	Private	CEPL	MUTHIARA TPP	1	600	12/2/2014	N
Phase 2	Private	DBPCL	BARADARHA TPS	1	600	2/23/2014	N

Phase 2	Private	DBPCL	BARADARHA TPS	2	600	3/24/2015	N
Phase 2	Private	DIPL	DHARIWAL TPP	1	300	11/3/2013	N
Phase 2	Private	DIPL	DHARIWAL TPP	2	300	5/28/2014	N
Phase 2	Private	EPGL	SALAYA TPP	1	600	2/22/2012	N
Phase 2	Private	EPGL	SALAYA TPP	2	600	6/13/2012	N
Phase 2	Private	GEPL	GEPL TPP Ph-I	1	60	4/28/2012	N
Phase 2	Private	GEPL	GEPL TPP Ph-I	2	60	9/8/2012	N
Phase 2	Private	GMR ENERG	GMR WARORA TPS	1	300	2/7/2013	N
Phase 2	Private	GMR ENERG	GMR WARORA TPS	2	300	8/27/2013	N
Phase 2	Private	GMR ENERG	KAMALANGA TPS	1	350	3/29/2013	N
Phase 2	Private	GMR ENERG	KAMALANGA TPS	2	350	9/28/2013	N
Phase 2	Private	GMR ENERG	KAMALANGA TPS	3	350	3/21/2014	N
Phase 2	Private	HEL	HALDIA TPP	1	300	1/14/2015	N
Phase 2	Private	HEL	HALDIA TPP	2	300	2/16/2015	N
Phase 2	Private	HNPC	VIZAG TPP	1	520	12/27/2015	N
Phase 2	Private	IEPL	BELA TPS	1	270	3/20/2013	N
Phase 2	Private	ITPCL	ITPCL TPP	1	600	9/19/2015	N
Phase 2	Private	JhPL(HR)	MAHATMA GANDHI TPS	1	660	1/12/2012	N
Phase 2	Private	JhPL(HR)	MAHATMA GANDHI TPS	2	660	4/11/2012	N
Phase 2	Private	JITPL	DERANG TPP	1	600	4/10/2014	N
Phase 2	Private	JITPL	DERANG TPP	2	600	1/24/2015	N
Phase 2	Private	JPL	TAMNAR TPP	1	600	1/7/2015	N
Phase 2	Private	JPL	TAMNAR TPP	2	600	3/10/2014	N
Phase 2	Private	JPL	TAMNAR TPP	3	600	3/30/2014	N
Phase 2	Private	JPL	TAMNAR TPP	4	600	3/28/2015	N
Phase 2	Private	JPPVL	BINA TPS	1	250	8/12/2012	N
Phase 2	Private	JPPVL	BINA TPS	2	250	3/31/2013	N
Phase 2	Private	JPPVL	NIGRI TPP	1	660	8/29/2014	N
Phase 2	Private	JPPVL	NIGRI TPP	2	660	2/27/2015	N
Phase 2	Private	MBPMPL	ANUPPUR TPP	1	600	4/20/2015	N
Phase 2	Private	MCCPL	BANDAKHAR TPP	1	300	6/19/2015	N
Phase 2	Private	MPL	MAITHON RB TPP	2	525	3/31/2012	N
Phase 2	Private	NPL	RAJPURA TPP	1	700	1/24/2014	N
Phase 2	Private	NPL	RAJPURA TPP	2	700	7/6/2014	N
Phase 2	Private	PPGCL (Tata)	PRAYAGRAJ TPP	1	660	12/25/2015	N
Phase 2	Private	RATTANINDIA	AMARAVATI TPS	1	270	3/25/2013	N
Phase 2	Private	RATTANINDIA	AMARAVATI TPS	2	270	2/17/2014	N
Phase 2	Private	RATTANINDIA	AMARAVATI TPS	3	270	1/29/2015	N
Phase 2	Private	RATTANINDIA	AMARAVATI TPS	4	270	3/4/2015	N
Phase 2	Private	RATTANINDIA	NASIK (P) TPS	1	270	2/25/2014	N
Phase 2	Private	RKMPL	UCHPINDA TPP	1	360	10/28/2015	N
Phase 2	Private	RPSC	ROSA TPP Ph-II	4	300	3/28/2012	N
Phase 2	Private	TSPL	TALWANDI SABO TPP	1	660	6/17/2014	N
Phase 2	Private	TSPL	TALWANDI SABO TPP	2	660	10/25/2015	N
Phase 2	Private	VIP	BUTIBORI TPP	1	300	3/31/2014	N
Phase 2	Private	VIP	BUTIBORI TPP	2	300	8/17/2012	N
Phase 2	Private	VVL	SALORA TPP	1	135	4/10/2014	N
Phase 2	Private	WPCL	AKALTARA TPS	3	600	8/13/2013	N
Phase 2	Private	WPCL	AKALTARA TPS	4	600	8/22/2014	N
Phase 2	Private	HMEL	Hiranmaye TPP	1	150	6/7/2017	N
Phase 2	Private	HMEL	Hiranmaye TPP	2	150	12/31/2017	N
Phase 2	Private Total			66	30495		
Phase 2 Total				117	53325		
Phase 2 Total (Percentage of Total Capacity)				19.60%	24.97%		

Annexure - III

Phase	Sector	Organisation	Name of Project	Unit No.	Capacity (MW)	DT-of COMMISSIONING
Phase 3	Central	DVC	DURGAPUR STEEL TPS	1	500	7/29/2011
Phase 3	Central	DVC	KODARMA TPP	1	500	7/20/2011
Phase 3	Central	DVC	MEJIA TPS	4	210	10/12/2004
Phase 3	Central	DVC	MEJIA TPS	7	500	9/30/2010
Phase 3	Central	NEYVELI LIGNITE	NEYVELI (EXT) TPS	1	210	10/21/2002
Phase 3	Central	NEYVELI LIGNITE	NEYVELI (EXT) TPS	2	210	7/22/2003
Phase 3	Central	NSPCL	BHILAI TPS	1	250	4/20/2008
Phase 3	Central	NSPCL	BHILAI TPS	2	250	7/12/2009
Phase 3	Central Total			8	2630	
Phase 3	State	APGENCO	Dr. N.TATA RAO TPS	7	500	10/8/2009
Phase 3	State	APGENCO	RAYALASEEMA TPS	3	210	1/25/2007
Phase 3	State	APGENCO	RAYALASEEMA TPS	4	210	11/20/2007
Phase 3	State	APGENCO	RAYALASEEMA TPS	5	210	12/31/2010
Phase 3	State	CSPGCL	DSPM TPS	1	250	3/30/2007
Phase 3	State	CSPGCL	DSPM TPS	2	250	12/11/2007
Phase 3	State	DPL	D.P.L. TPS	7	300	11/24/2007
Phase 3	State	HPGCL	RAJIV GANDHI TPS	1	600	3/31/2010
Phase 3	State	HPGCL	RAJIV GANDHI TPS	2	600	10/1/2010
Phase 3	State	HPGCL	YAMUNA NAGAR TPS	1	300	11/1/2007
Phase 3	State	HPGCL	YAMUNA NAGAR TPS	2	300	3/29/2008
Phase 3	State	KPCL	BELLARY TPS	1	500	12/3/2007
Phase 3	State	KPCL	RAICHUR TPS	7	210	12/11/2002
Phase 3	State	KPCL	RAICHUR TPS	8	250	6/26/2010
Phase 3	State	MAHAGENCO	KHAPARKHEDA TPS	4	210	1/7/2001
Phase 3	State	MAHAGENCO	KHAPARKHEDA TPS	5	500	8/5/2011
Phase 3	State	MAHAGENCO	PARAS TPS	1	250	5/31/2007
Phase 3	State	MAHAGENCO	PARAS TPS	2	250	3/27/2010
Phase 3	State	MAHAGENCO	PARLI TPS	6	250	2/16/2007
Phase 3	State	MAHAGENCO	PARLI TPS	7	250	2/10/2010
Phase 3	State	MPPGCL	SANJAY GANDHI TPS	5	500	6/18/2007
Phase 3	State	PSPCL	GH TPS (LEH.MOH.)	3	250	1/3/2008
Phase 3	State	PSPCL	GH TPS (LEH.MOH.)	4	250	7/31/2008
Phase 3	State	TSGENCO	KAKATIYA TPS	1	500	5/27/2010
Phase 3	State	TSGENCO	KOTHAGUDEM TPS (NEW)	11	500	6/26/2011
Phase 3	State	UPRVUNL	HARDUAGANJ TPS	8	250	9/27/2011
Phase 3	State	UPRVUNL	PARICHHA TPS	3	210	3/29/2006
Phase 3	State	UPRVUNL	PARICHHA TPS	4	210	12/28/2006
Phase 3	State	WBPDC	BAKRESWAR TPS	1	210	6/7/2009
Phase 3	State	WBPDC	BAKRESWAR TPS	4	210	3/21/2001
Phase 3	State	WBPDC	BAKRESWAR TPS	5	210	12/24/2007
Phase 3	State	WBPDC	SAGARDIGHI TPS	1	300	7/20/2008
Phase 3	State	WBPDC	SAGARDIGHI TPS	2	300	12/21/2007
Phase 3	State	WBPDC	SANTALDIH TPS	5	250	11/7/2007
Phase 3	State	WBPDC	SANTALDIH TPS	6	250	6/29/2011
Phase 3	State Total			35	10800	
Phase 3	Private	APL	MUNDRA TPS	1	330	8/4/2009
Phase 3	Private	APL	MUNDRA TPS	2	330	3/17/2010
Phase 3	Private	APL	MUNDRA TPS	3	330	8/2/2010
Phase 3	Private	APL	MUNDRA TPS	4	330	12/20/2010
Phase 3	Private	APL	MUNDRA TPS	5	660	12/26/2010
Phase 3	Private	APL	MUNDRA TPS	6	660	7/20/2011
Phase 3	Private	APL	MUNDRA TPS	7	660	11/7/2011
Phase 3	Private	APL	UDUPI TPP	1	600	7/23/2010
Phase 3	Private	APL	UDUPI TPP	2	600	4/16/2011
Phase 3	Private	CESC	BUDGE BUDGE TPS	3	250	9/29/2009
Phase 3	Private	JPL	OP JINDAL TPS	1	250	9/2/2007
Phase 3	Private	JPL	OP JINDAL TPS	2	250	2/10/2008
Phase 3	Private	JPL	OP JINDAL TPS	3	250	3/6/2008
Phase 3	Private	JPL	OP JINDAL TPS	4	250	6/17/2008
Phase 3	Private	JSWEL	JSW RATNAGIRI TPP	1	300	8/24/2010
Phase 3	Private	JSWEL	JSW RATNAGIRI TPP	2	300	12/9/2010
Phase 3	Private	JSWEL	JSW RATNAGIRI TPP	3	300	5/6/2011
Phase 3	Private	JSWEL	JSW RATNAGIRI TPP	4	300	10/8/2011
Phase 3	Private	JSWEL	TORANGALLU TPS(SBU-II)	1	300	4/23/2009

Phase 3	Private	JSWEL	TORANGALLU TPS(SBU-II)	2	300	8/24/2009
Phase 3	Private	LANCO	PATHADI TPP	1	300	6/4/2009
Phase 3	Private	LANCO	PATHADI TPP	2	300	3/25/2010
Phase 3	Private	MPL	MAITHON RB TPP	1	525	6/30/2011
Phase 3	Private	RPSCL	ROSA TPP Ph-I	1	300	2/10/2010
Phase 3	Private	RPSCL	ROSA TPP Ph-I	2	300	6/26/2010
Phase 3	Private	RPSCL	ROSA TPP Ph-II	3	300	12/28/2011
Phase 3	Private	SEL	STERLITE TPP	1	600	10/14/2010
Phase 3	Private	SEL	STERLITE TPP	2	600	12/29/2010
Phase 3	Private	TAQA	NEYVELI TPS(Z)	1	250	10/21/2002
Phase 3	Private	TATA PCL	JOJOBBERA TPS	2	120	2/1/2001
Phase 3	Private	TATA PCL	JOJOBBERA TPS	3	120	2/1/2002
Phase 3	Private	TATA PCL	TROMBAY TPS	8	250	3/26/2009
Phase 3	Private	WPCL	WARDHA WARORA TPP	1	135	6/5/2010
Phase 3	Private	WPCL	WARDHA WARORA TPP	2	135	10/10/2010
Phase 3	Private	WPCL	WARDHA WARORA TPP	3	135	1/21/2011
Phase 3	Private	WPCL	WARDHA WARORA TPP	4	135	4/30/2011
Phase 3	Private Total			36	12055	
Phase 3	PHASE 3 Total			79	25485	
Phase 3 Total (Percentage of Total Capacity)				13.23%	11.93%	

Phase	Sector	Organisation	Name of Project	Unit No.	Capacity (MW)	DT-of COMMISSIONING	Pit head	Age as on 31.12.2029
Phase 4	Central	NEYVELI LIGNITE	NEYVELI TPS-II	1	210	1/17/1988	N	42.0
Phase 4	Central	NEYVELI LIGNITE	NEYVELI TPS-II	2	210	2/6/1987	N	42.9
Phase 4	Central	NEYVELI LIGNITE	NEYVELI TPS-II	3	210	3/29/1987	N	42.8
Phase 4	Central	NEYVELI LIGNITE	NEYVELI TPS-II	4	210	3/30/1991	N	38.8
Phase 4	Central	NEYVELI LIGNITE	NEYVELI TPS-II	5	210	12/31/1991	N	38.0
Phase 4	Central	NEYVELI LIGNITE	NEYVELI TPS-II	6	210	10/30/1992	N	37.2
Phase 4	Central	NEYVELI LIGNITE	NEYVELI TPS-II	7	210	6/19/1993	N	36.6
Phase 4	Central	NTPC	BARAUNI TPS	6	105	5/1/1983	N	46.7
Phase 4	Central	NTPC	BARAUNI TPS	7	105	3/31/1985	N	44.8
Phase 4	Central	NTPC	DADRI (NCTPP)	1	210	12/21/1991	N	38.1
Phase 4	Central	NTPC	DADRI (NCTPP)	2	210	12/18/1992	N	37.1
Phase 4	Central	NTPC	DADRI (NCTPP)	3	210	3/23/1993	N	36.8
Phase 4	Central	NTPC	DADRI (NCTPP)	4	210	3/24/1994	N	35.8
Phase 4	Central	NTPC	TANDA TPS	1	110	3/21/1988	N	41.8
Phase 4	Central	NTPC	TANDA TPS	2	110	3/11/1989	N	40.8
Phase 4	Central	NTPC	TANDA TPS	3	110	3/28/1990	N	39.8
Phase 4	Central	NTPC	TANDA TPS	4	110	2/20/1998	N	31.9
Phase 4	Central	NTPC	UNCHAHAR TPS	1	210	11/21/1988	N	41.1
Phase 4	Central	NTPC	UNCHAHAR TPS	2	210	3/22/1989	N	40.8
Phase 4	Central	NTPC	VINDHYACHAL STPS	1	210	10/10/1987	Y	42.3
Phase 4	Central	NTPC	VINDHYACHAL STPS	2	210	7/23/1988	Y	41.5
Phase 4	Central	NTPC	VINDHYACHAL STPS	3	210	2/3/1989	Y	40.9
Phase 4	Central	NTPC	VINDHYACHAL STPS	4	210	12/26/1989	Y	40.0
Phase 4	Central	NTPC	VINDHYACHAL STPS	5	210	3/31/1990	Y	39.8
Phase 2	Central	NTPC	VINDHYACHAL STPS	11	500	6/14/2012	Y	17.6
Phase 2	Central	NTPC	VINDHYACHAL STPS	12	500	3/22/2013	Y	16.8
Phase 2	Central	NTPC	VINDHYACHAL STPS	13	500	8/6/2015	Y	14.4
Phase 4	Central	NTPC	VINDHYACHAL STPS	6	210	2/1/1991	Y	38.9
Phase 3	Central	NTPC	VINDHYACHAL STPS	9	500	7/27/2006	Y	23.4
Phase 3	Central	NTPC	VINDHYACHAL STPS	10	500	3/8/2007	Y	22.8
Phase 4	Central	NTPC	RIHAND STPS	5	500	5/25/2012	Y	17.6
Phase 4	Central	NTPC	RIHAND STPS	6	500	10/17/2013	Y	16.2
Phase 4	Central	NTPC	SIPAT STPS	3	660	6/2/2012	Y	17.6
Phase 4	Central	NTPC	FARAKKA STPS	6	500	3/7/2011	Y	18.8
Phase 4	Central	NTPC	KAHALGAON TPS	5	500	3/31/2007	Y	22.8
Phase 4	Central	NTPC	KAHALGAON TPS	6	500	3/16/2008	Y	21.8
Phase 4	Central	NTPC	KAHALGAON TPS	7	500	7/31/2009	Y	20.4
Phase 4	Central	NTPC	KORBA STPS	7	500	11/25/2010	Y	19.1
Phase 4	Central	NTPC	RAMAGUNDEM STPS	7	500	9/26/2004	Y	25.3
Phase 4	Central	NTPC	RIHAND STPS	3	500	1/31/2005	Y	24.9
Phase 4	Central	NTPC	RIHAND STPS	4	500	9/24/2005	Y	24.3
Phase 4	Central	NTPC	SIPAT STPS	1	660	6/27/2011	Y	18.5
Phase 4	Central	NTPC	SIPAT STPS	2	660	12/24/2011	Y	18.0
Phase 4	Central	NTPC	SIPAT STPS	4	500	5/27/2007	Y	22.6
Phase 4	Central	NTPC	SIPAT STPS	5	500	8/13/2008	Y	21.4
Phase 4	Central	NTPC	TALCHER STPS	3	500	2/21/2003	Y	26.9
Phase 4	Central	NTPC	TALCHER STPS	4	500	10/25/2003	Y	26.2
Phase 4	Central	NTPC	TALCHER STPS	5	500	5/13/2004	Y	25.7
Phase 4	Central	NTPC	TALCHER STPS	6	500	2/6/2005	Y	24.9
Phase 4	Central	NTPC	FARAKKA STPS	1	200	1/1/1986	Y	44.0
Phase 4	Central	NTPC	FARAKKA STPS	2	200	12/24/1986	Y	43.0
Phase 4	Central	NTPC	FARAKKA STPS	3	200	8/6/1987	Y	42.4
Phase 4	Central	NTPC	FARAKKA STPS	4	500	9/25/1992	Y	37.3
Phase 4	Central	NTPC	FARAKKA STPS	5	500	2/16/1994	Y	35.9
Phase 4	Central	NTPC	KAHALGAON TPS	1	210	3/31/1992	Y	37.8
Phase 4	Central	NTPC	KAHALGAON TPS	2	210	3/17/1994	Y	35.8
Phase 4	Central	NTPC	KAHALGAON TPS	3	210	3/24/1995	Y	34.8
Phase 4	Central	NTPC	KAHALGAON TPS	4	210	3/18/1996	Y	33.8
Phase 4	Central	NTPC	KORBA STPS	1	200	2/28/1983	Y	46.9
Phase 4	Central	NTPC	KORBA STPS	2	200	10/31/1983	Y	46.2
Phase 4	Central	NTPC	KORBA STPS	3	200	3/17/1984	Y	45.8
Phase 4	Central	NTPC	KORBA STPS	4	500	5/31/1987	Y	42.6
Phase 4	Central	NTPC	KORBA STPS	5	500	3/25/1988	Y	41.8
Phase 4	Central	NTPC	KORBA STPS	6	500	2/26/1989	Y	40.9
Phase 4	Central	NTPC	RAMAGUNDEM STPS	1	200	10/27/1983	Y	46.2
Phase 4	Central	NTPC	RAMAGUNDEM STPS	2	200	5/29/1984	Y	45.6
Phase 4	Central	NTPC	RAMAGUNDEM STPS	3	200	12/13/1984	Y	45.1
Phase 4	Central	NTPC	RAMAGUNDEM STPS	4	500	6/26/1988	Y	41.5
Phase 4	Central	NTPC	RAMAGUNDEM STPS	5	500	3/26/1989	Y	40.8
Phase 4	Central	NTPC	RAMAGUNDEM STPS	6	500	10/16/1989	Y	40.2
Phase 4	Central	NTPC	RIHAND STPS	1	500	3/31/1988	Y	41.8
Phase 4	Central	NTPC	RIHAND STPS	2	500	7/5/1989	Y	40.5
Phase 4	Central	NTPC	SINGRAULI STPS	1	200	2/14/1982	Y	47.9
Phase 4	Central	NTPC	SINGRAULI STPS	2	200	11/25/1982	Y	47.1
Phase 4	Central	NTPC	SINGRAULI STPS	3	200	3/28/1983	Y	46.8
Phase 4	Central	NTPC	SINGRAULI STPS	4	200	11/2/1983	Y	46.2
Phase 4	Central	NTPC	SINGRAULI STPS	5	200	2/26/1984	Y	45.9

Phase 4	Central	NTPC	SINGRAULI STPS	6	500	12/23/1986	Y	43.1
Phase 4	Central	NTPC	SINGRAULI STPS	7	500	11/24/1987	Y	42.1
Phase 4	Central Total			79	26760			
Phase 4	State	APGENCO	Dr. N.TATA RAO TPS	1	210	11/1/1979	N	50.2
Phase 4	State	APGENCO	Dr. N.TATA RAO TPS	2	210	10/10/1980	N	49.3
Phase 4	State	APGENCO	Dr. N.TATA RAO TPS	3	210	10/5/1989	N	40.3
Phase 4	State	APGENCO	Dr. N.TATA RAO TPS	4	210	8/23/1990	N	39.4
Phase 4	State	APGENCO	Dr. N.TATA RAO TPS	5	210	3/31/1994	N	35.8
Phase 4	State	APGENCO	Dr. N.TATA RAO TPS	6	210	2/24/1995	N	34.9
Phase 4	State	APGENCO	RAYALASEEMA TPS	1	210	3/31/1994	N	35.8
Phase 4	State	APGENCO	RAYALASEEMA TPS	2	210	2/25/1995	N	34.9
Phase 4	State	GSECL	GANDHI NAGAR TPS	3	210	3/20/1990	N	39.8
Phase 4	State	GSECL	GANDHI NAGAR TPS	4	210	7/20/1991	N	38.5
Phase 4	State	GSECL	GANDHI NAGAR TPS	5	210	3/17/1998	N	31.8
Phase 4	State	GSECL	UKAI TPS	3	200	1/21/1979	N	51.0
Phase 4	State	GSECL	UKAI TPS	4	200	3/28/1979	N	50.8
Phase 4	State	GSECL	UKAI TPS	5	210	1/30/1985	N	44.9
Phase 4	State	GSECL	WANAKBORI TPS	1	210	3/23/1982	N	47.8
Phase 4	State	GSECL	WANAKBORI TPS	2	210	1/15/1983	N	47.0
Phase 4	State	GSECL	WANAKBORI TPS	3	210	3/15/1984	N	45.8
Phase 4	State	GSECL	WANAKBORI TPS	4	210	3/9/1986	N	43.8
Phase 4	State	GSECL	WANAKBORI TPS	5	210	9/23/1986	N	43.3
Phase 4	State	GSECL	WANAKBORI TPS	6	210	11/18/1987	N	42.1
Phase 4	State	GSECL	WANAKBORI TPS	7	210	12/31/1998	N	31.0
Phase 4	State	KPCL	RAICHUR TPS	1	210	3/29/1985	N	44.8
Phase 4	State	KPCL	RAICHUR TPS	2	210	3/2/1986	N	43.9
Phase 4	State	KPCL	RAICHUR TPS	3	210	3/30/1991	N	38.8
Phase 4	State	KPCL	RAICHUR TPS	4	210	9/29/1994	N	35.3
Phase 4	State	KPCL	RAICHUR TPS	5	210	1/31/1999	N	30.9
Phase 4	State	KPCL	RAICHUR TPS	6	210	7/22/1999	N	30.5
Phase 4	State	MAHAGENCO	BHUSAWAL TPS	3	210	9/18/1982	N	47.3
Phase 4	State	MAHAGENCO	CHANDRAPUR(MAHARASHTRA) STPS	3	210	5/3/1985	N	44.7
Phase 4	State	MAHAGENCO	CHANDRAPUR(MAHARASHTRA) STPS	4	210	3/8/1986	N	43.8
Phase 4	State	MAHAGENCO	CHANDRAPUR(MAHARASHTRA) STPS	5	500	3/22/1991	N	38.8
Phase 4	State	MAHAGENCO	CHANDRAPUR(MAHARASHTRA) STPS	6	500	3/11/1992	N	37.8
Phase 4	State	MAHAGENCO	CHANDRAPUR(MAHARASHTRA) STPS	7	500	10/1/1997	N	32.3
Phase 4	State	MAHAGENCO	KHAPARKHEDA TPS	1	210	3/26/1989	N	40.8
Phase 4	State	MAHAGENCO	KHAPARKHEDA TPS	2	210	1/8/1990	N	40.0
Phase 4	State	MAHAGENCO	KHAPARKHEDA TPS	3	210	5/31/2000	N	29.6
Phase 4	State	MAHAGENCO	KORADI TPS	6	210	3/30/1982	N	47.8
Phase 4	State	MAHAGENCO	NASIK TPS	3	210	4/26/1979	N	50.7
Phase 4	State	MAHAGENCO	NASIK TPS	4	210	7/10/1980	N	49.5
Phase 4	State	MAHAGENCO	NASIK TPS	5	210	1/30/1981	N	49.0
Phase 4	State	MPPGCL	SANJAY GANDHI TPS	1	210	3/26/1993	N	36.8
Phase 4	State	MPPGCL	SANJAY GANDHI TPS	2	210	3/27/1994	N	35.8
Phase 4	State	MPPGCL	SANJAY GANDHI TPS	3	210	2/28/1999	N	30.9
Phase 4	State	MPPGCL	SANJAY GANDHI TPS	4	210	11/23/1999	N	30.1
Phase 4	State	MPPGCL	SATPURA TPS	6	200	6/27/1979	N	50.5
Phase 4	State	MPPGCL	SATPURA TPS	7	210	9/20/1980	N	49.3
Phase 4	State	MPPGCL	SATPURA TPS	8	210	1/25/1983	N	47.0
Phase 4	State	MPPGCL	SATPURA TPS	9	210	2/27/1984	N	45.9
Phase 4	State	PSPCL	GH TPS (LEH.MOH.)	1	210	12/29/1997	N	32.0
Phase 4	State	PSPCL	GH TPS (LEH.MOH.)	2	210	10/16/1998	N	31.2
Phase 4	State	PSPCL	ROPAR TPS	3	210	3/31/1988	N	41.8
Phase 4	State	PSPCL	ROPAR TPS	4	210	1/29/1989	N	40.9
Phase 4	State	PSPCL	ROPAR TPS	5	210	3/29/1992	N	37.8
Phase 4	State	PSPCL	ROPAR TPS	6	210	3/30/1993	N	36.8
Phase 4	State	RRVUNL	KOTA TPS	1	110	1/17/1983	N	47.0
Phase 4	State	RRVUNL	KOTA TPS	2	110	7/13/1983	N	46.5
Phase 4	State	RRVUNL	KOTA TPS	3	210	9/25/1988	N	41.3
Phase 4	State	RRVUNL	KOTA TPS	4	210	5/1/1989	N	40.7
Phase 4	State	TANGEDCO	METTUR TPS	1	210	1/4/1987	N	43.0
Phase 4	State	TANGEDCO	METTUR TPS	2	210	12/1/1987	N	42.1
Phase 4	State	TANGEDCO	METTUR TPS	3	210	3/22/1989	N	40.8
Phase 4	State	TANGEDCO	METTUR TPS	4	210	3/27/1990	N	39.8
Phase 4	State	TANGEDCO	NORTH CHENNAI TPS	1	210	10/25/1994	N	35.2
Phase 4	State	TANGEDCO	NORTH CHENNAI TPS	2	210	3/27/1995	N	34.8
Phase 4	State	TANGEDCO	NORTH CHENNAI TPS	3	210	2/24/1996	N	33.9
Phase 4	State	TANGEDCO	Thoothukudi TPS	1	210	7/9/1979	N	50.5
Phase 4	State	TANGEDCO	Thoothukudi TPS	2	210	12/17/1980	N	49.1
Phase 4	State	TANGEDCO	Thoothukudi TPS	3	210	4/16/1982	N	47.7
Phase 4	State	TANGEDCO	Thoothukudi TPS	4	210	2/11/1992	N	37.9
Phase 4	State	TANGEDCO	Thoothukudi TPS	5	210	3/31/1991	N	38.8
Phase 4	State	TSGENCO	KOTHAGUEDEM TPS (NEW)	10	250	2/28/1998	N	31.9
Phase 4	State	TSGENCO	RAMAGUNDEM - B TPS	2	62.5	10/17/1971	N	58.2
Phase 4	State	TVNL	TENUGHAT TPS	1	210	4/14/1994	N	35.7
Phase 4	State	TVNL	TENUGHAT TPS	2	210	10/10/1996	N	33.2
Phase 4	State	UPRVUNL	HARDUAGANJ TPS	7	105	3/31/1978	N	51.8
Phase 4	State	UPRVUNL	OBRA TPS	9	200	1/26/1980	N	50.0
Phase 4	State	UPRVUNL	OBRA TPS	10	200	1/14/1979	N	51.0

Phase 4	State	UPRVUNL	OBRA TPS	11	200	12/31/1977	N	52.0
Phase 4	State	UPRVUNL	OBRA TPS	12	200	3/28/1981	N	48.8
Phase 4	State	UPRVUNL	OBRA TPS	13	200	7/21/1982	N	47.5
Phase 4	State	WBPDC	BAKRESWAR TPS	2	210	7/17/1999	N	30.5
Phase 4	State	WBPDC	BAKRESWAR TPS	3	210	5/20/2000	N	29.6
Phase 4	State	WBPDC	BANDEL TPS	2	60	10/1/1965	N	64.3
Phase 4	State	WBPDC	BANDEL TPS	5	210	10/8/1982	N	47.3
Phase 4	State	WBPDC	KOLAGHAT TPS	1	210	1/16/1993	N	37.0
Phase 4	State	WBPDC	KOLAGHAT TPS	2	210	8/13/1990	N	39.4
Phase 4	State	WBPDC	KOLAGHAT TPS	3	210	12/16/1985	N	44.1
Phase 4	State	WBPDC	KOLAGHAT TPS	4	210	1/24/1984	N	46.0
Phase 4	State	WBPDC	KOLAGHAT TPS	5	210	12/28/1993	N	36.0
Phase 4	State	WBPDC	KOLAGHAT TPS	6	210	3/17/1991	N	38.8
Phase 4	State	CSPGCL	KORBA- WEST TPS	5	500	3/22/2013	Y	16.8
Phase 4	State	UPRVUNL	ANPARA TPS	6	500	6/8/2015	Y	14.6
Phase 4	State	MPPGCL	AMARKANTAK EXT TPS	3	210	6/15/2008	Y	21.6
Phase 4	State	CSPGCL	KORBA- WEST TPS	1	210	3/30/1984	Y	45.8
Phase 4	State	CSPGCL	KORBA- WEST TPS	2	210	6/21/1983	Y	46.6
Phase 4	State	CSPGCL	KORBA- WEST TPS	3	210	3/26/1985	Y	44.8
Phase 4	State	CSPGCL	KORBA- WEST TPS	4	210	3/13/1986	Y	43.8
Phase 4	State	OPGC	IB VALLEY TPS	1	210	6/2/1994	Y	35.6
Phase 4	State	OPGC	IB VALLEY TPS	2	210	10/22/1995	Y	34.2
Phase 4	State	UPRVUNL	ANPARA TPS	1	210	3/24/1986	Y	43.8
Phase 4	State	UPRVUNL	ANPARA TPS	2	210	2/28/1987	Y	42.9
Phase 4	State	UPRVUNL	ANPARA TPS	3	210	3/12/1988	Y	41.8
Phase 4	State	UPRVUNL	ANPARA TPS	4	500	7/19/1993	Y	36.5
Phase 4	State	UPRVUNL	ANPARA TPS	5	500	7/4/1994	Y	35.5
Phase 4	State Total			104	23227.5			
Phase 4	Private	APL	DAHANU TPS	1	250	1/6/1995	N	35.0
Phase 4	Private	APL	DAHANU TPS	2	250	3/29/1995	N	34.8
Phase 4	Private	CESC	BUDGE BUDGE TPS	1	250	9/16/1997	N	32.3
Phase 4	Private	CESC	BUDGE BUDGE TPS	2	250	3/6/1999	N	30.8
Phase 4	Private	CESC	SOUTHERN REPL. TPS	1	67.5	4/10/1991	N	38.8
Phase 4	Private	CESC	SOUTHERN REPL. TPS	2	67.5	8/12/1990	N	39.4
Phase 4	Private	CESC	TITAGARH TPS	1	60	3/17/1985	N	44.8
Phase 4	Private	CESC	TITAGARH TPS	2	60	12/12/1982	N	47.1
Phase 4	Private	CESC	TITAGARH TPS	3	60	4/26/1983	N	46.7
Phase 4	Private	CESC	TITAGARH TPS	4	60	1/16/1984	N	46.0
Phase 4	Private	JSWEL	TORANGALLU TPS(SBU-I)	1	130	1/15/1999	N	31.0
Phase 4	Private	JSWEL	TORANGALLU TPS(SBU-I)	2	130	5/16/1999	N	30.6
Phase 4	Private	TATA PCL	TROMBAY TPS	5	500	1/25/1984	N	46.0
Phase 4	Private	TOR. POW. (UNOSUGEN)	SABARMATI (D-F STATIONS)	1	120	10/12/1978	N	51.3
Phase 4	Private	TOR. POW. (UNOSUGEN)	SABARMATI (D-F STATIONS)	2	121	12/31/1984	N	45.0
Phase 4	Private	TOR. POW. (UNOSUGEN)	SABARMATI (D-F STATIONS)	3	121	9/28/1988	N	41.3
Phase 4	Private	SPL	SASAN UMTTP	1	660	5/30/2013	Y	16.6
Phase 4	Private	SPL	SASAN UMTTP	2	660	12/18/2013	Y	16.0
Phase 4	Private	SPL	SASAN UMTTP	3	660	5/21/2014	Y	15.6
Phase 4	Private	SPL	SASAN UMTTP	4	660	3/25/2014	Y	15.8
Phase 4	Private	SPL	SASAN UMTTP	5	660	8/24/2014	Y	15.4
Phase 4	Private	SPL	SASAN UMTTP	6	660	3/19/2015	Y	14.8
Phase 4	Private	LAPPL	ANPARA C TPS	1	600	11/12/2011	Y	18.1
Phase 4	Private	LAPPL	ANPARA C TPS	2	600	11/15/2011	Y	18.1
Phase 4	Private Total			24	7657			
Phase 4		PHASE 4 Total		207	57644.5			
		Phase 4 Total (Percentage of Total Capacity)		34.67%	26.99%			