



**REPORT
ON
FLY ASH GENERATION
AT
COAL / LIGNITE BASED THERMAL POWER STATIONS
AND
ITS UTILIZATION IN THE COUNTRY
FOR THE
1ST HALF OF THE YEAR 2020-2021
(April 2020 to September 2020)**



**CENTRAL ELECTRICITY AUTHORITY
NEW DELHI**

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CENTRAL ELECTRICITY AUTHORITY
THERMAL CIVIL DESIGN DIVISION

FLY ASH GENERATION AT COAL / LIGNITE BASED THERMAL POWER STATIONS AND ITS UTILIZATION IN THE COUNTRY FOR THE 1ST HALF OF THE YEAR 2020-21 (APRIL 2020 TO SEPTEMBER 2020)

1.0 BACKGROUND

Coal / Lignite based Thermal Power Generation has been the backbone of power capacity addition in the country. Indian coal is of low grade with ash content of the order of 30-55 % in comparison to imported coal which has low ash content of the order of 3-15 %. Large quantity of ash is, thus being generated at coal / lignite based Thermal Power Stations in the country, which not only requires large area of precious land for its disposal but is also one of the sources of pollution of both air and water.

Central Electricity Authority (CEA) has been monitoring since 1996-97 the fly ash generation and its utilization in the country at coal / lignite based Thermal Power Stations. Data on fly ash generation and utilization including modes of utilization is obtained from Thermal Power Stations on half yearly as well as yearly basis. The data thus obtained is analyzed and a report bringing out the status of fly ash generation and its utilization in the country is prepared. The said report is forwarded to the Ministry of Power, the Ministry of Science and Technology and the Ministry of Environment, Forests and Climate Change (MoEF & CC). It is also uploaded on the web site of CEA for bringing out the information in the public domain so that users of fly ash have access to the information on the availability of fly ash at different Thermal Power Stations (TPSs) in the country.

To reduce the requirement of land for disposal of fly ash in ash ponds and to address the problem of pollution caused by fly ash, Ministry of Environment, Forests and Climate Change has issued various Notifications on fly ash utilization, first Notification was issued on 14th September, 1999 which was subsequently amended in 2003, 2009 and 2016 vide Notifications dated 27th August, 2003, 3rd November, 2009 and 25th January, 2016 respectively.

Towards the efforts in the direction of enhancing gainful utilization of fly ash, the latest MoEF & CC's Notification of 25th January, 2016 stipulates mandatory uploading of details of fly ash available on TPSs' website and updating of stock position at least once in every month; increase in mandatory jurisdiction of area of application from 100 km to 300 km; cost of transportation of ash for road construction projects or for manufacturing of ash based products or use as soil conditioner in agricultural activity to be borne entirely by TPS up to 100 km and equally shared between user and TPP for more than 100 km and up to 300 km; cost of transportation of ash for road construction projects under Pradhan Mantri Gramin Sadak Yojna and asset creation programs of the Government involving construction of buildings, road, dam and embankment to be borne entirely by TPP and mandatory use of fly ash based products in all Government schemes or programs e.g. Pradhan Mantri Gramin Sadak Yojana, Mahatma Gandhi National Rural Employment Guarantee Act, Swachh Bharat Abhiyan, etc.

The Notification of 3rd November, 2009 prescribes targets of Fly Ash utilization in a phased manner for all Coal / Lignite based Thermal Power Stations in the country so as to achieve 100% utilization of fly ash. The Thermal Power Stations in operation before the date of the Notification (i.e. 3rd November, 2009) are to achieve the target of fly ash utilization in successive 5 years - 50% in First year; 60% in Second year; 75% in Third year; 90% in Fourth year and 100% in Fifth year. The new Thermal Power Stations coming into operation after the MoEF & CC's notification (i.e. 3rd November, 2009) are to achieve the target of fly ash utilization as 50% in the First year, 70% during Two years, 90% during Three years and 100% during Four years depending upon their date of commissioning.

The report on fly ash generation and its utilization at coal / lignite based Thermal Power Stations provides the status of fly ash generation as well as utilization in the country. The report also contains conclusion and recommendation for increasing the present rate of utilization of the fly ash.

2.0 ASH GENERATION & UTILIZATION DURING THE 1ST HALF OF THE YEAR 2020-21

2.1 A Brief Summary :

Fly ash generation & utilization data for the 1st half of the Year 2020-21 (April 2020 to September 2020) has been received from 199 (**One Hundred Ninety Nine**) coal / lignite based Thermal Power Stations of various power utilities in the country.

Data thus received has been analyzed to derive conclusions on present status of fly ash generation and its utilization in the country as a whole. A brief summary of status is given in **Table-I** below:

TABLE-I

SUMMARY OF FLY ASH GENERATION AND UTILIZATION

Description		1st Half Year 2019-20	1st Half Year 2020-21
· Nos. of Thermal Power Stations from which data was received	:	194	199
· Installed capacity (MW)	:	195926.50	207220.50
· Coal consumed (Million tons)	:	406.91	312.99
· Fly Ash Generation (Million tons)	:	129.09	106.37
· Fly Ash Utilization (Million tons)	:	100.94	84.22
· Percentage Utilization of Fly Ash (%)	:	78.19	79.18
· Percentage Average Ash Content (%)	:	31.73	33.98

It can be seen from the above table that during current half year, Thermal Power Stations have reported Fly Ash Generation & its Utilization data. Based on this, Fly Ash Utilization percentage has increased during 1st half of the year 2020-21 in comparison to the utilization during the 1st half of previous year i.e., 2019-20 (of 194 Thermal Power Stations).

It can be further noticed that in the year 2020, **COVID-19 PANDEMIC** was there. As a result, some of the thermal power plants were not operating during April and May of 2020

and also operating in a lower capacity compared to other months. As a result, it can be seen that Coal Consumption has been reduced comparing to previous year and thus, the Fly Ash generated and Fly Ash utilization have been less compared to previous year. However, Percentage of Fly Ash utilization has increased from 78.19 % during previous year to 79.18 % during the current year.

Power Station wise fly ash generation & its utilization status including modes of utilization for the 1st half of the Year 2020-21 for all the thermal power stations is given in the statement at **Annexure-I**.

2.2 Power Utility-wise Status of Fly Ash Generation & its Utilization during the 1st Half of the Year 2020-21

The status of fly ash generation & utilization for the 1st half of the year 2020-21 for various power utilities in the country has been assessed based on data received from Thermal Power Stations and the same is given in **Table-II**:

TABLE-II

POWER UTILITY WISE FLY ASH GENERATION AND UTILIZATION DURING THE 1st HALF OF THE YEAR 2020-21

Sl. No.	Name of Power Utility	No. of TPS	Installed Capacity (MW)	Fly Ash Generation (Million-tonne)	Fly Ash Utilization (Million-tonne)	Percentage Utilization %
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Aarti Steels Limited, Odisha	1	90.00	0.0811	0.0801	98.74
2	Andhra Pradesh Power Generation Corporation (APGENCO)	2	3410.00	0.9339	1.4027	150.21
3	APPDCL (Andhra Pradesh)	1	1600.00	0.6342	0.5520	87.04
4	ARAVALI POWER COMPANY PRIVATE LIMITED (Haryana)	1	1500.00	0.1957	0.7474	381.95
5	ACB (INDIA) Ltd. (Chhattisgarh)	5	490.00	0.7088	0.7680	108.35
6	AMNEPL (Maharashtra)	1	246.00	0.0000	0.0000	-
7	Adani Power Ltd. (Maharashtra)	1	3300.00	1.7572	1.8809	107.04
8	ADANI POWER LIMITED (Gujarat)	1	4620.00	0.2972	0.2970	99.92
9	Adani Power Rajasthan Ltd. (Rajasthan)	1	1320.00	0.6013	0.6269	104.25
10	ADANI ELECTRICITY MUMBAI LIMITED (Maharashtra)	1	500.00	0.1660	0.1020	61.45
11	BEPL (UP)	5	450.00	0.1653	0.1653	100.00

Sl. No.	Name of Power Utility	No. of TPS	Installed Capacity (MW)	Fly Ash Generation (Million-tonne)	Fly Ash Utilization (Million-tonne)	Percentage Utilization %
(1)	(2)	(3)	(4)	(5)	(6)	(7)
12	BHADRESHWAR VIDYUT PVT LTD (GUJRARAT)	1	300.00	0.0100	0.0097	97.54
13	BHARATIYA RAIL BIJLEE COMPANY LTD (BIHAR)	1	1000.00	0.4870	0.1416	29.07
14	BHARAT ALUMINIUM COMPANY LTD (BALCO) (CHHATTISGARH)	2	1740.00	1.6011	1.4639	91.43
15	C.E.S.C. Ltd. (WEST BENGAL)	3	1125.00	0.5610	0.5610	100.00
16	Chhattisgarh State Power Generation Company Ltd. (C.S.P.G.C.L.)	4	3280.00	2.9895	1.1101	37.13
17	C.G.P.L (Gujarat)	1	4150.00	0.3800	0.3300	86.84
18	CHEMPLAST LTD TPS (TAMIL NADU)	1	48.50	0.0081	0.0083	102.35
19	COASTAL ENERGEN PVT. LTD (Tamil Nadu)	1	1200.00	0.0261	0.0291	111.80
20	DB POWER LTD	1	1200.00	1.1954	1.1060	92.52
21	Damodar Valley Corporation (D.V.C.)	7	6960.00	4.4708	4.1422	92.65
22	Durgapur Projects Ltd. (D.P.L.)	1	550.00	0.2714	0.2623	96.67
23	Dhariwal Infrastructure Ltd. (Maharashtra)	1	600.00	0.4530	0.4680	103.31
24	ESSAR POWER (MADHYA PRADESH) LTD	1	1200.00	0.3770	0.2030	53.85
25	Gujarat Industries Power Corporation Ltd. (G.I.P.C.L.)	1	500.00	0.2646	0.2646	100.00
26	Gujarat Mineral Development Corporation Ltd. (G.M.D.C.L.)	1	250.00	0.0931	0.1340	143.94
27	G.S.E.C.L. (Gujarat)	6	5300.00	0.7974	1.6530	207.30
28	GMR Kamalanga Energy Ltd (Odisha)	1	1050.00	0.9245	0.8937	96.67
29	G.M.R. Warora Energy Ltd. (Maharashtra)	1	600.00	0.3863	0.4315	111.70
30	Haryana Power Generation Cor. Ltd. (H.P.G.C.L.)	3	2510.00	0.7428	1.5829	213.09
31	HALDIA ENERGY LIMITTED (W.B.)	1	600.00	0.5030	0.5030	100.00
32	HINDUJA NATIONAL POWER COPORATION LIMITED (Andhra Pradesh)	1	1040.00	0.3245	0.1647	50.75

Sl. No.	Name of Power Utility	No. of TPS	Installed Capacity (MW)	Fly Ash Generation (Million-tonne)	Fly Ash Utilization (Million-tonne)	Percentage Utilization %
(1)	(2)	(3)	(4)	(5)	(6)	(7)
33	IDEAL ENERGY PROJECTS Ltd.(Maharashtra)	1	270.00	0.0000	0.0000	-
34	IL & FS TAMIL NADU POWER COMPANY Ltd (Tamil Nadu)	1	1200.00	0.0679	0.0543	79.90
35	INDIAN METALS & FERRO ALLOYS LTD. (Odisha)	1	258.00	0.2368	0.2368	100.00
36	INDIA POWER CORPORATION LIMITED (West Bengal)	1	12.00	0.0142	0.0142	100.00
37	Indraprastha Power Generation Company Ltd. (.I.P.G.C.L)	1	135.00	0.0000	0.0000	-
38	J.P.L (Chhattisgarh)	2	3400.00	1.7815	0.4217	23.67
39	JSW Energy Ltd.	2	2060.00	0.1765	0.1556	88.17
40	JSW ENERGY (BARMER) LTD (Formerly Raj Westpower Ltd)	1	1080.00	0.4263	0.4395	103.10
41	JSW STEEL LTD (TAMIL NADU)	1	90.00	0.0049	0.0049	100.47
42	JAIPRAKASH POWER VENTURES LIMITED (Madhya Pradesh)	2	1820.00	1.3134	1.2878	98.05
43	JINDAL INDIA THERMAL POWER LIMITED	1	1200.00	0.8466	0.4975	58.77
44	JINDAL STEEL AND POWER LIMITED (Chhattisgarh)	3	1685.00	1.0396	0.9088	87.41
45	JHABUA POWER LIMITED (MP)	1	600.00	0.4863	0.3379	69.49
46	JHAJJAR POWER LIMITED(Haryana)	1	1320.00	0.3730	0.3650	97.86
47	Karnataka Power Corporation Ltd.(K.P.C.L.)	2	3420.00	1.2560	3.5021	278.83
48	KANTI BIJLEE UTPADAN NIGAM LIMITED (Bihar)	1	610.00	0.2940	0.1960	66.67
49	LALITPUR POWER GENERATION COMPANY LIMITED (UP)	1	1980.00	0.8014	0.7878	98.30
50	LANCO AMARKANTAK POWER LIMITED(Chhattisgarh)	1	600.00	0.5939	0.1737	29.25
51	LANCO ANPARA POWER LTD (UTTAR PRADESH)	1	1200.00	0.8992	0.1575	17.51
52	MARUTI CLEAN COAL & POWER LTD (CHHATTISGARH)	1	300.00	0.3398	0.3594	105.77

Sl. No.	Name of Power Utility	No. of TPS	Installed Capacity (MW)	Fly Ash Generation (Million-tonne)	Fly Ash Utilization (Million-tonne)	Percentage Utilization %
(1)	(2)	(3)	(4)	(5)	(6)	(7)
53	M.P.L (Jharkhand)	1	1050.00	0.8272	1.0443	126.25
54	M/s KSK MAHANADI POWER COMPANY LIMITED (Chhattisgarh)	1	1800.00	1.3606	1.4630	107.53
55	Meenakshi Energy Ltd. (A.P)	1	300.00	0.0000	0.0000	-
56	MB POWER (MADHYA PRADESH) LIMITED (Madhya Pradesh)	1	1200.00	0.7447	0.7445	99.97
57	MEJA URJA NIGAM PVT LTD (UTTAR PRADESH)	1	660.00	0.3310	0.0557	16.84
58	Madhya Pradesh Power Generation Corporation Ltd. (M.P.P.G.C.L.)	4	5400.00	2.0983	1.5035	71.66
59	Maharashtra State Power Generation Corporation Ltd. (M.S.P.G.C.L)	7	9750.00	5.7459	4.5450	79.10
60	MSELDC, Captive Consumers, Maharashtra	1	540.00	0.1420	0.1710	120.42
61	NABHA POWER LIMITED, PUNJAB	1	1400.00	0.6801	0.6448	94.82
62	Neyveli Lignite Corporation Ltd. (N.L.C.LTD)	5	3990.00	0.5527	1.0636	192.44
63	N.L.C.LTD (Rajasthan)	1	250.00	0.1037	0.1037	100.00
64	NLC TAMILNADU POWER LIMITED (Tamil Nadu)	1	1000.00	0.5167	0.5167	100.00
65	NTECL (Tamil Nadu)	1	1500.00	0.2855	0.6082	213.03
66	NSPCL (CHHATTISGARH)	2	574.00	0.5105	0.3318	65.00
67	NSPCL (ODISHA)	1	120.00	0.1691	0.3858	228.11
68	NSPCL (West Bengal)	1	120.00	0.0899	0.0405	45.05
69	N.T.P.C.LTD.	24	44140.00	29.5945	16.8010	56.77
70	NTPC-BSPGCL (JV) (BIHAR)	1	220.00	0.2031	0.0669	32.95
71	NATIONAL ALUMINIUM COMPANY LIMITED (NALCO) (Odisha)	1	1200.00	1.4628	0.9211	62.97
72	Orissa Power Generation Corporation Ltd. (O.P.G.C.L.)	1	1740.00	1.5895	0.3348	21.07
73	OPG POWER GENERATION PVT LTD	1	414.00	0.0329	0.0329	100.00

Sl. No.	Name of Power Utility	No. of TPS	Installed Capacity (MW)	Fly Ash Generation (Million-tonne)	Fly Ash Utilization (Million-tonne)	Percentage Utilization %
(1)	(2)	(3)	(4)	(5)	(6)	(7)
74	Punjab State Power Corporation Ltd. (P.S.P.C.L.)	4	2760.00	0.6073	1.3654	224.85
75	PRAYAGRAJ POWER GENERATION COMPANY LIMITED (Uttar Pradesh)	1	1980.00	0.9078	0.6793	74.83
76	Rajasthan Rajya Vidyut Utpadan Nigam Ltd. (R.R.V.U.N.L.)	5	6260.00	2.3200	2.3961	103.28
77	RASHTRIYA ISPAT NIGAM LTD (AP)	1	315.00	0.3329	0.0296	8.88
78	RATTAN INDIA POWER LTD	1	1350.00	0.0000	0.0515	100.00
79	RPSCL (UP)	1	1200.00	0.7960	0.6046	75.96
80	RAICHUR POWER CORPORATION LIMITED (Karnataka)	1	1600.00	0.1615	0.0296	18.33
81	RAIGARH ENERGY GENERATION LTD	1	600.00	0.2166	0.1173	54.16
82	Raipur Energen Limited (Chhattisgarh)	1	1370.00	0.6594	0.6203	94.07
83	R K M POWERGEN PRIVATE LIMITED (Chhattisgarh)	1	1440.00	0.5692	0.5690	99.97
84	Reliance Power Ltd., Madhya Pradesh	1	3960.00	2.5915	0.1117	4.31
85	SAI LILAGARH POWER GENERATION LTD (CHHATTISGARH)	1	86.00	0.0000	0.0000	-
86	SIMHPURI ENERGY LIMITED (Andhra Pradesh)	1	600.00	0.0000	0.0000	-
87	SEMCORP ENERGY INDIA LIMITED (Andhra Pradesh)	1	1320.00	0.5350	0.5650	105.61
88	SWASTIK POWER & MINERALS RESOURCES PVT. LTD (Chhattisgarh)	1	25.00	0.0000	0.0000	-
89	SKS POWER GENERATION (CHHATTISGARH)	1	600.00	0.2775	0.2051	73.94
90	TENUGHAT VIDHYUT NIGAM LIMITED (Jharkhand)	1	420.00	0.2623	0.2050	78.18
91	TALWANDI SABO POWER LTD	1	1980.00	0.9600	0.2300	23.96
92	Taqा Neyveli Power Company Pvt. Ltd.	1	250.00	0.0215	0.0454	211.40
93	THE SINGARENİ COLLIERIES COMPANY	1	1200.00	0.6898	0.6309	91.47

Sl. No.	Name of Power Utility	No. of TPS	Installed Capacity (MW)	Fly Ash Generation (Million-tonne)	Fly Ash Utilization (Million-tonne)	Percentage Utilization %
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	LIMITED (Telangana)					
94	Tata Power Company (T.P.CO.)	2	1477.50	0.4057	0.4047	99.75
95	TORRENT POWER LTD. (Gujarat)	1	362.00	0.0607	0.0609	100.46
96	TSGENCO (Telangana)	6	2962.50	1.7731	0.8044	45.37
97	T.N.G & D Corporation (Tamil Nadu)	5	4320.00	2.0408	3.8324	187.79
98	TRN ENERGY PRIVATE LIMITED (Chhattisgarh)	1	600.00	0.2312	0.1360	58.84
99	Uttar Pradesh Rajya Vidyut Utpadan Nigam Ltd.(U.P.R.V.U.N.L.)	3	4550.00	3.0367	0.8712	28.69
100	Udupi Power Corporation Limited (Karnataka)	1	1200.00	0.0244	0.0180	73.77
101	VIDARBHA INDUSTRIES POWER LIMITED (Maharashtra)	1	600.00	0.0000	0.0213	100.00
102	VEDANTA LTD (ODISHA)	2	3615.00	3.9562	4.2570	107.60
103	VS LIGNITE PLOWER PVT LTD (RAJASTHAN)	1	135.00	0.1071	0.1071	100.00
104	West Bengal Power Development Corporation Limited (W.B.P.D.C.L)	5	4745.00	2.4220	1.8903	78.05
	GRAND TOTAL	199	207220.50	106.3652	84.2237	79.18

Note: Percentage utilisation of fly ash (i.e. total ash for generation and utilisation purpose) more than 100% shows that the ash utilisation over and above 100% is the ash utilized from Ash Pond.

It may be seen from the **Table-II** above that:

The data of fly ash generation and utilization for the 1st half of the year 2020-21 was received from **104** Power Utilities having **199** Thermal Power Stations, out of which **41** Power Utilities and **84** Thermal Power Stations have achieved 100% or more average fly ash utilization respectively. Further, **17** Power Utilities have achieved average fly ash utilization in the range of 90% to less than 100% in respect of their Thermal Power Stations numbering **24**.

The performance of power utilities during the 1st half of the year 2020-21 is tabulated below:

TABLE-III**POWER UTILITY-WISE RANGE OF PERCENTAGE FLY ASH UTILIZATION**

Sl. No.	Level of Fly Ash utilization	Nos. of Power Utilities
		1 st Half of the Year 2020-21
(1)	(2)	(3)
1	100% and more than 100%	41
2	Less than 100% and up to 90%	17
3	Less than 90% and up to 70%	13
4	Less than 70% and up to 50%	11
5	Less than 50%	15
6	No Generation	7
	TOTAL	104

2.3 State wise Status of Fly Ash Generation & its Utilization during the 1st half of the Year 2020-21

The statewise status of fly ash generation & utilization in the country based on data received from Thermal Power Stations / Power Utilities has also been assessed and the same is given in **Table-IV** :

TABLE-IV
**STATE WISE FLY ASH GENERATION AND ITS UTILIZATION DURING THE
1ST HALF OF THE YEAR 2020-21**

Sl. No.	Name of State	No. of TPS	Installed Capacity (MW)	Fly Ash Generation (Million-tonne)	Fly Ash Utilization (Million-tonne)	Percentage Utilization %
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	ANDHRA PRADESH	10	13185.00	5.7209	5.5093	96.30
2	ASSAM	1	750.00	0.2459	0.1396	56.78
3	BIHAR	6	6150.00	4.3403	2.8398	65.43
4	CHHATTISGARH	32	25800.00	20.0630	11.8872	59.25
5	DELHI	1	135.00	0.0000	0.0000	0.00
6	GUJARAT	12	15482.00	1.9029	2.7492	144.47
7	HARYANA	5	5330.00	1.3115	2.6954	205.51
8	JHARKHAND	6	4227.50	3.1959	3.7239	116.52

Sl. No.	Name of State	No. of TPS	Installed Capacity (MW)	Fly Ash Generation (Million-tonne)	Fly Ash Utilization (Million-tonne)	Percentage Utilization %
(1)	(2)	(3)	(4)	(5)	(6)	(7)
9	KARNATAKA	6	9480.00	1.5853	3.6645	231.15
10	MADHYA PRADESH	13	21060.00	12.7640	5.5264	43.30
11	MAHARASHTRA	20	23526.00	9.1153	8.2617	90.64
12	ODISHA	13	14343.00	14.5585	10.4195	71.57
13	PUNJAB	6	6140.00	2.2473	2.2402	99.68
14	RAJASTHAN	9	9045.00	3.5584	3.6733	103.23
15	TAMIL NADU	18	14012.50	3.5241	6.1629	174.88
16	TELANGANA	7	4162.50	2.4629	1.4353	58.28
17	UTTAR PRADESH	18	20390.00	11.8301	6.6923	56.57
18	WEST BENGAL	16	14002.00	7.9389	6.6032	83.18
GRAND TOTAL		199	207220.50	106.3652	84.2237	79.18

It may be seen from **Table-IV** above that:

- (i) **4** states namely Chhattisgarh, Madhya Pradesh, Odisha and Uttar Pradesh each have generated more than 10 million-ton of fly ash during the 1st half of the Year 2020-21. Maximum fly ash of more than **20** million-ton was generated in Chhattisgarh during the aforesaid period.
- (ii) During the 1st half of the Year 2020-21, Out of **18** states, Gujarat, Haryana, Jharkhand, Karnataka, Rajasthan and Tamil Nadu have achieved the fly ash utilization level of more than 100% with Karnataka reporting highest **231.15 %** fly ash utilization.

3.0 PRESENT STATUS OF FLY ASH UTILIZATION AS PER MoEF & CC'S NOTIFICATION OF 3rd NOVEMBER, 2009

Fly ash generation and utilization data received from Thermal Power Stations / Power Utilities in the country for the 1st half of the year 2020-21 has been compiled to see the fly ash utilization vis-à-vis the target of fly ash utilization as prescribed in MoEF & CC's notification of 3rd November, 2009.

During the 1st half of the Year 2020-21, all those thermal power stations which were in operation on the date of issuance of MoEF & CC's notification (i.e. 3rd November, 2009) should have achieved the target of fly ash utilization of 100% within five years from the date of notification. All those thermal power stations which have come into operation after the date of issuance of MoEF & CC's notification (i.e. 3rd November, 2009) should have achieved the target of fly ash utilization of 100% within four years depending upon their date of commissioning. However, it is seen that the target set by MoEF & CC's notification has not been achieved by most of the Thermal Power Stations.

3.1 Range of Fly Ash Utilization during the 1st Half of the Year 2020-21

Based on the fly ash utilization data received from Thermal Power Stations / Power Utilities, the Thermal Power Stations have been grouped into five categories as noted below depending upon range of utilization of fly ash by the stations.

TABLE – V

POWER STATION WISE RANGE OF PERCENTAGE FLY ASH UTILIZATION

Sl. No.	Level of Fly Ash utilization	1st Half of the Year 2020 - 21
(1)	(2)	(3)
1	100% and more than 100%	84
2	Less than 100% and up to 90%	24
3	Less than 90% and up to 70%	22
4	Less than 70% and up to 50%	27
5	Less than 50%	32
6	No Generation	10
	TOTAL	199

3.2 Thermal Power Stations that have achieved Fly Ash utilization level of 100% or more during the 1st half of the Year 2020-21

The following Thermal Power Stations, as given in **Table – VI**, have achieved the fly ash utilization level of 100% or more during the 1st half of the year 2020-21.

TABLE–VI

**THERMAL POWER STATIONS WITH FLY ASH UTILIZATION LEVEL OF 100% OR MORE
DURING THE 1st HALF OF THE YEAR 2020-21**

SI No.	Name of TPS	Power Utility	Installed Capacity (Mega Watts)	Fly ash Generation (Million Tonnes)	Fly ash Utilization (Million Tonnes)	% age
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Dr. N.T.R (Vijayawada)	APGENCO (Andhra Pradesh)	1760.0	0.8485	1.0302	121.42
2	RAYALSEEMA	APGENCO (Andhra Pradesh)	1650.0	0.0854	0.3725	436.22
3	INDIRA GANDHI SUPER TPP, JHAJJAR	ARAVALI POWER COMPANY PRIVATE LIMITED (Haryana)	1500.0	0.1957	0.7474	381.95
4	KASAI PALI	ACB (INDIA) LTD CHHATTISGARH	270.0	0.3887	0.4478	115.22
5	TIRODA	ADANI POWER MAHARASHTRA LTD. (Maharashtra)	3300.0	1.7572	1.8809	107.04
6	KAWAI	ADANI POWER RAJASTHAN Ltd. (Rajasthan)	1320.0	0.6013	0.6269	104.25
7	CHAKABURA TPP	ACB (INDIA) Ltd. (Chhattisgarh)	30.0	0.0472	0.0472	100.00
8	CHAKABURA TPP (EXTN)	ACB (INDIA) Ltd. (Chhattisgarh)	30.0	0.0822	0.0822	100.00
9	RATIJA TPS	ACB (INDIA) LIMITED (Chhattisgarh)	100.0	0.1908	0.1908	100.03
10	BARKHERA	Bajaj Energy Private Ltd. (Uttar Pradesh)	90.0	0.0305	0.0305	100.00
11	KHAMBARKHERA	Bajaj Energy Private Ltd. (Uttar Pradesh)	90.0	0.0276	0.0276	100.00
12	KUNDARKI	Bajaj Energy Private Ltd. (Uttar Pradesh)	90.0	0.0371	0.0371	100.00
13	MAQSOODAPUR	Bajaj Energy Private Ltd. (Uttar Pradesh)	90.0	0.0268	0.0268	100.00
14	UTRAULA	Bajaj Energy Private Ltd. (Uttar Pradesh)	90.0	0.0432	0.0432	100.00
15	Budge Budge Generating Station	C.E.S.C. (West Bengal)	750.0	0.5610	0.5610	100.00
16	CHEMPLAST LTD TPS	CHEMPLAST SANMAR LTD	48.5	0.0081	0.0083	102.35

Sl No.	Name of TPS	Power Utility	Installed Capacity (Mega Watts)	Fly ash Generation (Million Tonnes)	Fly ash Utilization (Million Tonnes)	% age
(1)	(2)	(3)	(4)	(5)	(6)	(7)
		(TAMIL NADU)				
17	MUTIARA	COASTAL ENERGEN PVT. LTD (Tamil Nadu)	1200.0	0.0261	0.0291	111.80
18	BOKARO 'B'	Damodar Valley Corporation (Jharkhand)	710.0	0.3900	0.4035	103.46
19	CHANDRAPURA	Damodar Valley Corporation (Jharkhand)	500.0	0.4431	0.6219	140.34
20	DURGAPUR	Damodar Valley Corporation (West Bengal)	210.0	0.0003	0.0599	21251.77
21	MEJIA	Damodar Valley Corporation (West Bengal)	2340.0	1.3062	1.3192	101.00
22	KODERMA	Damodar Valley Corporation (Jharkhand)	1000.0	0.8852	1.0610	119.85
23	DHARIWAL INFRASTRUCTURE Ltd.	Dhariwal Infrastructure Ltd. (Maharashtra)	600.0	0.4530	0.4680	103.31
24	SURAT LIGNITE	G.I.P.C.L. (Gujarat)	500.0	0.2646	0.2646	100.00
25	AKRIMOTA	G.M.D.C.L. (Gujarat)	250.0	0.0931	0.1340	143.94
26	GANDHINAGAR	G.S.E.C.L. (Gujarat)	630.0	0.0170	0.4100	2411.76
27	KUTCH LIGNITE	G.S.E.C.L. (Gujarat)	290.0	0.1520	0.1810	119.08
28	SIKKA	G.S.E.C.L. (Gujarat)	500.0	0.0170	0.0610	358.82
29	UKAI	G.S.E.C.L. (Gujarat)	1110.0	0.3490	0.4180	119.77
30	WANAKBORI	G.S.E.C.L. (Gujarat)	2270.0	0.1950	0.5160	264.62
31	GMR WARORA ENERGY Ltd.	GMR WARORA ENERGY Ltd. (Maharashtra)	600.0	0.3863	0.4315	111.70
32	RAJIV GANDHI TPP HISAR	H.P.G.C.L.(Haryana)	1200.0	0.2695	0.3643	135.19
33	YAMUNANAGAR	H.P.G.C.L. (Haryana)	600.0	0.3173	0.5206	164.10
34	PANIPAT	H.P.G.C.L.(Haryana)	710.0	0.1561	0.6980	447.15
35	HALDIA ENERGY LIMITED	HALDIA ENERGY LIMITED (West	600.0	0.5030	0.5030	100.00

SI No.	Name of TPS	Power Utility	Installed Capacity (Mega Watts)	Fly ash Generation (Million Tonnes)	Fly ash Utilization (Million Tonnes)	% age
(1)	(2)	(3)	(4)	(5)	(6)	(7)
		Bengal)				
36	DISHERGARH TPS	INDIA POWER CORPORATION LIMITED (West Bengal)	12.0	0.0142	0.0142	100.00
37	INDIAN METALS & FERRO ALLOYS LTD.	INDIAN METALS & FERRO ALLOYS Ltd. (Odisha)	258.0	0.2368	0.2368	100.00
38	VIJAYANAGAR	JSW Energy Limited (Karnataka)	860.0	0.0453	0.0453	100.00
39	JSW STEEL LTD CPP-II	JSW STEEL LTD (TAMIL NADU)	90.0	0.0049	0.0049	100.47
40	JALIPA KAPURDI	JSW Energy (Barmer) Ltd. (Formerly Raj Westpower Ltd) Rajasthan	1080.0	0.4263	0.4395	103.10
41	JAYPEE BINA	JAIPRAKASH POWER VENTURES LIMITED (Madhya Pradesh)	500.0	0.6697	0.6817	101.79
42	DONGAMAHUA CAPTIVE POWER PLANT	JINDAL STEEL AND POWER LIMITED (Chhattisgarh)	576.0	0.4346	0.4348	100.03
43	Kharsia CPP	JINDAL STEEL AND POWER LIMITED (Chhattisgarh)	299.0	0.1340	0.1340	100.00
44	BALLARI	K.P.C.L (Karnataka)	1700.0	0.7481	3.0230	404.09
45	MCCPL BANDHAKHAR	Maruti Clean Coal & Power Ltd (Chhattisgarh)	300.0	0.3398	0.3594	105.77
46	MAITHON RBTPP	MPL (Jharkhand)	1050.0	0.8272	1.0443	126.25
47	KMPCL-Nariyara	M/s KSK MAHANADI POWER COMPANY LIMITED (Chhattisgarh)	1800.0	1.3606	1.4630	107.53
48	BHUSAVAL - MSPGCL	M.S.P.G.C.L (Maharashtra)	1210.0	0.3868	0.4736	122.42
49	NASHIK	M.S.P.G.C.L. (Maharashtra)	630.0	0.0000	0.3524	100.00

Sl No.	Name of TPS	Power Utility	Installed Capacity (Mega Watts)	Fly ash Generation (Million Tonnes)	Fly ash Utilization (Million Tonnes)	% age
(1)	(2)	(3)	(4)	(5)	(6)	(7)
50	NEW PARLI	M.S.P.G.C.L. (Maharashtra)	750.0	0.0697	1.3618	1954.25
51	SAI WARDHA POWER Ltd. WARORA	MSELDC, Captive Consumers, Maharashtra	540.0	0.1420	0.1710	120.42
52	NEYVELI -I EXPN	N.L.C.LTD (Tamil Nadu)	420.0	0.1184	0.1184	100.00
53	NEYVELI - II	N.L.C.LTD (Tamil Nadu)	1470.0	0.2197	0.7418	337.68
54	NEYVELI - II EXPN	N.L.C.LTD (Tamil Nadu)	500.0	0.0622	0.0622	100.00
55	NEYVELI NEW TPS	N.L.C.LTD (Tamil Nadu)	1000.0	0.1133	0.1133	100.00
56	BARSINGSAR LIGNITE	N.L.C.LTD (Rajasthan)	250.0	0.1037	0.1037	100.00
57	NLC TAMILNADU POWER LTD.	NLC TAMILNADU POWER LIMITED (Tamil Nadu)	1000.0	0.5167	0.5167	100.00
58	VALLUR	NTECL (Tamil Nadu)	1500.0	0.2855	0.6082	213.03
59	SIMHADRI	N.T.P.C.LTD (Andhra Pradesh)	2000.0	1.1526	1.4007	121.52
60	TALCHER(TPS)	N.T.P.C.LTD (Odisha)	460.0	0.6412	0.6412	100.00
61	MOUDA TPS	N.T.P.C.LTD (Maharashtra)	2320.0	0.2220	0.4089	184.15
62	BHILAI PP-II	NSPCL (Chhattisgarh)	74.0	0.0719	0.0805	111.96
63	CPP-II ROURKELA	NSPCL , Odisha	120.0	0.1691	0.3858	228.11
64	OPG POWER GENERATION PVT LTD	OPG POWER GENERATION PVT LTD., Tamil Nadu	414.0	0.0329	0.0329	100.00
65	Guru Gobind Singh TPS, Ropar	P.S.P.C.L. (Punjab)	840.0	0.1989	0.8828	443.83
66	Guru Nanakdev TPP, Bathinda	P.S.P.C.L. (Punjab)	460.0	0.0000	0.1250	100.00
67	SURATGARH TPS	RRVUNL (Rajasthan)	1500.0	0.0997	0.5315	533.08
68	Kota Super TPS	RRVUNL (Rajasthan)	1240.0	0.4771	0.6134	128.57
69	AMARAVATI TPS	RATTAN INDIA POWER LTD., Maharashtra	1350.0	0.0000	0.0515	100.00
70	SEMCORP ENERGY INDIA LIMITED	SEMCORP ENERGY INDIA LIMITED (Andhra	1320.0	0.5350	0.5650	105.61

Sl No.	Name of TPS	Power Utility	Installed Capacity (Mega Watts)	Fly ash Generation (Million Tonnes)	Fly ash Utilization (Million Tonnes)	% age
(1)	(2)	(3)	(4)	(5)	(6)	(7)
		Prades)				
71	CUDDALORE - TAQA	TAQA Neyveli Power Co. Pvt. Ltd. (Tamil Nadu)	250.0	0.0215	0.0454	211.40
72	JOJOBERA	T.P.CO. (Jharkhand)	547.5	0.3880	0.3882	100.04
73	SABARMATI	TORRENT POWER LTD. (Gujarat)	362.0	0.0607	0.0609	100.46
74	RAMAGUNDAM-B-TSGENCO	TSGENCO (Telangana)	62.5	0.0277	0.0550	198.74
75	METTUR-I	T.N.G & D Corporation (Tamil Nadu)	840.0	0.3763	0.5504	146.27
76	METTUR-II	T.N.G & D Corporation (Tamil Nadu)	600.0	0.1530	0.1530	100.00
77	NORTH CHENNAI-I	T.N.G & D Corporation (Tamil Nadu)	630.0	0.4282	1.5604	364.40
78	NORTH CHENNAI-II	T.N.G & D Corporation (Tamil Nadu)	1200.0	0.5252	1.1866	225.93
79	BUTIBORI	VIDARBHA INDUSTRIES POWER LIMITED (Maharashtra)	600.0	0.0000	0.0213	100.00
80	VEDANTA TPP	VEDANTA LTD (ODISHA)	2400.0	2.4120	2.5998	107.78
81	VEDANTA CPP	VEDANTA LTD (ODISHA)	1215.0	1.5442	1.6573	107.32
82	VS LIGNITE POWER PVT LTD	VS LIGNITE POWER PVT LTD (RAJASTHAN)	135.0	0.1071	0.1071	100.00
83	KOLAGHAT	W.B.P.D.C.L (W.B.)	1260.0	0.2186	0.3608	165.08
84	SANTALDIH	W.B.P.D.C.L (W.B.)	500.0	0.4713	0.5733	121.64

It may be seen from **Table - VI** above that:

During the 1st half of the Year 2020-21, **84** Thermal Power Stations have achieved the fly ash utilization level of 100% or more, out of which **56** Thermal Power Stations have achieved fly ash utilization level of more than 100%.

Fly ash utilization level of more than 100% indicates full utilization of fly ash generated during the period of report along with that from ash pond.

3.3 Thermal Power Stations with Fly Ash Utilization Level of 90% to less than 100% during the 1st half of the Year 2020-21

The names of Thermal Power Stations which have achieved the fly ash utilization in the range of 90% to less than 100% during the 1st half year 2020-21 along with fly ash utilization level achieved by each of these power stations are given in **Table - VII** below:

TABLE - VII

THERMAL POWER STATIONS WITH FLY ASH UTILIZATION LEVEL OF 90% TO LESS THAN 100% DURING THE 1st HALF OF THE YEAR 2020-21

Sl No.	Name of TPS	Power Utility	Installed Capacity	Fly ash Generation	Fly ash Utilization	% age
			(Mega Watts)	(Million Tonnes)	(Million Tonnes)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Aarti Steels Limited	Aarti Steels Limited, Odisha	90.00	0.0811	0.0801	98.74
2	MUNDRA TPS	ADANI POWER LIMITED (Gujarat)	4620.00	0.2972	0.2970	99.92
3	BHADRESHWAR VIDYUT PVT LTD	BHADRESHWAR VIDYUT PVT LTD (Gujarat)	300.00	0.0100	0.0097	97.54
4	BALCO CPP-II	Bharat Aluminium Company Ltd (BALCO) (Chhattisgarh)	540.00	0.4940	0.4500	91.08
5	BALCO CPP-III	Bharat Aluminium Company Ltd (BALCO) (Chhattisgarh)	1200.00	1.1071	1.0140	91.59
6	DB Power Ltd.	DB Power Ltd., Chhattisgarh	1200.00	1.1954	1.1060	92.52
7	Durgapur Projects Power Station	Durgapur Projects Limited (West Bengal)	550.00	0.2714	0.2623	96.67
8	BHAVNAGAR LIGNITE	G.S.E.C.L. (Gujarat)	500.00	0.0674	0.0670	99.41
9	GMR KAMALANGA TPP	GMR KAMALANGA ENERGY Ltd. (Odisha)	1050.00	0.9245	0.8937	96.67
10	JAYPEE NIGRIE SUPER	JAIPRAKASH POWER VENTURES LIMITED (Madhya Pradesh)	1320.00	0.6437	0.6061	94.17
11	MAHATMA GANDHI	JHAJJAR POWER LIMITED(Haryana)	1200.00	0.3730	0.3650	97.86
12	LALITPUR TPS	LALITPUR POWER GENERATION COMPANY LIMITED (UP)	1980.00	0.8014	0.7878	98.30
13	ANUPPUR	MB POWER (MADHYA PRADESH) LIMITED (Madhya Pradesh)	1200.00	0.7447	0.7445	99.97

SI No.	Name of TPS	Power Utility	Installed Capacity	Fly ash Generation	Fly ash Utilization	% age
			(Mega Watts)	(Million Tonnes)	(Million Tonnes)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
14	SANJAY GANDHI	M.P.P.G.C.L. (Madhya Pradesh)	1340.00	0.9253	0.9168	99.08
15	Rajpura TPS	NABHA POWER LIMITED, PUNJAB	1400.00	0.6801	0.6448	94.82
16	DADRI	N.T.P.C.LTD (U.P.)	1820.00	0.4271	0.4234	99.12
17	TANDA	N.T.P.C.LTD (U.P.)	440.00	0.7778	0.7128	91.64
18	FARAKKA	N.T.P.C.LTD (W.B.)	2100.00	1.3250	1.2760	96.30
19	Guru Hargobind, LEHRA MOHABAT	P.S.P.C.L. (Punjab)	920.00	0.2096	0.1889	90.13
20	Raipur TPP	Raipur Energen Limited (Chhattisgarh)	1370.00	0.6594	0.6203	94.07
21	CHHABRA	RRVUNL (Rajasthan)	1000.00	0.6367	0.6117	96.07
22	RKM Power Gen Pvt. Ltd.	R K M POWERGEN PRIVATE LIMITED (Chhattisgarh)	1440.00	0.5692	0.5690	99.97
23	SINGARENI	THE SINGARENI COLLIERIES COMPANY LIMITED (Telangana)	1200.00	0.6898	0.6309	91.47
24	TROMBAY	T.P.CO.(Maharashtra)	930.00	0.0177	0.0165	93.22

It may be seen from **Table - VII** above that **24** Thermal Power Stations during the 1st half of the year 2020-21 have achieved fly ash utilization level in the range of 90% to less than 100%.

3.4 Thermal Power Stations with Fly Ash Utilization Level of 70% to less than 90% during the 1st half of the Year 2020-21

The Thermal Power Stations which have achieved the fly ash utilization in the range of 70% to less than 90% during the 1st half year 2020-21 along with fly ash utilization level achieved by each of these power stations are given in **Table - VIII** below:

TABLE - VIII

**THERMAL POWER STATIONS WITH FLY ASH UTILIZATION LEVEL OF 70% TO LESS THAN 90%
DURING THE 1st HALF OF THE YEAR 2020-21**

Sl No.	Name of TPS	Power Utility	Installed Capacity	Fly Ash Generation	Fly Ash Utilization	% age
			(Mega Watts)	(Million Tonnes)	(Million Tonnes)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	SRI DAMODARAM SANJEEVAIAH	APPDCL (Andhra Pradesh)	1600.00	0.6342	0.5520	87.04
2	Atal Bihari Vajpayee TPS	C.S.P.G.C.L (Chhattisgarh)	1000.00	0.6732	0.5833	86.65
3	MUNDRA UMPP	CGPL (Gujarat)	4150.00	0.3800	0.3300	86.84
4	DURGAPUR STEEL	Damodar Valley Corporation (West Bengal)	1000.00	0.8233	0.5945	72.21
5	IL & FS TNPC Ltd	IL & FS TAMIL NADU POWER COMPANY Ltd (Tamil Nadu)	1200.00	0.0679	0.0543	79.90
6	RATNAGIRI	JSW Energy Ltd (Maharashtra)	1200.00	0.1312	0.1103	84.09
7	Angul CPP	JINDAL STEEL AND POWER LIMITED (Odisha)	810.00	0.4710	0.3400	72.19
8	RAICHUR	K.P.C.L.(Karnataka)	1720.00	0.5079	0.4791	94.33
9	KORADI	M.S.P.G.C.L. (Maharashtra)	2400.00	0.9625	0.8185	85.04
10	PARAS	M.S.P.G.C.L. (Maharashtra)	500.00	0.5116	0.3711	72.53
11	NEYVELI - I	N.L.C.LTD (Tamil Nadu)	600.00	0.0392	0.0280	71.43
12	FEROZE GANDHI UNCHAHAR	N.T.P.C. LTD (U.P.)	1550.00	0.8695	0.7319	84.18
13	RAMAGUNDAM - NTPC	N.T.P.C.LTD (Andhra Pradesh)	2600.00	1.8079	1.3946	77.14
14	KAHALGAON	N.T.P.C.LTD (Bihar)	2340.00	2.0035	1.7367	86.68
15	KUDGI	N.T.P.C.LTD (Karnataka)	2400.00	0.0982	0.0696	70.86
16	GVK POWER (GOINDWALASAHI) LTD	PSPCL (PUNJAB)	540.00	0.1987	0.1686	84.86
17	PRAYAGRAJ	PRAYAGRAJ POWER GENERATION COMPANY LIMITED (Uttar Pradesh)	1980.00	0.9078	0.6793	74.83

SI No.	Name of TPS	Power Utility	Installed Capacity	Fly Ash Generation	Fly Ash Utilization	% age
			(Mega Watts)	(Million Tonnes)	(Million Tonnes)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
18	KALISINDH	RRVUNL (Rajasthan)	1200.00	0.3816	0.3110	81.50
19	ROSA PHASE-I	RPSCL(U.P)	1200.00	0.7960	0.6046	75.96
20	SKS POWER GENERATION (CG) LTD	SKS POWER GENERATION (CHHATTISGARH)	600.00	0.2775	0.2051	73.94
21	TENUGHAT TPS	TENUGHAT VIDHYUT NIGAM LIMITED (Jharkhand)	420.00	0.2623	0.2050	78.18
22	UDUPI	Udupi Power Corporation Limited (Karnataka)	1200.00	0.0244	0.0180	73.77

It may be seen from **Table - VIII** above that **22** Thermal Power Stations during the 1st half of the year 2020-21 have achieved fly ash utilization level in the range of 70% to less than 90%.

3.5 Thermal Power Stations with Fly Ash Utilization Level of 50% to less than 70% during the 1st half of the Year 2020-21

The Thermal Power Stations which have achieved the fly ash utilization in the range of 50% to less than 70% during the 1st half of the year 2020-21 along with fly ash utilization level achieved by each of these power stations are given in **Table - IX** below:

TABLE - IX

THERMAL POWER STATIONS WITH FLY ASH UTILIZATION LEVEL OF 50% TO LESS THAN 70% DURING THE 1ST HALF OF THE YEAR 2020-21.

SI No.	Name of TPS	Power Utility	Installed Capacity	Fly Ash Generation	Fly Ash Utilization	% age
			(Mega Watts)	(Million Tonnes)	(Million Tonnes)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	ADANI DAHANU	ADANI ELECTRICITY MUMBAI LIMITED (Maharashtra)	500.00	0.1660	0.1020	61.45
2	MAHAN	ESSAR POWER (MP) LTD., Madhya Pradesh	1200.00	0.3770	0.2030	53.85
3	HINDUJA NATIONAL POWER COPORATION TPP (Vizag)	HINDUJA NATIONAL POWER COPORATION LIMITED (Andhra Pradesh)	1040.00	0.3245	0.1647	50.75

Sl No.	Name of TPS	Power Utility	Installed Capacity	Fly Ash Generation	Fly Ash Utilization	% age
			(Mega Watts)	(Million Tonnes)	(Million Tonnes)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
4	DERANG TPP	JINDAL INDIA THERMAL POWER LIMITED (Odisha)	1200.00	0.8466	0.4975	58.77
5	JHABUA POWER LIMITED	JHABUA POWER LIMITED (MP)	600.00	0.4863	0.3379	69.49
6	MUZAFFARPUR	KANTI BIJLEE UTPADAN NIGAM LIMITED (Bihar)	610.00	0.2940	0.1960	66.67
7	SATPURA	M.P.P.G.C.L. (Madhya Pradesh)	1330.00	0.4923	0.2851	57.91
8	AMARKANTAK MPPGCL	M.P.P.G.C.L. (Madhya Pradesh)	210.00	0.1512	0.1000	66.14
9	KHAPARKHEDA	M.S.P.G.C.L. (Maharashtra)	1340.00	1.4634	0.8219	56.16
10	RIHAND	N.T.P.C.LTD (U.P.)	3000.00	2.2004	1.1856	53.88
11	KHARGONE SUPER TPS	N.T.P.C.LTD (M.P.)	1320.00	0.1763	0.1043	59.15
12	BARH SUPER TPS	N.T.P.C.LTD (Bihar)	1320.00	0.8506	0.4402	51.75
13	Nabinagar - NTPC	N.T.P.C.LTD (Bihar)	660.00	0.5021	0.2584	51.47
14	TALCHER - KANIHA	N.T.P.C.LTD (Odisha)	3000.00	3.6102	2.1714	60.15
15	BONGAIGAON	N.T.P.C.LTD (Assam)	750.00	0.2459	0.1396	56.78
16	SOLAPUR	N.T.P.C.LTD (Maharashtra)	1320.00	0.0939	0.0548	58.37
17	NALCO, CPP ANGUL	NATIONAL ALUMINIUM COMPANY LIMITED (NALCO) (Odisha)	1200.00	1.4628	0.9211	62.97
18	BHILAI PP-III	NSPCL (Chhattisgarh)	500.00	0.4386	0.2514	57.31
19	RAIGARH TPP (Formerly KWPCL)	RAIGARH ENERGY GENERATION LTD (Chhattisgarh)	600.00	0.2166	0.1173	54.16
20	KOTHAGUDEM-VI	TSGENCO (Telangana)	500.00	0.3761	0.2371	63.04
21	KAKATIYA (Stage-I)	TSGENCO (Telangana)	500.00	0.2094	0.1117	53.36

Sl No.	Name of TPS	Power Utility	Installed Capacity	Fly Ash Generation	Fly Ash Utilization	% age
			(Mega Watts)	(Million Tonnes)	(Million Tonnes)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
22	KAKATIYA (Stage-II)	TSGENCO (Telangana)	600.00	0.2973	0.1657	55.75
23	TUTICORIN	T.N.G & D Corporation (Tamil Nadu)	1050.00	0.5581	0.3820	68.46
24	RAIGARH TPP - TEPL	TRN ENERGY PRIVATE LIMITED (Chhattisgarh)	600.00	0.2312	0.1360	58.84
25	PARICHHA	U.P.R.V.U.N.L. (U.P.)	920.00	0.6185	0.4325	69.93
26	SAGARDIGHI	W.B.P.D.C.L (W.B.)	1600.00	0.9862	0.5029	51.00
27	BAKRESWAR	W.B.P.D.C.L (W.B.)	1050.00	0.6152	0.3994	64.93

It may be seen from **Table - IX** above that **27** Thermal Power Stations during the 1st half year 2020-21 have achieved fly ash utilization level of 50% to less than 70%.

3.6 Power Stations with Fly Ash Utilization Level of less than 50% during the 1st half of the Year 2020-21

The Thermal Power Stations which have achieved the fly ash utilization level of less than 50% during the 1st half year 2020-21 along with fly ash utilization level achieved by each of these power stations are given in **Table – X** :

TABLE - X

THERMAL POWER STATIONS WITH FLY ASH UTILIZATION LEVEL OF LESS THAN 50% DURING THE 1st HALF OF THE YEAR 2020-21

Sl No.	Name of TPS	Power Utility	Installed Capacity	Fly Ash Generation	Fly Ash Utilization	% age
			(Mega Watts)	(Million Tonnes)	(Million Tonnes)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	NABINAGAR - BRBCL	BHARATIYA RAIL BIJLEE COMPANY LTD (Bihar)	1000.00	0.4870	0.1416	29.07
2	KORBA (EAST)	C.S.P.G.C.L (Chhattisgarh)	440.00	0.2898	0.0601	20.73
3	KORBA (WEST)	C.S.P.G.C.L (Chhattisgarh)	1340.00	1.4838	0.3701	24.95
4	Dr. Shyama Prasad Mukherjee TPS (DSPM)	C.S.P.G.C.L (Chhattisgarh)	500.00	0.5427	0.0966	17.80

SI No.	Name of TPS	Power Utility	Installed Capacity	Fly Ash Generation	Fly Ash Utilization	% age
			(Mega Watts)	(Million Tonnes)	(Million Tonnes)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
5	RAGHUNATHPUR	Damodar Valley Corporation (West Bengal)	1200.00	0.6227	0.0822	13.20
6	O.P. Jindal Super TPP (Stage-I)	JINDAL POWER LIMITED (Chhattisgarh)	1000.00	0.4670	0.1080	23.13
7	O.P. Jindal Super TPP (Stage-II)	JINDAL POWER LIMITED (Chhattisgarh)	2400.00	1.3145	0.3137	23.86
8	AMARKANTAK - LANCO	LANCO AMARKANTAK POWER LIMITED(Chhattisgarh)	600.00	0.5939	0.1737	29.25
9	ANPARA-C TPP	LANCO ANPARA POWER LTD (UTTAR PRADESH)	1200.00	0.8992	0.1575	17.51
10	MEJA TPP	MEJA URJA NIGAM PVT LTD (UTTAR PRADESH)	660.00	0.3310	0.0557	16.84
11	SHREE SINGAJI TPS	M.P.P.G.C.L. (Madhya Pradesh)	2520.00	0.5294	0.2016	38.07
12	CHANDRAPUR SUPER TPP	M.S.P.G.C.L. (Maharashtra)	2920.00	2.3519	0.3457	14.70
13	DURGAPUR CAPTIVE POWER PLANT	NSPCL (West Bengal)	120.00	0.0899	0.0405	45.05
14	SINGRAULI	N.T.P.C.LTD (U.P.)	2000.00	1.3956	0.3171	22.72
15	KORBA - NTPC	N.T.P.C.LTD (Chhattisgarh)	2600.00	2.4220	1.2076	49.86
16	VINDHYACHAL	N.T.P.C.LTD (M.P.)	4760.00	4.7415	1.2308	25.96
17	GADARWARA	N.T.P.C.LTD (M.P.)	800.00	0.2351	0.0029	1.25
18	SIPAT	N.T.P.C.LTD (Chhattisgarh)	2980.00	2.7597	0.8527	30.90
19	Darlipali -NTPC	N.T.P.C.LTD(Odisha)	800.00	0.5694	0.0032	0.56
20	Lara Super TPP	N.T.P.C LTD., Chhattisgarh	800.00	0.4671	0.0366	7.84
21	BARAUNI	NTPC Ltd - BSPGCL (JV) (Bihar)	220.00	0.2031	0.0669	32.95
22	IB VALLEY	O.P.G.C.L.(Odisha)	1740.00	1.5895	0.3348	21.07
23	CHHABRA SUPER CRITICAL TPS	RRVUNL (Rajasthan)	1320.00	0.7249	0.3285	45.32
24	YERAMARUS TPS	RAICHUR POWER CORPORATION LIMITED (Karnataka)	1600.00	0.1615	0.0296	18.33

SI No.	Name of TPS	Power Utility	Installed Capacity	Fly Ash Generation	Fly Ash Utilization	% age
			(Mega Watts)	(Million Tonnes)	(Million Tonnes)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
25	RINL CAPTIVE TPP, VISAKHAPATNAM	RASHTRIYA ISPAT NIGAM LTD., (AP)	315.00	0.3329	0.0296	8.88
26	Sasan UMPP	Reliance Power Ltd., Madhya Pradesh	3960.00	2.5915	0.1117	4.31
27	TALWANDI SABO POWER LTD	TALWANDI SABO POWER LTD., Punjab	1980.00	0.9600	0.2300	23.96
28	KOTHAGUDEM-V	TSGENCO (Telangana)	500	0.4692	0.1336	28.48
29	KOTHAGUDEM-VII	TSGENCO (Telangana)	800.00	0.3935	0.1012	25.73
30	ANPARA 'A' & 'B'	U.P.R.V.U.N.L. (U.P.)	2630.00	1.7330	0.4017	23.18
31	OBRA	U.P.R.V.U.N.L. (U.P.)	1000.00	0.6853	0.0371	5.41
32	BANDEL	W.B.P.D.C.L (W.B.)	335.00	0.1307	0.0539	41.20

It may be seen from **Table - X** above that :

During the 1st half of the year 2020-21, out of **199** Thermal Power Stations, **32** stations achieved the level of fly ash utilization to less than 50%.

3.7 Power Stations with no fly ash Generation during the 1st half of the Year 2020-21

The Thermal Power Stations, which have **NO FLY ASH GENERATION** during the 1st half year 2020-21 along with the details of these power stations are given in **Table – XI**:

TABLE - XI

**LIST OF THERMAL POWER STATIONS WITH NO FLY ASH GENERATION DURING THE
1st HALF OF THE YEAR 2020-21**

Sl. No.	Name of TPS	Power Utility	Installed Capacity	Fly Ash Generation	Fly Ash Utilization	% age
			(Mega Watts)	(Million Tonnes)	(Million Tonnes)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	MIHAN	Abhijeet MADC Nagpur Energy Pvt. Ltd. (Maharashtra)	246.00	TPS is under shut down condition since 5.11.2013		
2	SVPL Renki	ACB India Limited (Chhattisgarh)	60.00	Plant is under shut down since 29.3.2020		
3	Southern Generating Station	C.E.S.C. (West Bengal)	135.00	TPS is not operational		
4	Titagarh Generating Station	C.E.S.C. (West Bengal)	240.00	TPS is under shut down condition since 9.1.2016		
5	RAJGHAT	IPGCL (Delhi)	135.00	TPS is not operational since 21.5.2015		
6	BELA TPS	IDEAL ENERGY PROJECTS Ltd.(Maharashtra)	270.00	TPS is not operational		
7	THAMMINAPATNAM TPS	MEENAKSHI ENERGY Ltd. (Andhra Pradesh)	300.00	Plant under shutdown from May 2018 to December 2020		
8	SAI LILAGARH POWER GENERATION LTD	SAI LILAGARH POWER GENERATION LTD (Chhattisgarh)	86.00	Plant under shut down condition		
9	SIMHAPURI	SIMHAPURI ENERGY LIMITED (Andhra Pradesh)	600.00	Plant is in stopped condition from 11th April 2017 onwards due to low power schedule		
10	SWASTIK POWER & MINERALS RESOURCES PVT. LTD.	SWASTIK POWER & MINERALS RESOURCES PVT. LTD (Chhattisgarh)	25.00	Plant is not in operation from date of commissioning i.e., 02-05-2015		

4.0 MODES OF FLY ASH UTILIZATION DURING THE 1st HALF OF THE YEAR 2020-21

The data on fly ash utilization received from Thermal Power Stations / Power Utilities for the 1st half of the year 2020-21 has been compiled to ascertain the modes in which fly ash was utilized and the quantity utilized in each mode.

The modes in which fly ash were utilized during the 1st half year 2020-21 along with utilization in each mode are given in **Table – XII** :

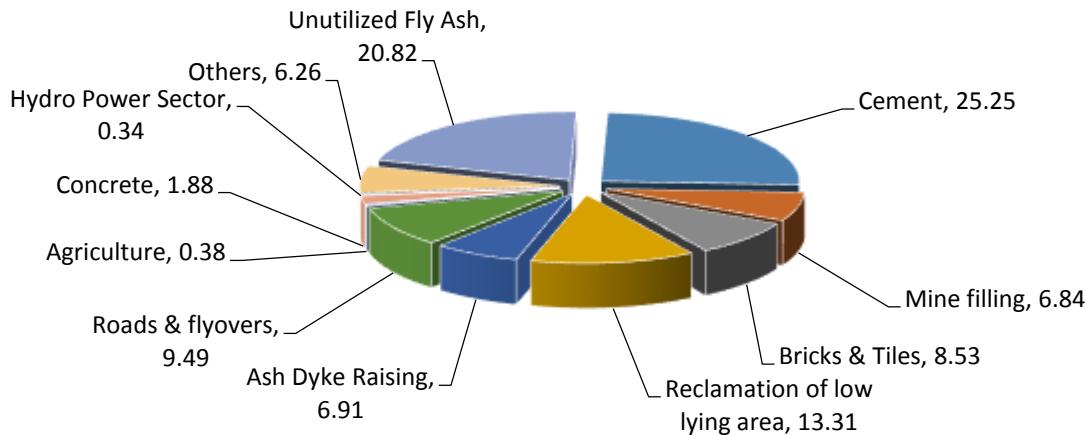
TABLE – XII

MODES OF FLY ASH UTILIZATION DURING THE 1st HALF OF THE YEAR 2020-21

Sl. No.	Mode of utilization	Quantity of Fly Ash utilized in the mode of utilization	
		Million Tonnes	Percentage (%)
(1)	(2)	(3)	(4)
1	Cement	26.8576	25.25
2	Mine filling	7.2719	6.84
3	Bricks & Tiles	9.0709	8.53
4	Reclamation of low lying area	14.1590	13.31
5	Ash Dyke Raising	7.3526	6.91
6	Roads & flyovers	10.0897	9.49
7	Agriculture	0.4027	0.38
8	Concrete	2.0013	1.88
9	Hydro Power Sector	0.3590	0.34
10	Others	6.6589	6.26
11	Unutilized Fly Ash	22.1414	20.82
	Total	106.3652	100.00

The PIE diagram showing the modes of utilization of fly ash during the 1st half of the Year 2020-21 is given in Figure-1 below:

Major Modes of Fly Ash Utilization during 1st Half of the Year 2020 - 21



It may be seen from **Table - XII** and Figure -1 above that :

During the 1st half of the Year 2020-21, the maximum utilization of fly ash to the extent of 25.25 % of total fly ash utilized was in the Cement sector, followed by 13.31 % in reclamation of low lying area, 9.49 in Roads & Flyovers, , 8.53 % in Bricks & Tiles, 6.91 % in ash dyke raising, 6.84 % in Mine Filling, 1.88 % in concrete, 0.38 % in Agriculture, 0.34 % in Hydro Power Sector, 6.26 % in others and 20.82 % Fly Ash remain Unutilized.

5.0 CONCLUSIONS & RECOMMENDATIONS

1. Due to **COVID-19 PANDEMIC**, some of the thermal power plants were not operational fully during this period i.e., April 2020 to September 2020.
2. The highest level of fly ash utilization of about 79.18 % is achieved in the current 1st Half year 2020-21 and it was about 78.19 % in the 1st Half year of 2019-20, 68.72 % in 2018-19, 60.38% in the 1st half year of 2017-18, 57.93% in the 1st half year 2016-17, 56.04 % in the 1st half year 2015-16 and 53.01 % in the 1st half year 2014-15.
3. The utilization of fly ash is in the range of 2 to 25 % in making fly ash based building products, in mine filling it is less than 7 %, in the construction of roads & flyover it is around 9 %. These areas have large potential of fly ash utilization which needs to be explored for increasing the overall utilization of fly ash in the country.

4. A Web page has been developed for Fly Ash Generation & its Utilization and Mobile App 'ASH TRACK' has been launched by Ministry of Power as an interface between TPS and potential users.
5. A few strategies which need to be adopted to further increase the utilization level of fly ash are given below:
 - Renovation and modernization of coal / lignite based Thermal Power Station needs to include the technological advancement required to ensure development of dry fly ash collection, storage and disposal facilities so that fly ash in dry form could be made available to its users. Renovation and modernization should also include a marketing strategy for the development of fly ash based industries and making available fly ash and fly ash based building products in the nearby markets.
 - The states and districts where Thermal Power Stations are located need to be sensitized to the need for utilization of fly ash and fly ash based building products and take necessary measures to promote them in the construction of buildings, highways / roads / flyovers and other infrastructure projects. Measures can include policy intervention, planning strategies, fiscal incentives, recognizing specific efforts etc.
 - Use of fly ash based building products like fly ash based bricks, blocks, tiles etc. by both Govt. and Public & Private Construction agencies at Central and State levels is required to be ensured especially in construction works within a radius of 300 km of any coal / lignite based Thermal Power Station as mandated in MoEF & CC's Notification of 25th January, 2016. The government agencies responsible for approval of building plans may have to ensure stipulation of a condition in their approval to the effect that only fly ash based building products like bricks / blocks / tiles etc shall be used in the construction of buildings as prescribed in MoEF & CC's Notification of 25th January, 2016 within a prescribed distance from any Thermal Power Station especially in the construction of large office / commercial buildings and housing projects being developed both in government and private sectors.
 - Use of fly ash in the construction of roads, road embankments and flyovers is well established and is slowly picking up. However, its potential is yet to be fully utilized.

The use of fly ash in these projects within a radius of 300 km of any Thermal Power Station as mandated in MoEF & CC's Notification of 25th January, 2016 has to be ensured right from project formulation stage and included in tender documents by having a prior tie up with the concerned Thermal Power Station for their requirement. There is a need to sensitize National Highway Authority of India, CPWD, State PWDs and other agencies both at Central and State levels that are involved in the construction of highways, roads, flyovers etc. in this regard.

- Use of fly ash in backfilling / stowing of closed / abandoned / running open cast and underground mines has large potential for utilization of fly ash, especially for pit head Thermal Power Stations which otherwise have limited avenues for fly ash utilization. However, its potential is yet to be fully utilized. The use of fly ash in back filling/stowing of open cast and underground mines within a radius of 50 km of any Thermal Power Station as mandated in MoEF & CC's Notification of 3rd November, 2009 has to be ensured right from initial stage of preparation of mine development plan. Inclusion of fly ash and bottom ash as backfill materials in the guidelines for preparation of mine closure plan is required for which Ministry of Coal and other concerned Ministries / Authorities have to take necessary action. There are environmental and safety concerns for use of fly ash along with overburden (OB) material for back filling of operating open cast mines. These concerns need to be addressed.
- Use of fly ash in the construction of embankments for laying railway lines has also significant potential for large scale utilization of fly ash. There are safety concerns in use of fly ash in the construction of railway embankments having passenger traffic. There is a need to address these concerns by carrying out necessary studies by organizations like Railway Design & Standards Organization (RDSO), a research organization under the Ministry of Railways.
- Thermal Power Stations may ensure the utilization of fly ash and fly ash based building products within the Thermal Power Station for the development of infrastructure like construction of buildings & roads, reclamation of low lying areas, the raising of ash dyke etc.

- The use of fly ash in Agriculture and waste land development has large potential but the utilization is below expectation. This may be attributed mainly to reservations in various quarters for use of fly ash in agriculture because of presence of heavy metals and radioactive elements in fly ash however, findings of research projects funded by Fly Ash Unit under Ministry of Science & Technology and studies carried out by other organizations indicate that there are no adverse effects in using fly ash in agriculture. Therefore, these concerns are required to be addressed for increasing the fly ash utilization.
- Thermal Power Stations may explore and promote all possible modes of fly ash utilization at their respective Thermal Power Station for increasing the fly ash utilization in the country in line with MoEF & CC's notifications of 3rd November, 2009 and 25th January 2016.
- There is a need to encourage 'Industry–Institute Interactions' for entrepreneur development, creating awareness and organizing training programmes and workshops.
- New emerging areas such as Light Weight Aggregates and Geo-polymers, Coal Beneficiation- Blending and Washing, etc. needs to focus for higher utilization of fly ash in the country.
- In view of large quantity of fly ash generation, utilization of fly ash may be introduced as construction material in academic curriculum of Engineering, Architecture, Mining, Agriculture etc.

* * *

ABBREVIATIONS

1. CEA : Central Electricity Authority
2. MoEF & CC : Ministry of Environment, Forest & Climate Change
3. MW : Mega Watt
4. MoP : Ministry of Power
5. MT : Million-Ton
6. TPS : Thermal Power Stations
7. APGENCO : Andhra Pradesh generation Corporation Ltd.
8. ACBPL : Aryan Coal Beneficiation Private Ltd.
9. APL : Adani Power Ltd.,
10. APCPL : Aravali Power Corporation Pvt. Ltd.
11. AMNEPL : Abhijeet MADC Nagpur energy Pvt. Ltd.
12. BEPL : Bajaj Energy Pvt. Ltd.
13. BSEB : Bihar State Electricity Supply Company
14. BRBCL : Bhartiya Rail Bijlee Company Limited
15. CESC : Calcutta Electric Supply Company
16. CGPL : Coastal Gujarat Power Ltd.
17. CSPGCL : Chhattisgarh State Power Generation Company Ltd.
18. DVC : Damodar Valley Corporation
19. DPL : Durgapur Project Ltd.
20. DPSC : Dishengardh Power Supply Company Ltd.
21. EPGL : Essar Power Gujarat Ltd.
22. GIPCL : Gujarat Industries Power Corporation Ltd.
23. GMDCL : Gujarat Mineral Development Corporation Ltd.
24. GSECL : Gujarat State Electric Corporation Ltd.

25. HPGCL	:	Haryana Power Generation Company Ltd.
26. IPGCL	:	Indraprastha Power Generation Company Ltd.
27. JSEB	:	Jharkhand State Electricity Board.
28. JHPL	:	Jhajjar Power Ltd.
29. JPL	:	Jindal Power Ltd.
30. JSW	:	Jindal Steel Works
31. KPCL	:	Karnataka Power Corporation Ltd.
32. KBUNL	:	Kanti Bijlee Utpadan Nigam Ltd.
33. MPPGCL	:	Madhya Pradesh Power Generating Company Ltd.
34. MPL	:	Maithon Power Ltd.
35. MSPGCL	:	Maharashtra State Power Generating Company Ltd.
36. NLC	:	Neyveli Lignite Corporation
37. NSPCL	:	NTPC -SAIL Power Corporation Ltd.
38. NTPC	:	National thermal Power Corporation
39. NTECL	:	NTPC – Tamilnadu Electric Company Ltd.
40. OPGCL	:	Odisha Power Generation Corporation Ltd.
41. PSPCL	:	Punjab State Power Corporation Ltd.
42. RRVUNL	:	Rajasthan Rajya Vidyut Utpadan Nigam Ltd.
43. RIL	:	Reliance Infrastructure Ltd.
44. RPSCL	:	Rosa Power Supply Company Ltd.
45. RWPL	:	Raj West Power Ltd.
46. SEL	:	Sterlite Energy Ltd.
47. SVPPL	:	Shri Vardhman Power Pvt. Ltd.
48. ST-CMS	:	ST-CMS
49. TPCO	:	Tata Power Company Ltd.

50. TUNL	:	Tenunghat Vidyut Nigam Ltd.
51. TNG&D	:	Tamil Nadu Generating and Distribution Corporation Ltd.
52. UPCL	:	Udupi Power Company Ltd.
53. UPRVUNL	:	Uttar Pradesh Rajya Vidyut Utpadan Nigam Ltd.
54. VESPL	:	Vandana Energy Supply Power Ltd.
55. WBPDCL	:	West Bengal Power Development Corporation Ltd.
56. WPCL	:	Wardha Power Company Ltd.
57. GEPL	:	Gupta Power Company Ltd.
58. VIP	:	Vidharbha Industries Power Ltd.
59. EPL	:	Essar Power Ltd.
60. ACB	:	Aryan Coal Beneficiary Ltd.
61. AP	:	Andhra Pradesh
62. MP	:	Madhya Pradesh
63. TN	:	Tamil Nadu
64. UP	:	Uttar Pradesh
65. WB	:	West Bengal
66. OB	:	Overburden
67. RDSO	:	Research Designs & Standards Organization

**FLY ASH GENERATION AND ITS UTILIZATION AT COAL / LIGNITE BASED THERMAL POWER STATIONS IN THE COUNTRY FOR THE 1ST HALF YEAR OF 2020-21
(APRIL-2020 TO SEPTEMBER - 2020)**

(POWER UTILITY WISE)

SI No.	Name of TPS	Power Utility & State	Installed Capacity	Coal Consumed	Ash Content of Coal	Fly Ash Generation	Fly Ash Utilization	Percentage Utilization	In the making of Fly Ash based Bricks / Blocks / Tiles etc.	In the Manufacture of Portland Pozzolana Cement	In the Construction of Highways & Roads including Flyovers	Part replacement of Cement in Concrete	In Hydro Power Sector in RCC Dam Construction	In Ash Dyke Raising	In the Reclamation of Low Lying Area	In Mine filling	In the Agriculture / Waste Land Development	Others
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
1	Aarti Steels Limited	Aarti Steels Limited, Odisha	90.00	0.1501	54.01	0.0811	0.0801	98.74	0.0121	0.0060					0.0554		0.0065	
2	Dr. N.T.R (Vijayawada)	APGENCO (Andhra Pradesh)	1760	1.9454	43.61	0.8485	1.0302	121.42	0.4977	0.3455	0.0679	0.0140	0.0000		0.0736			0.0314
3	RAYALSEEMA	APGENCO (Andhra Pradesh)	1650	0.1995	45.47	0.0854	0.3725	436.22	0.0283	0.3442								
4	SRI DAMODARAM SANJEEVAIAH	APPDCL (Andhra Pradesh)	1600	2.1836	29.04	0.6342	0.5520	87.04	0.0491	0.3869				0.1160	0.0000			
5	INDIRA GANDHI SUPER TPP, JHAJJAR	ARAVALI POWER COMPANY PRIVATE LIMITED (Haryana)	1500	0.5623	34.80	0.1957	0.7474	381.95	0.0705	0.6770								
6	KASAI PALI	ACB (INDIA) LTD CHHATTISGARH	270	0.7560	51.41	0.3887	0.4478	115.22	0.0222	0.0000	0.0043				0.4213			0.0000
7	MUNDRA TPS	ADANI POWER LIMITED (Gujarat)	4620	6.1702	4.82	0.2972	0.2970	99.92	0.0000	0.1926	0.0000				0.0440			0.0604
8	TIRODA	ADANI POWER MAHARASHTRA LTD. (Maharashtra)	3300	5.3419	32.89	1.7572	1.8809	107.04	0.0320	0.4221	0.0261			0.0740	0.9973	0.0006	0.0029	0.3259
9	KAWAI	ADANI POWER RAJASTHAN Ltd. (Rajasthan)	1320	2.1648	27.78	0.6013	0.6269	104.25	0.0976	0.5024					0.0269			
10	ADANI DAHANU	ADANI ELECTRICITY MUMBAI LIMITED (Maharashtra)	500	0.7940	20.91	0.1660	0.1020	61.45	0.0000			0.0630		0.0000				0.0390
11	MIHAN	Abhijeet MADC Nagpur Energy Pvt. Ltd. (Maharashtra)	246	0.0000	-	0.0000	0.0000	0.00										
12	CHAKABURA TPP	ACB (INDIA) Ltd. (Chhattisgarh)	30	0.0857	55.08	0.0472	0.0472	100.00	0.0045						0.0427			
13	CHAKABURA TPP (EXTN)	ACB (INDIA) Ltd. (Chhattisgarh)	30	0.1460	56.30	0.0822	0.0822	100.00	0.0083						0.0739			
14	SVPL Renki	ACB India Limited (Chhattisgarh)	60	0.0000	-	0.0000	0.0000	0.00	0.0000					0.0000	0.0000			
15	RATIJA TPS	ACB (INDIA) LIMITED (Chhattisgarh)	100	0.3358	56.81	0.1908	0.1908	100.03	0.0079						0.1830		0.0000	
16	BARKHERA	Bajaj Energy Private Ltd. (Uttar Pradesh)	90	0.0941	32.47	0.0305	0.0305	100.00	0.0131	0.0048					0.0127			
17	KHAMBARKHERA	Bajaj Energy Private Ltd. (Uttar Pradesh)	90	0.0923	29.85	0.0276	0.0276	100.00	0.0032	0.0218					0.0025			
18	KUNDARKI	Bajaj Energy Private Ltd. (Uttar Pradesh)	90	0.1170	31.72	0.0371	0.0371	100.00	0.0031	0.0323					0.0017			
19	MAQSOODAPUR	Bajaj Energy Private Ltd. (Uttar Pradesh)	90	0.0888	30.25	0.0268	0.0268	100.00	0.0094	0.0000					0.0175			
20	UTRAULA	Bajaj Energy Private Ltd. (Uttar Pradesh)	90	0.1391	31.05	0.0432	0.0432	100.00	0.0069	0.0325					0.0038			
21	BHADRESHWAR VIDYUT PVT LTD	BHADRESHWAR VIDYUT PVT LTD (Gujarat)	300	0.3428	2.91	0.0100	0.0097	97.54										0.0097
22	NABINAGAR - BRBCL	BHARATIYA RAIL BIJLEE COMPANY LTD (Bihar)	1000	1.2144	40.10	0.4870	0.1416	29.07	0.0086	0.1330								0.0000
23	BALCO CPP-II	Bharat Aluminium Company Ltd (BALCO) (Chhattisgarh)	540	1.2226	40.41	0.4940	0.4500	91.08	0.0061	0.0008					0.1636	0.2105		0.0689
24	BALCO CPP-III	Bharat Aluminium Company Ltd (BALCO) (Chhattisgarh)	1200	2.7687	39.99	1.1071	1.0140	91.59	0.0113	0.0017					0.0000	0.3059	0.4011	0.2941

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			(MW)	(MT)	%age (7)/(5)x100	(MT)	(MT)	%age (8)/(7)x100	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
25	Budge Budge Generating Station	C.E.S.C. (West Bengal)	750	1.6790	33.41	0.5610	0.5610	100.00	0.0630	0.4120	0.0000	0.0000		0.0000	0.0860			
26	Southern Generating Station	C.E.S.C. (West Bengal)	135	0.0000	-	0.0000	0.0000	0.00	0.0000	0.0000	0.0000	0.0000			0.0000			
27	Titagarh Generating Station	C.E.S.C. (West Bengal)	240	0.0000	-	0.0000	0.0000	0.00	0.0000	0.0000								
28	CHEMPLAST LTD TPS	CHEMPLAST SANMAR LTD (TAMIL NADU)	48.5	0.0969	8.36	0.0081	0.0083	102.35	0.0083									
29	KORBA (EAST)	C.S.P.G.C.L (Chhattisgarh)	440	0.6360	45.57	0.2898	0.0601	20.73	0.0068					0.0367	0.0000	0.0166		
30	KORBA (WEST)	C.S.P.G.C.L (Chhattisgarh)	1340	3.6007	41.21	1.4838	0.3701	24.95	0.0185		0.0829	0.0007		0.0180	0.1637	0.0864		0.0000
31	Atal Bihari Vajpayee TPS	C.S.P.G.C.L (Chhattisgarh)	1000	1.6160	41.66	0.6732	0.5833	86.65	0.0473	0.0067	0.0787			0.1949	0.2557			
32	Dr. Shyama Prasad Mukherjee TPS (DSPM)	C.S.P.G.C.L (Chhattisgarh)	500	1.2969	41.85	0.5427	0.0966	17.80							0.0595	0.0370		
33	MUNDRA UMPP	CGPL (Gujarat)	4150	5.2000	7.31	0.3800	0.3300	86.84	0.0040	0.1930		0.0550			0.0000	0.0530		0.0250
34	MUTIARA	COASTAL ENERGEN PVT. LTD (Tamil Nadu)	1200	0.5825	4.47	0.0261	0.0291	111.80	0.0073	0.0136					0.0083			
35	BOKARO 'B'	Damodar Valley Corporation (Jharkhand)	710	0.8950	43.58	0.3900	0.4035	103.46		0.0073						0.3963		
36	CHANDRAPURA	Damodar Valley Corporation (Jharkhand)	500	0.9620	46.06	0.4431	0.6219	140.34	0.0004	0.1619	0.3688				0.0908			
37	DURGAPUR	Damodar Valley Corporation (West Bengal)	210	0.0006	49.82	0.0003	0.0599	21251.77		0.0000					0.0599			
38	MEJIA	Damodar Valley Corporation (West Bengal)	2340	1.7794	73.41	1.3062	1.3192	101.00	0.0782	0.3360						0.9050		
39	DURGAPUR STEEL	Damodar Valley Corporation (West Bengal)	1000	1.7523	46.99	0.8233	0.5945	72.21	0.0829	0.3371					0.1745			
40	KODERMA	Damodar Valley Corporation (Jharkhand)	1000	2.0227	43.76	0.8852	1.0610	119.85	0.0033	0.3399	0.0593				0.2693	0.3892		
41	RAGHUNATHPUR	Damodar Valley Corporation (West Bengal)	1200	1.4205	43.84	0.6227	0.0822	13.20	0.0045	0.0777								
42	DB Power Ltd.	DB Power Ltd., Chhattisgarh	1200	2.6848	44.52	1.1954	1.1060	92.52	0.0176	0.2299		0.0030			0.4466	0.4087		
43	Durgapur Projects Power Station	Durgapur Projects Limited (West Bengal)	550	0.7770	34.93	0.2714	0.2623	96.67	0.0002	0.2172					0.0450			
44	DHARIWAL INFRASTRUCTURE Ltd.	Dhariwal Infrastructure Ltd. (Maharashtra)	600	1.3370	33.88	0.4530	0.4680	103.31	0.0380	0.3420	0.0000				0.0880			
45	MAHAN	ESSAR POWER (MP) LTD., Madhya Pradesh	1200	1.1290	33.39	0.3770	0.2030	53.85	0.0000	0.0790	0.0000			0.0000	0.0740			0.0500
46	SURAT LIGNITE	G.I.P.C.L. (Gujarat)	500	1.5671	16.89	0.2646	0.2646	100.00	0.0862									0.1784
47	AKRIMOTA	G.M.D.C.L. (Gujarat)	250	0.3599	25.86	0.0931	0.1340	143.94								0.1340		
48	GANDHINAGAR	G.S.E.C.L. (Gujarat)	630	0.0490	34.69	0.0170	0.4100	2411.76	0.1230	0.2220	0.0630	0.0020						0.0000
49	KUTCH LIGNITE	G.S.E.C.L. (Gujarat)	290	0.5720	26.57	0.1520	0.1810	119.08		0.0290						0.1520		
50	SIKKA	G.S.E.C.L. (Gujarat)	500	0.2390	7.11	0.0170	0.0610	358.82	0.0320	0.0290								
51	UKAI	G.S.E.C.L. (Gujarat)	1110	0.9370	37.25	0.3490	0.4180	119.77	0.0960	0.0910	0.0000	0.0000				0.1900		0.0410

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			(MW)	(MT)	%age (7)/(5)*100	(MT)	(MT)	%age (8)/(7)*100	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
52	WANAKBORI	G.S.E.C.L. (Gujarat)	2270	0.5710	34.15	0.1950	0.5160	264.62	0.0700	0.1420				0.0000		0.2230		0.0810
53	BHAVNAGAR LIGNITE	G.S.E.C.L. (Gujarat)	500	0.6620	10.18	0.0674	0.0670	99.41	0.0160						0.0450			0.0060
54	GMR KAMALANGA TPP	GMR KAMALANGA ENERGY Ltd. (Odisha)	1050	2.3713	38.99	0.9245	0.8937	96.67	0.4555	0.0000	0.4382			0.0000		0.0000		
55	GMR WARORA ENERGY Ltd.	GMR WARORA ENERGY Ltd. (Maharashtra)	600	1.1495	33.60	0.3863	0.4315	111.70	0.1011	0.1163	0.0590			0.1551				
56	RAJIV GANDHI TPP HISAR	H.P.G.C.L.(Haryana)	1200	0.6994	38.53	0.2695	0.3643	135.19	0.0293	0.1723	0.1627	0.0000						
57	YAMUNANAGAR	H.P.G.C.L. (Haryana)	600	0.7626	41.60	0.3173	0.5206	164.10	0.0147	0.1983				0.3077				
58	PANIPAT	H.P.G.C.L.(Haryana)	710	0.3898	40.05	0.1561	0.6980	447.15	0.0107	0.3327	0.0410			0.2890				0.0246
59	HINDUJA NATIONAL POWER COPORATION TPP (Vizag)	HINDUJA NATIONAL POWER COPORATION LIMITED (Andhra Pradesh)	1040	0.8206	39.54	0.3245	0.1647	50.75	0.0475	0.1069	0.0086							0.0017
60	HALDIA ENERGY LIMITED	HALDIA ENERGY LIMITED (West Bengal)	600	1.4930	33.69	0.5030	0.5030	100.00	0.0130	0.3890	0.0000							0.1010000
61	RAJGHAT	IPGCL (Delhi)	135	0.0000	-	0.0000	0.0000	0.00	0.0000	0.0000	0.0000							
62	IL & FS TNPC Ltd	IL & FS TAMIL NADU POWER COMPANY Ltd (Tamil Nadu)	1200	1.303	5.21	0.0679	0.0543	79.90		0.0543								
63	DISHERGARH TPS	INDIA POWER CORPORATION LIMITED (West Bengal)	12	0.0281	50.64	0.0142	0.0142	100.00							0.0142			
64	INDIAN METALS & FERRO ALLOYS LTD.	INDIAN METALS & FERRO ALLOYS Ltd. (Odisha)	258	0.5009	47.27	0.2368	0.2368	100.00	0.0735	0.0364	0.0020			0.1237				0.0012
65	BELA TPS	IDEAL ENERGY PROJECTS Ltd.(Maharashtra)	270	0.0000	-	0.0000	0.0000	0.00										
66	O.P.Jindal Super TPP (Stage-I)	JINDAL POWER LIMITED (Chhattisgarh)	1000	1.0460	44.65	0.4670	0.1080	23.13						0.0000	0.0590	0.0490		
67	O.P.Jindal Super TPP (Stage-II)	JINDAL POWER LIMITED (Chhattisgarh)	2400	2.8620	45.93	1.3145	0.3137	23.86	0.0043	0.0017				0.0000	0.0708	0.2369		
68	RATNAGIRI	JSW Energy Ltd (Maharashtra)	1200	1.2205	10.75	0.1312	0.1103	84.09	0.0326	0.0366	0.0412							
69	VIJAYANAGAR	JSW Energy Limited (Karnataka)	860	0.3493	12.96	0.0453	0.0453	100.00	0.0037	0.0361				0.0031				0.0024
70	JSW STEEL LTD CPP-II	JSW STEEL LTD (TAMIL NADU)	90	0.0525	9.24	0.0049	0.0049	100.47	0.0049									
71	JALIPA KAPURDI	JSW Energy (Barmer) Ltd. (Formerly Raj Westpower Ltd) Rajasthan	1080	3.1528	13.52	0.4263	0.4395	103.10	0.0742	0.2886					0.0767			
72	JAYPEE NIGRIE SUPER	JAIPRAKASH POWER VENTURES LIMITED (Madhya Pradesh)	1320	2.1097	30.51	0.6437	0.6061	94.17	0.0055	0.4729					0.1277			0.0000
73	JAYPEE BINA	JAIPRAKASH POWER VENTURES LIMITED (Madhya Pradesh)	500	1.7133	39.09	0.6697	0.6817	101.79	0.0781	0.3997				0.2038				
74	DONGAMAHUA CAPTIVE POWER PLANT	JINDAL STEEL AND POWER LIMITED (Chhattisgarh)	576	0.8767	49.58	0.4346	0.4348	100.03	0.0000	0.0014					0.4334			

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			(MW)	(MT)	%age (7)/(5)x100	(MT)	(MT)	%age (8)/(7)x100	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
75	Angul CPP	JINDAL STEEL AND POWER LIMITED (Odisha)	810	1.0690	44.06	0.4710	0.3400	72.19	0.0190					0.2030	0.1180			
76	Kharsia CPP	JINDAL STEEL AND POWER LIMITED (Chhattisgarh)	299	0.2950	45.42	0.1340	0.1340	100.00	0.0480	0.0140					0.0720			
77	DERANG TPP	JINDAL INDIA THERMAL POWER LIMITED (Odisha)	1200	2.1068	40.19	0.8466	0.4975	58.77	0.0368	0.0000	0.0000	0.0000	0.0000	0.2826	0.1765	0.0000	0.0017	0.0000
78	JHABUA POWER LIMITED	JHABUA POWER LIMITED (MP)	600	1.2211	39.82	0.4863	0.3379	69.49	0.0199	0.2101	0.0103				0.0977			0.0000
79	MAHATMA GANDHI	JHAJJAR POWER LIMITED(Haryana)	1320	1.0580	35.26	0.3730	0.3650	97.86	0.0150	0.3264	0.0000	0.0042						0.0194
80	BALLARI	K.P.C.L (Karnataka)	1700	2.1349	35.04	0.7481	3.0230	404.09	1.0471	1.9759								
81	RAICHUR	K.P.C.L.(Karnataka)	1720	1.2775	39.76	0.5079	0.4791	94.33	0.2093	0.2658	0.0040			0.0000				
82	MUZAFFARPUR	KANTI BIJLEE UTPADAN NIGAM LIMITED (Bihar)	610	0.7690	38.23	0.2940	0.1960	66.67	0.0230	0.0000		0.0230			0.0110			0.1390
83	LALITPUR TPS	LALITPUR POWER GENERATION COMPANY LIMITED (UP)	1980	2.3181	34.57	0.8014	0.7878	98.30	0.0000	0.3525	0.0011				0.4342			
84	AMARKANTAK - LANCO	LANCO AMARKANTAK POWER LIMITED(Chhattisgarh)	600	1.5561	38.17	0.5939	0.1737	29.25	0.0020	0.1399	0.0000			0.0200	0.0118			
85	ANPARA-C TPP	LANCO ANPARA POWER LTD (UTTAR PRADESH)	1200	2.7338	32.89	0.8992	0.1575	17.51		0.1575								
86	MCCPL BANDHAKHAR	Maruti Clean Coal & Power Ltd (Chhattisgarh)	300	0.7550	45.00	0.3398	0.3594	105.77	0.0172		0.0993				0.2429			
87	MAITHON RBTPP	MPL (Jharkhand)	1050	1.9954	41.46	0.8272	1.0443	126.25	0.0499	0.2029					0.0578	0.7338		
88	KMPCl-Nariyara	M/s KSK MAHANADI POWER COMPANY LIMITED (Chhattisgarh)	1800	3.8678	35.18	1.3606	1.4630	107.53	0.0028	0.5578	0.0723				0.15772	0.5437		0.1287
89	THAMMINAPATNAM TPS	MEENAKSHI ENERGY Ltd. (Andhra Pradesh)	300	0.0000	-	0.0000	0.0000	0.00	0.0000					0.0000				
90	ANUPPUR	MB POWER (MADHYA PRADESH) LIMITED (Madhya Pradesh)	1200	2.2332	33.35	0.7447	0.7445	99.97	0.0052	0.5696	0.0000	0.0000		0.0000	0.1681			0.0017
91	MEJA TPP	MEJA URJA NIGAM PVT LTD (UTTAR PRADESH)	660	0.9048	36.59	0.3310	0.0557	16.84	0.0025	0.0532								
92	SANJAY GANDHI	M.P.P.G.C.L. (Madhya Pradesh)	1340	2.5867	35.77	0.9253	0.9168	99.08	0.0123	0.4611	0.0013				0.4421			
93	SATPURA	M.P.P.G.C.L. (Madhya Pradesh)	1330	1.2577	39.15	0.4923	0.2851	57.91	0.0499	0.1813		0.0258		0.0000	0.0028	0.0000		0.0254
94	AMARKANTAK MPPGCL	M.P.P.G.C.L. (Madhya Pradesh)	210	0.4493	33.66	0.1512	0.1000	66.14	0.0200	0.0515	0.0000			0.0285				
95	SHREE SINGAJI TPS	M.P.P.G.C.L. (Madhya Pradesh)	2520	1.4588	36.29	0.5294	0.2016	38.07	0.0013	0.1384					0.0000			0.0618
96	BHUSAVAL - MSPGCL	M.S.P.G.C.L (Maharashtra)	1210	0.9753	39.66	0.3868	0.4736	122.42	0.0353	0.1696	0.1033			0.0000			0.0004	0.1650
97	KHAPARKHEDA	M.S.P.G.C.L. (Maharashtra)	1340	3.4869	41.97	1.4634	0.8219	56.16	0.2996		0.0152			0.3195	0.1876		0.0000	
98	NASHIK	M.S.P.G.C.L. (Maharashtra)	630	0.0000	-	0.0000	0.3524	100.00	0.3524	0.0000								

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			(MW)	(MT)	%age (7)/(5)x100	(MT)	(MT)	%age (8)/(7)x100	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
99	NEW PARLI	M.S.P.G.C.L. (Maharashtra)	750	0.1562	44.61	0.0697	1.3618	1954.25	0.0025	0.0133	0.0000	0.0121	0.0000	0.0000	0.0000	0.0000	0.0137	1.3203
100	KORADI	M.S.P.G.C.L. (Maharashtra)	2400	2.3539	40.89	0.9625	0.8185	85.04	0.3326	0.0003	0.0310			0.4545	0.0001			
101	PARAS	M.S.P.G.C.L. (Maharashtra)	500	1.3430	38.10	0.5116	0.3711	72.53	0.0154	0.2563	0.0994							0.0000
102	CHANDRAPUR SUPER TPP	M.S.P.G.C.L. (Maharashtra)	2920	5.9567	39.48	2.3519	0.3457	14.70	0.0230	0.3164					0.0063			
103	SAI WARDHA POWER Ltd. WARORA	MSELDC, Captive Consumers, Maharashtra	540	0.4881	29.09	0.1420	0.1710	120.42	0.0180	0.0730	0.0060	0.0170		0.0000		0.0570		
104	Rajpura TPS	NABHA POWER LIMITED, PUNJAB	1400	2.0465	33.23	0.6801	0.6448	94.82	0.0260	0.4893		0.0159			0.0762			0.0373
105	NEYVELI - I	N.L.C.LTD (Tamil Nadu)	600	0.8118	4.83	0.0392	0.0280	71.43	0.0037	0.0182								0.0061
106	NEYVELI -I EXPN	N.L.C.LTD (Tamil Nadu)	420	1.6370	7.23	0.1184	0.1184	100.00	0.0212	0.0667				0.0074		0.0126	0.0104	0.0001
107	NEYVELI - II	N.L.C.LTD (Tamil Nadu)	1470	3.3507	6.56	0.2197	0.7418	337.68	0.0419	0.0861	0.5219			0.0916		0.0000		0.0002
108	NEYVELI - II EXPN	N.L.C.LTD (Tamil Nadu)	500	0.9492	6.55	0.0622	0.0622	100.00	0.0457							0.0113		0.0051
109	NEYVELI NEW TPS	N.L.C.LTD (Tamil Nadu)	1000	1.4694	7.71	0.1133	0.1133	100.00	0.0263	0.0643				0.0121				0.0105
110	BARSINGSAR LIGNITE	N.L.C.LTD (Rajasthan)	250	0.6609	15.69	0.1037	0.1037	100.00	0.0202	0.0617						0.0218		
111	NLC TAMILNADU POWER LTD.	NLC TAMILNADU POWER LIMITED (Tamil Nadu)	1000	1.6907	30.56	0.5167	0.5167	100.00	0.0803	0.3767	0.0031			0.0070				0.0496
112	DURGAPUR CAPTIVE POWER PLANT	NSPCL (West Bengal)	120	0.3225	27.88	0.0899	0.0405	45.05		0.0405								
113	VALLUR	NTECL (Tamil Nadu)	1500	0.7444	38.35	0.2855	0.6082	213.03	0.0436	0.0468		0.0475			0.0000			0.4703
114	DADRI	N.T.P.C.LTD (U.P.)	1820	1.2395	34.46	0.4271	0.4234	99.12	0.0708	0.2832	0.0267							0.0426
115	SINGRAULI	N.T.P.C.LTD (U.P.)	2000	4.5447	30.71	1.3956	0.3171	22.72	0.0025	0.0000	0.1918			0.0070	0.1158			
116	RIHAND	N.T.P.C.LTD (U.P.)	3000	7.6105	28.91	2.2004	1.1856	53.88	0.0998	0.0117	0.1358	0.0000	0.0000	0.4156	0.3727			0.1501
117	FEROZE GANDHI UNCHAHAR	N.T.P.C. LTD (U.P.)	1550	2.3631	36.79	0.8695	0.7319	84.18	0.0132	0.2327	0.4040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0821
118	TANDA	N.T.P.C.LTD (U.P.)	440	1.9603	39.68	0.7778	0.7128	91.64	0.0034	0.1283	0.5094				0.0716			
119	KORBA - NTPC	N.T.P.C.LTD (Chhattisgarh)	2600	7.1888	33.69	2.4220	1.2076	49.86	0.0234	0.0004				0.5584	0.0542	0.1234		0.4479
120	VINDHYACHAL	N.T.P.C.LTD (M.P.)	4760	13.1899	35.95	4.7415	1.2308	25.96	0.0798	0.0305	0.0060			0.6054	0.4143			0.0948
121	GADARWARA	N.T.P.C.LTD (M.P.)	800	0.6950	33.82	0.2351	0.0029	1.25	0.0029						0.0000			
122	KHARGONE SUPER TPS	N.T.P.C.LTD (M.P.)	1320	0.4934	35.73	0.1763	0.1043	59.15	0.0063	0.0980								
123	SIPAT	N.T.P.C.LTD (Chhattisgarh)	2980	8.0387	34.33	2.7597	0.8527	30.90	0.1408	0.0473	0.5011			0.0374	0.1260		0.0000	0.0002
124	RAMAGUNDAM - NTPC	N.T.P.C.LTD (Andhra Pradesh)	2600	4.9536	36.50	1.8079	1.3946	77.14	0.6526	0.2146	0.0000	0.1203		0.1001	0.0052	0.3018		0.0000
125	SIMHADRI	N.T.P.C.LTD (Andhra Pradesh)	2000	2.9932	38.51	1.1526	1.4007	121.52	0.1991	0.1097	1.0096	0.0284		0.0534	0.0000			0.0004

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			(MW)	(MT)	%age (7)/(5)x100	(MT)	(MT)	%age (8)/(7)x100	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
126	FARAKKA	N.T.P.C.LTD (W.B.)	2100	3.8238	34.65	1.3250	1.2760	96.30	0.0018	0.1545	0.9911			0.0000	0.0000			0.1286
127	KAHALGAON	N.T.P.C.LTD (Bihar)	2340	5.4429	36.81	2.0035	1.7367	86.68	0.0930	0.3025	0.9107		0.3590	0.0345	0.0000		0.0369	0.0000
128	BARH SUPER TPS	N.T.P.C.LTD (Bihar)	1320	2.2384	38.00	0.8506	0.4402	51.75	0.0955	0.1253	0.1944			0.0000				0.0249
129	Nabinagar - NTPC	N.T.P.C.LTD (Bihar)	660	1.4480	34.68	0.5021	0.2584	51.47		0.2584								
130	TALCHER(TPS)	N.T.P.C.LTD (Odisha)	460	1.6442	39.00	0.6412	0.6412	100.00	0.0058					0.0000	0.0000	0.6354		
131	TALCHER - KANIHA	N.T.P.C.LTD (Odisha)	3000	8.7180	41.41	3.6102	2.1714	60.15	0.0451	0.0100	0.6317			1.4624	0.0222			
132	Darlipali -NTPC	N.T.P.C.LTD(Odisha)	800	1.2422	45.84	0.5694	0.0032	0.56		0.0032								
133	MOUDA TPS	N.T.P.C.LTD (Maharashtra)	2320	0.6164	36.02	0.2220	0.4089	184.15	0.0519	0.0427	0.2327			0.0529	0.0287			0.0000
134	BONGAIGAON	N.T.P.C.LTD (Assam)	750	0.8169	30.10	0.2459	0.1396	56.78	0.0155	0.1242								
135	SOLAPUR	N.T.P.C.LTD (Maharashtra)	1320	0.3098	30.31	0.0939	0.0548	58.37	0.0079	0.0469				0.0000				0.0000
136	KUDGI	N.T.P.C.LTD (Karnataka)	2400	0.2888	34.00	0.0982	0.0696	70.86	0.0022	0.0673								0.0000
137	Lara Super TPP	N.T.P.C LTD., Chhattisgarh	800	1.2511	37.33	0.4671	0.0366	7.84	0.0066						0.0298			0.0002
138	BARAUNI	NTPC Ltd - BSPGCL (JV) (Bihar)	220	0.4743	42.82	0.2031	0.0669	32.95	0.0032		0.0595							0.0042
139	NALCO, CPP ANGUL	NATIONAL ALUMINIUM COMPANY LIMITED (NALCO) (Odisha)	1200	3.1233	46.83	1.4628	0.9211	62.97	0.2688	0.0000	0.2082			0.4441	0.0000			
140	BHILAI PP-III	NSPCL (Chhattisgarh)	500	1.0270	42.71	0.4386	0.2514	57.31	0.1160	0.1096	0.0130				0.0127			
141	BHILAI PP-II	NSPCL (Chhattisgarh)	74	0.1639	43.85	0.0719	0.0805	111.96	0.0058	0.0112				0.0034	0.0601			
142	CPP-II ROURKELA	NSPCL , Odisha	120	0.4369	38.71	0.1691	0.3858	228.11	0.0250	0.0140	0.3015	0.0023			0.0430			
143	IB VALLEY	O.P.G.C.L.(Odisha)	1740	3.6118	44.01	1.5895	0.3348	21.07	0.0045	0.0026	0.0000				0.3278		0.00000	0.00004
144	OPG POWER GENERATION PVT LTD.	OPG POWER GENERATION PVT LTD., Tamil Nadu	414	0.4792	6.86	0.0329	0.0329	100.00	0.0066	0.0263								
145	Guru Hargobind, LEHRA MOHABAT	P.S.P.C.L. (Punjab)	920	0.5498	38.13	0.2096	0.1889	90.13	0.0148	0.1742	0.0000				0.0000			
146	Guru Gobind Singh TPS, Ropar	P.S.P.C.L. (Punjab)	840	0.5637	35.28	0.1989	0.8828	443.83	0.0126	0.4216	0.3304	0.0000			0.1166		0.0017	
147	Guru Nanakdev TPP, BATHINDA	P.S.P.C.L. (Punjab)	460	0.0000	-	0.0000	0.1250	100.00	0.0120	0.1130	0.0000	0.0000			0.0000		0.0000	
148	GVK POWER (GOINDWALASAHIB) LTD	PSPCL (PUNJAB)	540	0.5883	33.78	0.1987	0.1686	84.86		0.1686								
149	PRAYAGRAJ	PRAYAGRAJ POWER GENERATION COMPANY LIMITED (Uttar Pradesh)	1980	2.9038	31.26	0.9078	0.6793	74.83		0.5436				0.0000	0.1357	0.0000		0.0000
150	Raipur TPP	Raipur Energen Limited (Chhattisgarh)	1370	1.9485	33.84	0.6594	0.6203	94.07	0.0197	0.4793	0.0163				0.1050	0.0000		
151	CHHABRA	RRVUNL (Rajasthan)	1000	1.9526	32.61	0.6367	0.6117	96.07	0.0862	0.4047	0.0000			0.0000	0.0512			0.0697

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			(MW)	(MT)	%age (7)/(5)x100	(MT)	(MT)	%age (8)/(7)x100	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
152	CHHABRA SUPER CRITICAL TPS	RRVUNL (Rajasthan)	1320	2.1602	33.56	0.7249	0.3285	45.32	0.0003	0.3281								
153	SURATGARH TPS	RRVUNL (Rajasthan)	1500	0.2728	36.54	0.0997	0.5315	533.08	0.0019	0.0614								0.4681
154	KALISINDH	RRVUNL (Rajasthan)	1200	1.1916	32.02	0.3816	0.3110	81.50	0.2320	0.0629	0.0121	0.0040		0.0000	0.0000			0.0000
155	Kota Super TPS	RRVUNL (Rajasthan)	1240	1.3002	39.82	0.4771	0.6134	128.57	0.0344	0.2751				0.3038				
156	AMARAVATI TPS	RATTAN INDIA POWER LTD., Maharashtra	1350	0.0000	-	0.0000	0.0515	100.00	0.0515			0.0000		0.0000	0.0000			
157	ROSA PHASE-I	RPSCL(U.P)	1200	2.2672	35.11	0.7960	0.6046	75.96	0.0022	0.5280		0.0000		0.0000	0.0698		0.0000	0.0046
158	YERAMARUS TPS	RAICHUR POWER CORPORATION LIMITED (Karnataka)	1600	0.6995	23.08	0.1615	0.0296	18.33	0.0000	0.0296								
159	RAIGARH TPP (Formerly KWPCl)	RAIGARH ENERGY GENERATION LTD (Chhattisgarh)	600	0.5750	37.67	0.2166	0.1173	54.16					0.0000	0.1173				
160	RKM Power Gen Pvt. Ltd.	R K M POWERGEN PRIVATE LIMITED (Chhattisgarh)	1440	1.3334	42.69	0.5692	0.5690	99.97	0.0002	0.1911	0.0695		0.0056	0.0292				0.2735
161	RINL CAPTIVE TPP, VISAKHAPATNAM	RASHTRIYA ISPAT NIGAM LTD., (AP)	315	0.8179	40.71	0.3329	0.0296	8.88		0.0296				0.0000				
162	Sasan UMPP	Reliance Power Ltd., Madhya Pradesh	3960	9.3137	27.82	2.5915	0.1117	4.31	0.0008	0.0209		0.0005			0.0896			
163	SAI LILAGARH POWER GENERATION LTD	SAI LILAGARH POWER GENERATION LTD (Chhattisgarh)	86	0.0000	-	0.0000	0.0000	0.00										
164	SIMHAPURI	SIMHAPURI ENERGY LIMITED (Andhra Pradesh)	600	0.0000	-	0.0000	0.0000	0.00	0.0000									
165	SEMCORP ENERGY INDIA LIMITED	SEMCORP ENERGY INDIA LIMITED (Andhra Pradesh)	1320	2.2705	23.56	0.5350	0.5650	105.61	0.0142	0.3911		0.0027		0.1434	0.0135			
166	SWASTIK POWER & MINERALS RESOURCES PVT. LTD.	SWASTIK POWER & MINERALS RESOURCES PVT. LTD (Chhattisgarh)	25	0.0000	-	0.0000	0.0000	0.00										
167	SKS POWER GENERATION (CG) LTD	SKS POWER GENERATION (CHHATTISGARH)	600	0.6156	45.08	0.2775	0.2051	73.94	0.0137	0.0629	0.0000			0.0357	0.0928			
168	TENUGHAT TPS	TENUGHAT VIDHYUT NIGAM LIMITED (Jharkhand)	420	0.7905	33.18	0.2623	0.2050	78.18					0.0000	0.2050				
169	TALWANDI SABO POWER LTD	TALWANDI SABO POWER LTD., Punjab	1980	2.5000	38.40	0.9600	0.2300	23.96	0.0700	0.1600	0.0000			0.0000				
170	CUDDALORE - TAQA	TAQA Neyveli Power Co. Pvt. Ltd. (Tamil Nadu)	250	0.4817	4.46	0.0215	0.0454	211.40	0.0038	0.0106			0.0000		0.0001			0.0309
171	SINGARENI	THE SINGARENI COLLIERIES COMPANY LIMITED (Telangana)	1200	1.8608	37.07	0.6898	0.6309	91.47	0.0772	0.2099		0.0000		0.0482	0.1885			0.1072
172	JOJOBERA	T.P.CO. (Jharkhand)	547.5	1.0482	37.02	0.3880	0.3882	100.04	0.0052	0.2283		0.0115			0.1432			
173	TROMBAY	T.P.CO.(Maharashtra)	930	0.6730	2.63	0.0177	0.0165	93.22	0.0012			0.0121			0.0032			
174	SABARMATI	TORRENT POWER LTD. (Gujarat)	362	0.2712	22.36	0.0607	0.0609	100.46		0.0490	0.0332			-0.0212			0.0000	

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			(MW)	(MT)	%age (7)/(5)x100	(MT)	(MT)	%age (8)/(7)x100	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
175	KOTHAGUDEM-V	TSGENCO (Telangana)	500	0.9741	48.17	0.4692	0.1336	28.48	0.0552	0.0651								0.0133
176	KOTHAGUDEM-VI	TSGENCO (Telangana)	500	1.0203	36.86	0.3761	0.2371	63.04	0.0277	0.1844								0.0249
177	KOTHAGUDEM-VII	TSGENCO (Telangana)	800	1.3569	41.41	0.3935	0.1012	25.73	0.0528	0.0484								
178	KAKATIYA (Stage-I)	TSGENCO (Telangana)	500	0.6014	34.81	0.2094	0.1117	53.36	0.0620	0.0449				0.0000	0.0000			0.00488
179	KAKATIYA (Stage-II)	TSGENCO (Telangana)	600	0.8588	34.62	0.2973	0.1657	55.75	0.0856	0.0723				0.0000	0.0000			0.00788
180	RAMAGUNDAM-B-TSGENCO	TSGENCO (Telangana)	62.5	0.0642	43.14	0.0277	0.0550	198.74	0.0000									0.0550
181	METTUR-I	T.N.G & D Corporation (Tamil Nadu)	840.0	1.2740	29.54	0.3763	0.5504	146.27	0.1054	0.0242								0.4208
182	METTUR-II	T.N.G & D Corporation (Tamil Nadu)	600	0.5946	25.73	0.1530	0.1530	100.00	0.0103	0.1324				0.0000				0.0103
183	TUTICORIN	T.N.G & D Corporation (Tamil Nadu)	1050	1.7721	31.49	0.5581	0.3820	68.46	0.0643	0.3178					0.0000	0.0000		
184	NORTH CHENNAI-I	T.N.G & D Corporation (Tamil Nadu)	630	1.1535	37.12	0.4282	1.5604	364.40	0.0072	0.0368	0.0217	1.4947						
185	NORTH CHENNAI-II	T.N.G & D Corporation (Tamil Nadu)	1200	1.4433	36.39	0.5252	1.1866	225.93	0.0878	0.3221	0.7767							
186	RAIGARH TPP - TEPL	TRN ENERGY PRIVATE LIMITED (Chhattisgarh)	600	0.6755	34.22	0.2312	0.1360	58.84	0.0566						0.0794			
187	ANPARA 'A' & 'B'	U.P.R.V.U.N.L. (U.P.)	2630	5.0040	34.63	1.7330	0.4017	23.18	0.0004	0.0840				0.3126	0.0047			0.0000
188	OBRA	U.P.R.V.U.N.L. (U.P.)	1000	1.6404	41.78	0.6853	0.0371	5.41	0.0011	0.0360	0.0000				0.0000			
189	PARICCHA	U.P.R.V.U.N.L. (U.P.)	920	1.4885	41.55	0.6185	0.4325	69.93	0.0288	0.3214	0.0511			0.0000	0.0312			
190	UDUPI	Udupi Power Corporation Limited (Karnataka)	1200	0.3270	7.46	0.0244	0.0180	73.77	0.0038	0.0130		0.0003						0.0010
191	BUTIBORI	VIDARBHA INDUSTRIES POWER LIMITED (Maharashtra)	600	0.0000	-	0.0000	0.0213	100.00	0.0000	0.0000	0.0213	0.0000						
192	VEDANTA TPP	VEDANTA LTD (ODISHA)	2400	5.7295	42.10	2.4120	2.5998	107.78	0.0253	0.0474				0.4528	1.7715			0.3027
193	VEDANTA CPP	VEDANTA LTD (ODISHA)	1215	3.5218	43.85	1.5442	1.6573	107.32	0.0025	0.0127				0.5120	1.1291			0.0009
194	VS LIGNITE POWER PVT LTD	VS LIGNITE POWER PVT LTD (RAJASTHAN)	135	0.4865	22.02	0.1071	0.1071	100.00	0.0057									0.1014
195	KOLAGHAT	W.B.P.D.C.L (W.B.)	1260	0.5381	40.62	0.2186	0.3608	165.08	0.0216	0.1141				0.0000	0.2252			
196	SAGARDIGHI	W.B.P.D.C.L (W.B.)	1600	2.8661	34.41	0.9862	0.5029	51.00	0.0182	0.2326	0.0000				0.2521			
197	BANDEL	W.B.P.D.C.L (W.B.)	335	0.3334	39.21	0.1307	0.0539	41.20	0.0019	0.0520					0.0000			
198	SANTALDIH	W.B.P.D.C.L (W.B.)	500	0.9960	47.32	0.4713	0.5733	121.64	0.0148	0.2262					0.0000		0.3285	0.0039
199	BAKRESWAR	W.B.P.D.C.L (W.B.)	1050	2.1570	28.52	0.6152	0.3994	64.93	0.0151	0.3212					0.0631			
		Grand Total	207220.50	312.9863	33.98	106.3652	84.2237	79.18	9.0709	26.8576	10.0897	2.0013	0.3590	7.3526	14.1590	7.2719	0.4027	6.6589