



REPORT
ON
FLY ASH GENERATION
AT
COAL/LIGNITE BASED THERMAL POWER
STATIONS
AND
IT'S UTILIZATION IN THE COUNTRY
FOR
THE YEAR 2017-18



CENTRAL ELECTRICITY AUTHORITY

NEW DELHI

DECEMBER 2018



FOREWORD

Presently, the Electricity generation, in the country comprises about 80% from coal based generating stations. In near future also the coal-based generation is likely to remain substantial. The Indian coal is of low grade having high ash content of the order of 30 - 45%, generating large quantity of fly ash at coal/lignite based Thermal Power Stations. At present, the Ash utilization is lower than the generation on all India basis. As a result, there is surplus ash stock, which has been increasing every year. The management of fly ash has thus been a matter of concern in view of requirement of large area of land for its disposal because of its potential of causing pollution of air and water.

To address the above concerns, Ministry of Environment & Forests and Climate Change (MoEF&CC) has issued various Notifications on fly ash utilization prescribing therein the targets for fly ash utilization for Coal/Lignite power based Thermal Power Stations with an aim to achieve 100% utilization in a phased manner. Central Electricity Authority has been monitoring since 1996 the status of fly ash generation and its utilization in the country.

The utilization of fly ash has increased from 7 million tons in 1996-97 to a level of 132 million-ton in 2017-18. The percentage of fly ash utilization during 2017-18 is 67% which is less than the target set by MoEF vide its notification dated 03.11.2009. MoEF&CC issued the amendment dated 25th January, 2016 to existing notification enjoining upon power utilities/Thermal Power Stations for 100% fly ash utilization by 31st December, 2017. It is, however, noted that to materialize 100% utilization of fly ash on all India basis, extra efforts by all TPS are needed.

I wish to express my sincere thanks to all the Power Utilities and Thermal Power stations in the country for providing data/information on fly ash generation and its utilization to CEA for bringing out this report.

(PRAKASH MHASKE)
Chairperson, CEA

New Delhi
December 2018



PREFACE

Management of Fly Ash at coal/lignite based Thermal Power Stations in the country is a challenging task in view of large quantity of ash being generated and target of achieving 100% utilization of fly ash in time bound manner as prescribed in MoEF Notification of 14th September, 1999 and its subsequent amendment. The land for creating ash dykes for ash disposal facilities at thermal power plants is becoming difficult to be acquired. Fly ash, if not managed well, may pose environmental challenges.

Fly Ash Mission, a Technology Project in Mission Mode of Government of India was commissioned during 1994 as a joint activity of Department of Science & Technology (DST), Ministry of Power (MOP) and Ministry of Environment & Forests (MoEF) with Department of Science & Technology as nodal agency. The Fly Ash Mission was set up to promote research in the area of fly ash utilization so that fly ash could be gainfully utilized instead of its disposal in ash ponds. Ministry of Environment & Forests, Government of India also issued 1st Notification on Fly Ash Utilization in September, 1999, which was subsequently amended in 2003, 2009 and 2016 stipulating targets for fly ash utilization for Thermal Power Stations and use of fly ash by construction agencies within prescribed radius of any thermal power station.

These initiatives and policy decisions by Government of India have led to increased utilization of fly ash in various construction activities like making of fly ash based building products, manufacturing of Portland pozzolana cement, construction of roads/highways/ flyovers, reclamation of low lying areas, back filling and stowing of mines, waste land development, construction of Roller Compacted concrete dams etc. Though, in 2017-18, the ash utilization level has reached to about 67% (132 MT) as compared to less than 10% (7 MT) during the year 1996-97, a lot more needs to be done.

This report brings out present status of fly ash generation at 167 coal/lignite based Thermal Power Stations and its utilization in the country. It also brings out the status of level of fly ash utilization achieved by various thermal power stations in the country vis-à-vis targets prescribed in MoEF's Notification of 14th September, 1999 and its subsequent amendments in 2003, 2009 & 2016. I am confident that the report will also be useful to all the stakeholders involved in fly ash management in the country for planning the utilization of fly ash and having necessary tie-up with the concerned thermal power station.

Data collection, its compilation, reconciliation & analysis is quite a vast task. Moreover, to provide a dependable/accurate data in desired formats is equally a major job. We acknowledge and express our gratitude to all Power Utilities and Thermal Power Station for furnishing data in a timely manner. I would also like to place on record my appreciation of the efforts made by the officers and staff of Thermal Civil Design Division. We solicit suggestion from all concerned for further improving the presentation made in the report. All suggestions/views as well as intimations for any unintended errors observed in this document may kindly be sent to Chief Engineer, TCD, CEA, Room No. 901(N), Sewa Bhawan, R.K. Puram, New Delhi (E-mail Address: tcdcea@nic.in).

New Delhi
December 2018

(P.D. SIWAL)
Member (Thermal)

ACKNOWLEDGEMENT

I express my sincere thanks to all the power utilities and the Thermal Power Stations for furnishing the data and information for bringing out this report on Fly Ash Generation and its utilization in the country for the year 2017-18. Timely furnishing the required data and information by various Power Utilities and Thermal Power Stations to CEA is important for bringing out the report.

I am grateful to Chairperson as well as Member (Thermal), CEA for the valuable suggestions and guidance in preparation of this report.

I also express my thanks to the team comprising S/Shri Neeraj Kumar, Director, Sudipto Mandal, Deputy Director, Bhagaban Bhattacharya, Assistant Director, S. K. Sharma, Head Draughtsman and other officers of TCD Division, CEA in preparation of this report.

New Delhi
December 2018



(R. S. RAM)
Chief Engineer (TCD)

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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 YEAR 2017-18)**

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 30-45 % in comparison to imported coals which have low ash content of the order of 10-15%. 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) on behalf of Ministry of Power has been monitoring the fly ash generation and its utilization at coal/ lignite based thermal power stations in the country since 1996. Data on fly ash generation and utilization including modes of utilization is obtained from thermal power stations on half yearly as well as on 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 report is forwarded to Ministry of Power, Ministry of Science & Technology and Ministry of Environment, Forests and Climate Change. 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 in the country, in order to facilitate and promote the utilization of fly ash.

In order 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 (MoEF&CC) has issued various Notifications on fly ash utilization. First Notification was issued on 14th September, 1999 which was subsequently amended in year 2003, 2009 and 2016 vide Notifications dated 27th August, 2003; 3rd November, 2009 and 25th January, 2016 respectively. The amendment Notification of year 2009 prescribes the 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's notification (i.e. 3rd November, 2009) are to achieve the target of fly ash utilization as 50% in the first year, 70% during in second year, 90% during third year and 100% during fourth year depending upon their date of commissioning. Ministry of Environment, Forest and Climate change has recently issued an amendment to the Notification on 25th January, 2016 in order to widen the scope of fly ash utilization, besides engraining upon Power Utilities to bear the cost of the transportation.

The report on "fly ash generation and its utilization at coal/lignite based thermal power stations" provides information and the status of fly ash utilization in the country. It also facilitates to ascertain the level of fly ash utilization achieved by various power stations in relation to targets prescribed in MoEF's amended notifications of 3rd November, 2009 and 25th January, 2016 and to take corrective measures in cases of Thermal Power Stations lagging behind in achieving the prescribed targets of fly ash utilization.

2.0 ASH GENERATION & UTILIZATION DURING THE YEAR 2017-18

2.1 A Brief Summary

Fly ash generation & utilization data for the Year 2017-18 (April 2017 to March 2018) has been received from **167** (One hundred sixty seven) coal/lignite based thermal power stations of various power utilities in the country. Data 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 DURING THE YEAR 2017-18

Description		Year 2017-18
• Nos. of Thermal Power Stations from which data was received	:	167
• Installed capacity (MW)	:	177070.00
• Coal consumed (Million tons)	:	624.88
• Fly Ash Generation (Million tons)	:	196.44
• Fly Ash Utilization (Million tons)	:	131.87
• Percentage Utilization	:	67.13
• Percentage Average Ash Content (%)	:	31.44

Power Station wise fly ash generation & its utilization status including modes of utilization for the 2017-18 for all the **167** thermal power stations is given in the statement at **Annex-I** and State wise fly ash generation & its utilization status is given in **Annex-II**.

2.2 Thermal Power Units Commissioned during the Year 2017-18:

During the Year 2017-18, Seven Thermal power plant with total installed capacity of **3,630 MW** as given in Table-II below have been commissioned:

TABLE-II
THERMAL POWER UNITS COMMISSIONED DURING THE YEAR 2017-18

Sl. No.	Name of Thermal Power Station	Name of Power Utility	Unit No.	Capacity (MW)	Date of Commission
1	2	3	4	5	6
2017-18					
1	SOLAPUR TPS	NTPC LTD. (Maharashtra)	2	660.00	April,2017
2	YERAMARUS TPS	RAICHUR POWER CORPORATION LIMITED (Karnataka)	2	800.00	06.04.2017
3	RAIGARH TPS	TRN ENERGEY PRIVATE LIMITED (Chhattisgarh)	2	300.00	18.04.2017
4	PRAYAGRAJ TPS	PRAYAGRAJ POWER GENERATION COMPANY LIMITED (UP)	3	660.00	26.05.2017
5	NABINAGAR TPS	BHARATIYA RAIL BIJLEE COMPANY LIMITED (Bihar)	2	250.00	10.09.2017

Sl. No.	Name of Thermal Power Station	Name of Power Utility	Unit No.	Capacity (MW)	Date of Commission
1	2	3	4	5	6
6	UNCCHPINDA TPS	R.K.M POWERGEN PRIVATE LIMITED (Chhattisgarh)	III	360.00	11.11.201 to 13.11.2017
7	KMPCL(Akaltara) TPS	KSK MAHANADI POWER COMPANY LIMITED (Chhattisgarh)	2	600.00	February 2018
Total for 2017-18				3,630.00	

2.3 Retirement of Thermal Power Units during the Year 2017-18:

During the Year 2017-18, the following units with installed capacity as given in Table-III below have been decommissioned:

TABLE-III
THERMAL POWER UNITS RETIRED DURING THE YEAR 2017-18

Sl. No.	Name of Thermal Power Station	Name of Power Utility	Unit No.	Capacity (MW)	Date of Retirement
(1)	(2)	(3)	(4)	(5)	(6)
2017-18					
1	KORADI	MSPGCL	5	5X200	24.04.2017
2	PATRATU	PATRATU VUDYUT UTPADAN NIGAM LIMITED	4,6,7	4X40+6X90+7X105	26.05.2017
3	OBRA	UPRVUNL	1 & 2	1X50+2X50	18.08.2017
4	HARDUAGANJ	UPRVUNL	5	5X60	18.08.2017
5	UKAI	GSECL	1 & 2	1X120+2X120	18.08.2017
6	SIKKA	GSECL	1 & 2	1X120+2X120	18.08.2017
7	CHINAKURI	INDIA POWER CORPORATION LIMITED	1,2 & 3	30	31.08.2017
8	DISHERGARH	INDIA POWER CORPORATION LIMITED	1 & 3	1X3+3X5	31.08.2017
9	SEEBPORE	INDIA POWER CORPORATION LIMITED	1,2,3 & 4	1X5+1X1.88+1X2+1X3	31.08.2017
10	BHUSAWAL	MSPGCL	2	2X210	31.08.2017
11	CHANDRAPURA	DVC	2	2X130	04.09.2017
12	BOKARO 'B'	DVC	1 & 2	1X210+2X210	04.09.2017
13	PANKI	UPRVUNL	3 & 4	3X105+4X105	March,2018
Total for 2017-18				1983.88	

2.4 Power Utility Wise Status of Fly Ash Generation & its Utilization during the Year 2017-18

The status of fly ash generation & utilization for the year 2017-18 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-IV:

TABLE-IV
POWER UTILITY WISE FLY ASH GENERATION AND UTILIZATION FOR THE
YEAR 2017-18

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	Andhra Pradesh Power Generation Corporation (APGENCO)	2	2810.00	5.9388	5.0441	84.9345
2	APPDCL(Andhra Pradesh)	1	1600.00	0.8240	0.6234	75.6553
3	APL (Gujarat)	1	4620.00	0.7490	0.7450	99.4660
4	APCPL (Haryana)	1	1500.00	1.6199	1.1166	68.9331
5	ACB (INDIA) Ltd. (Chhattishgarh)	4	390.00	1.4167	1.4168	100.0007
6	AMNEPL (Maharashtra)	1	246.00	0.0000	0.0000	0.0000
7	ADANI POWER LTD. (Maharashtra)	1	3300.00	3.5318	2.8597	80.9714
8	ADANI POWER RAJASTHAN LTD. (Rajasthan)	1	1320.00	0.4178	0.4191	100.3121
9	ADANI ELECTRICITY MUMBAI LIMITED (Maharashtra)	1	500.00	0.6390	0.6545	102.4228
10	BEPL (UP)	5	450.00	0.2928	0.2927	99.9572
11	Bharatiya Rail Bijlee Company Limited (Bihar)	1	500.00	0.2669	0.0754	28.2382
12	C.E.S.C. Ltd. (West Bengal)	3	1125.00	1.3460	1.3460	100.0000
13	C.G.P.L (Gujarat)	1	4000.00	0.7861	0.6309	80.2570
14	Chattisgarh State Power Generation Company Ltd. (C.S.P.G.C.L.)	3	2840.00	5.2541	1.1577	22.0338
15	COASTAL ENERGEN PVT. LTD (Tamil Nadu)	1	1200.00	0.0807	0.0802	99.4177
16	Damodar Valley Corporation (D.V.C.)	7	7090.00	9.7167	8.4679	87.1478
17	Durgapur Projects Ltd. (D.P.L.)	1	660.00	0.6047	0.5679	93.9025
18	Dhariwal Infrastructure Ltd. (Maharashtra)	1	600.00	0.4932	0.4488	91.0033
19	Gujarat Industries Power Corporation Ltd. (G.I.P.C.L.)	1	500.00	0.5658	0.5658	100.0000
20	Gujarat Mineral Development Corporation Ltd. (G.M.D.C.L.)	1	250.00	0.2138	0.2755	128.9048
21	G.S.E.C.L. (Gujarat)	5	4000.00	0.4517	0.4124	91.2885
22	Gupta Energy Pvt. LTD.(Maharashtra)	1	120.00	0.0000	0.0000	0.0000
23	GMR Kamalanga Energy LTD. (Odisha)	1	1050.00	1.3929	1.6711	119.9710
24	GMR Warora Energy	1	600.00	0.6582	0.7253	110.1964

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
	LTD. (Maharashtra)					
25	GMR Chhattisgarh Energy LTD. (Chhattisgarh)	1	1370.00	0.2751	0.2703	98.2384
26	Haryana Power Generation Cor. Ltd. (H.P.G.C.L.)	3	2720.00	2.6260	3.5357	134.6390
27	HALDIA ENERGY LIMITED (W.B.)	1	600.00	1.0290	1.0290	100.0000
28	Hinduja National Power Corporation Limited (Andhra Pradesh)	1	1040.00	0.8479	0.1105	13.0324
29	Inderprastha Power Generation Company Ltd. (.I.P.G.C.L)	1	135.00	0.0000	0.0000	#DIV/0!
30	INDIAN METALS & FERRO ALLOYS LTD. (Odisha)	1	258.00	0.4235	0.4235	100.0000
31	I.P.C.L. (W.B.)	1	12.00	0.0353	0.0353	100.0000
32	J.H.P.L (HR)	1	1320.00	1.8722	1.4309	76.4305
33	J.P.L (Chhattisgarh)	2	3400.00	3.6640	2.8059	76.5802
34	JSW Energy Ltd.	2	2060.00	0.5289	0.5215	98.6065
35	Jaiprakash Power Ventures Limited (MP)	2	1820.00	1.6867	1.6878	100.0640
36	JINDAL INDIA THERMAL POWER LIMITED (Odisha)	1	1200.00	1.1325	1.0322	91.1404
37	JINDAL STEEL AND POWER LIMITED (CHHATTISGARH)	1	576.00	1.1443	1.1423	99.8252
38	Karnataka Power Corporation Ltd.(K.P.C.L.)	2	3420.00	3.1118	1.7347	55.7468
39	KANTI BIJLEE UTPADAN NIGAM LIMITED (Bihar)	1	610.00	0.4411	0.1872	42.4415
40	KSK Mahanadi Power Company Limited (Chhattisgarh)	1	1800.00	1.1723	1.0368	88.4400
41	LANCO AMARKANTAK POWER LIMITED (Chhattisgarh)	1	600.00	1.0201	0.4433	43.4592
42	LALITPUR POWER GENERATION COMPANY LIMITED (UP)	1	1980.00	1.7026	1.4629	85.9254
43	Madhya Pradesh Power Generation Corporation Ltd. (M.P.P.G.C.L.)	4	4080.00	4.6971	2.6110	55.5869
44	Maithon Power Limited (Jharkhand)	1	1050.00	1.7026	1.8084	106.2141
45	Maharashtra State Power Generation Corporation Ltd.	7	10370.00	11.1053	5.7812	52.0582

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
	(M.S.P.G.C.L)					
46	Meenakshi Energy Pvt. Ltd. (A.P)	1	300.00	0.0285	0.1129	395.4873
47	Maruti Clean Coal and Power Limited (Chhattisgarh)	1	300.00	0.7724	0.7232	93.6265
48	M/S JHABUA POWER LIMITED (MP)	1	600.00	0.3768	0.2491	66.1249
49	MB POWER (MADHYA PRADESH) LIMITED (M.P.)	1	1200.00	1.6141	0.7854	48.6581
50	M/s KORBA WEST POWER COMPANY LIMITED (Chhattisgarh)	1	600.00	0.1730	0.2530	146.2428
51	Neyvelli Lignite Corporation Ltd. (N.L.C.LTD)	5	3240.00	3.5719	3.6667	102.6543
52	NSPCL (Chhatisgarh)	1	500.00	0.9079	0.9629	106.0568
53	N.T.P.C.LTD.	20	38005.00	60.3054	32.2400	53.4613
54	NTECL (Tamil Nadu)	1	1500.00	1.8730	1.2180	65.0294
55	NABHA POWER PROJECT (Punjab)	1	1400.00	1.4510	1.6456	113.4114
56	NLC TAMIL NADU POWER LIMITED (Tamil Nadu)	1	1000.00	1.0929	1.0929	100.0000
57	Orissa Power Generation Corporation Ltd. (O.P.G.C.L.)	1	420.00	1.0961	0.6073	55.4074
58	Punjab State Power Corporation Ltd. (P.S.P.C.L).	3	2640.00	1.2542	1.7455	139.1722
59	PRAYAGRAJ POWER GENERATION COMPANY LTD. (U.P.)	1	1980.00	1.0065	0.8162	81.0938
60	POWER GRID (Tamil Nadu)	1	1200.00	0.1120	0.1120	100.0000
61	Patratu Vidyut Utpadan Nigam Limited (Jharkhand) (No Generation)	1	455.00	0.0000	0.0000	#DIV/0!
62	R.K.M.POWERGEN PVT. LTD (PGCIL) (Chhattisgarh)	1	1080.00	0.3772	0.3763	99.7720
63	Rajasthan Rajya Vidyut Utpadan Nigam Ltd. (R.R.V.U.N.L.)	2	2500.00	2.3035	2.5839	112.1730
64	RPSCL (UP)	1	1200.00	1.6195	1.2237	75.5578
65	R.W.P.L. (JSW)	1	1080.00	0.9732	1.0049	103.2608
66	RATTANINDIA POWER LTD. (Maharashtra)	1	1350.00	0.8269	0.8031	97.1151
67	RAICHUR POWER CORPORATION LIMITED (Karnataka)	1	1600.00	0.1754	0.0000	0.0000

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
68	RELIANCE POWER LIMITED (Madhya Pradesh)	1	3960.00	4.1204	1.2213	29.6407
69	Spectrum Coal & Power Ltd.(Chhattisgarh)	1	100.00	0.6679	0.5794	86.7377
70	SEPL(Andhra Pradesh)	1	600.00	0.0023	0.0023	100.0000
71	SEMBCORP ENERGY INDIA Ltd. (Formerly Thermal Powertech Corporation India Ltd) (Andhra Pradesh)	1	1320.00	1.0001	0.3085	30.8442
72	SAILILAGARH POWER GENERATION LIMITED (Chhattisgarh)	1	86.00	0.0393	0.0393	100.0000
73	Taqa Neyveli Power Company Pvt.Ltd.	1	250.00	0.7813	0.7811	99.9752
74	Tata Power Company (T.P.CO.)	2	1297.50	0.8516	0.7548	88.6332
75	T.N.G & D Corporation (Tamil Nadu)	5	4320.00	5.4572	2.5843	47.3551
76	TRN ENERGY Pvt. Ltd.(Chhattisgarh)	1	600.00	0.7429	0.5663	76.2341
77	Torent Power Ltd.	1	422.00	0.3746	0.3747	100.0267
78	TSGENCO (Telangana)	6	2882.50	5.6021	2.5357	45.2631
79	TALWANDI SABO POWER LTD (Punjab)	1	1980.00	2.1200	1.5400	72.6415
80	TENUGHAT VIDHYUT NIGAM LIMITED (Jharkhand)	1	420.00	0.6034	0.5373	89.0513
81	UPCL (Karnataka)	1	1200.00	0.1519	0.1526	100.4608
82	Uttar Pradesh Rajya Vidyut Utpadan Nigam Ltd.(U.P.R.V.U.N.L.)	5	5650.00	8.2596	2.5710	31.1273
83	VIDARBHA INDUSTRIES POWER LTD. (Maharashtra)	1	600.00	0.6609	0.6884	104.1485
84	VS LIGNITE POWER PROVATE LIMITED (Rajasthan)	1	135.00	0.1081	0.1081	100.0000
85	West Bangal Power Development Corporation Limited (W.B.P.D.C.L)	5	4865.00	5.2338	5.3394	102.0174
86	WPCL (KSKEV Ltd.) (Maharashtra)	1	540.00	0.2730	0.2720	99.6337
	GRAND TOTAL	167	177070.00	196.4410	131.8663	67.13

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

The data of fly ash generation and utilization for year 2017-18 was received from 87 Power Utilities out of which **31** Power Utilities have achieved fly ash utilization level of 100% or more and **15** Power Utilities have achieved fly ash utilization level in the range of less than 100% to 90%;

The performance of these (46) power utilities in fly ash utilization has been excellent during the aforesaid period (i.e. during the year 2017-18).

2.5 State wise Status of Fly Ash Generation & its Utilization during the Year 2017-18

The state wise 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-V below:

TABLE-V

STATE WISE FLY ASH GENERATION AND ITS UTILIZATION DURING THE YEAR 2017-18

Sl. No.	Name of State	Nos. 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	9	12270.00	16.1997	13.8517	85.51
2	ASSAM	1	250.00	0.2430	0.0110	4.53
3	BIHAR	4	4770.00	7.3780	3.1566	42.78
4	CHHATISGARH	22	19822.00	27.6227	14.8064	53.60
5	DELHI	2	840.00	0.3280	0.6750	205.79
6	GUJARAT	10	13792.00	3.1410	3.0043	95.65
7	HARYANA	5	5540.00	6.1181	6.0832	99.43
8	JHARKHAND	7	4812.50	6.5079	6.3204	97.12
9	KARNATAKA	6	8680.00	4.3356	2.4189	55.79
10	MADHYA PRADESH	10	16420.00	20.4520	8.5136	41.63
11	MAHARASHTRA	20	23156.00	20.8906	14.2159	68.05
12	ODISHA	6	6388.00	13.1940	8.7370	66.22
13	PUNJAB	5	6020.00	4.8252	4.9311	102.19
14	RAJASTHAN	6	5285.00	6.3430	6.6564	104.94
15	TAMILNADU	14	12460.00	10.4287	6.9949	67.07
16	TALANGANA	6	2882.50	5.6021	2.5357	45.26
17	UTTAR PRADESH	18	19570.00	25.2500	13.8415	54.82
18	WEST BENGAL	16	14112.00	17.5814	15.1127	85.96
	GRAND TOTAL	167	177070.00	196.4410	131.8663	67.13

It may be seen from Table-V above that:

- (i) 8 states namely Andhra Pradesh, Chhattisgarh, Madhya Pradesh, Maharashtra, Odisha, Tamil Nadu, Uttar Pradesh and West Bengal have generated more than 10 million-ton of fly ash each with Chhattisgarh as the maximum of 27.6227 million tons during the Year 2017-18.
- (ii) During the Year 2017-18 -Union territory of Delhi and states of Punjab and Rajasthan have achieved fly ash utilization level of more than 100 %. Similarly, States of Gujarat, Haryana and Jharkhand achieved the fly ash utilization level of more than 95 %.
- (iii) During 2017-18, Thermal Power Stations in Assam, Bihar, Madhya Pradesh and Telangana utilized less than 50% of fly ash.

3.0 TARGETS FOR FLY ASH UTILIZATION AS PER MoEF'S NOTIFICATION OF 3rd NOVEMBER, 2009

The notification set the target for the thermal power stations which were in operation before the date of notification i.e 3.11.2009 as well as the new thermal power stations to be commissioned after the notification i.e 3.11.2009. The same have been brought out below:

3.1 Thermal Power Station in Operation as on 3rd November, 2009

All coal and, or lignite based thermal Power Stations and, or expansion units in operation before the date of MoEF's notification i.e. 03.11.2009 were to achieve the target of fly ash utilization as per the Table-VI given below:

TABLE-VI
TARGETS FOR FLY ASH UTILIZATION FOR THERMAL POWER STATIONS IN OPERATION BEFORE 3rd NOVEMBER, 2009

Sl. No.	Target of Fly Ash Utilization (In Percentage)	Target Date
(1)	(2)	(3)
1	At least 50% of Fly Ash generation	One year from the date of issue of notification
2	At least 60% of Fly Ash generation	Two years from the date of issue of notification
3	At least 75% of Fly Ash generation	Three years from the date of issue of notification
4	At least 90% of Fly Ash generation	Four years from the date of issue of notification
5	100% of Fly Ash generation	Five years from the date of issue of notification

The unutilized fly ash, if any, in relation to the target during a year would be required to be utilized within next two years in addition to the targets stipulated for those years and the balance unutilized fly ash accumulated during first five years (the difference between the generation and the utilization target) would be required to be utilized progressively over the next five years in addition to 100% utilization of current generation of fly ash.

3.2 Thermal Power Station Commissioned after 3rd November, 2009

New coal and, or lignite based thermal Power Stations and, or expansion units commissioned after issue of MoEF's notification of 3rd November, 2009 are to achieve the target of fly ash utilization as per Table-VII given below:

TABLE-VII
TARGETS FOR FLY ASH UTILIZATION FOR THERMAL POWER STATION COMMISSIONED AFTER 3rd NOVEMBER, 2009

Sl. No.	Fly Ash Utilization Level	Target Date
(1)	(2)	(3)
1	At least 50% of fly ash generation	One year from the date of Commissioning
2	At least 70% of fly ash generation	Two years from the date of Commissioning
3	90% of fly ash generation	Three years from the date of Commissioning
4	100% of fly ash generation	Four years from the date of commissioning

The unutilized fly ash, if any, in relation to the target during a year would be required to be utilized within next two years in addition to the targets stipulated for these years and the balance unutilized fly ash accumulated during first four years (the difference between the generation and utilization target) would be required to be utilized progressively over next five years in addition to 100% utilization of current generation of fly ash.

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

Fly ash generation and utilization data received from Thermal Power Stations/Power Utilities in the country for the year 2017-18 has been broadly analyzed to ascertain the power stations which have achieved the targets of fly ash utilization as prescribed in MoEF's notification of 3rd November, 2009.

During the Year 2017-18, all those thermal power stations which were in operation on the date of issue of MoEF'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 i.e. by 3rd November, 2014. All those thermal power stations which have come into operation after the date of issue of MoEF's notification (i.e. 3rd November, 2009) should have achieved the target of fly ash utilization as specified in Table-VII above depending upon their date of commissioning. .

4.1 Status during the Year 2017-18

To have a broad assessment of the achievement of targets of fly ash utilization by those thermal power stations which were in operation as on 3rd November, 2009 (i.e. date of MoEF's Notification) for the year 2017-18, the fly ash utilization in terms of percentage as achieved by thermal power stations as on 31st March, 2018 has been compared with the targets of fly ash utilization required to be achieved by them for the Year 2017-18 as per MoEF's Notification of 3rd November, 2009.

For thermal power stations which were commissioned after 3rd November, 2009 (i.e. date of MoEF's Notification), the fly ash utilization in terms of percentage as achieved by them as on 31st March, 2018 for the year 2017-18 has been compared with the targets of fly ash utilization required to be achieved by them as per MoEF's Notification of 3rd November, 2009

For Thermal Power Stations which were commissioned after 3rd November, 2016, the target of fly ash utilization of 50% as applicable for the 1st year from the date of commissioning has been considered. Similarly, the targets of fly ash utilization of 70%, 90% and 100% has been considered for new Thermal Power Stations which were commissioned after 3rd November, 2015, after 3rd November, 2014 and before 3rd November, 2014 respectively.

Based on above, the status of achievement of targets of fly ash utilization as prescribed in MoEF's notification of 3rd November, 2009 for the Year 2017-18 has been assessed and status of the same is given in Table-VIII below.

TABLE-VIII
STATUS OF UTILIZATION OF FLY ASH AS PER MOEF'S NOTIFICATION DATED 3rd NOVEMBER, 2009 FOR THE YEAR 2017-18

Sl. No.	Description	Nos. of TPS
(1)	(2)	(3)
1	Nos. of TPS which have achieved the target of fly ash utilization as per MoEF's Notification of 3rd November, 2009 (Refer table XVI)	69
2	Nos. of TPS which have not been able to achieve the target of fly ash utilization as per MoEF's Notification of 3rd November, 2009(Refer table- XVII)	93

TABLE X
THERMAL POWER STATIONS WITH FLY ASH UTILIZATION LEVEL OF 100% OR MORE DURING THE YEAR 2017-18

Sl. No.	Description	Nos. of TPS
(1)	(2)	(3)
3	Nos. of TPS which have not generated any significant fly ash or any fly ash(Refer table- XVIII)	5
	Total	167

It may be seen from Table-VIII above that:

During the Year 2017-18, out of **167** (one hundred sixty seven) thermal power stations for which data was received, **69 (sixty nine)** power stations have achieved the targets of fly ash utilization as stipulated in MoEF's Notification of 3rd November, 2009.

To increase the fly ash utilization MoEF&CC have issued an amendment on 25th January, 2016. The amendment is enclosed at **Annex-III**. As per the amendment notification the target date for 100% ash utilization has been revised to 31st December, 2017

4.2 Range of Fly Ash Utilization during the Year 2017-18

Based on the fly ash utilization data received from Thermal Power Stations/Power Utilities, the Thermal Power Stations have been grouped into 6 (six) categories as noted below depending upon range of utilization of fly ash by the stations:

TABLE-IX

RANGE OF PERCENTAGE FLY ASH UTILIZATION DURING THE YEAR 2017-18

Sl. No.	Level of Fly Ash utilization	Nos. of Power Stations
(1)	(2)	(3)
1	100% and more than 100% (Refer table- X)	60
2	Less than 100% and up to 90% (Refer table- XI)	23
3	Less than 90% and up to 70% (Refer table- XII)	28
4	Less than 70% and up to 50% (Refer table- XIII)	16
5	Less than 50% (Refer table- XIV)	35
6	Nos. of TPS which have not generated any significant fly ash or any fly ash (Refer table- XV)	5
	Total	167

4.3 Thermal Power Stations that have achieved Fly Ash utilization level of 100% or more during the Year 2017-18

The following Thermal Power Stations achieved the fly ash utilization level of 100% or more during the year 2017-18. The fly ash utilization level achieved by each of these power stations is given in Table-X below:

TABLE-X
THERMAL POWER STATIONS WITH FLY ASH UTILIZATION LEVEL OF 100% OR MORE
DURING THE YEAR 2017-18

Sl. No.	Name of TPS	Power Utility	Installed Capacity (MW)	Fly ash Generation (Mt)	Fly ash Utilization (Mt)	% age Utilization
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	KASAI PALI	ACB(INDIA)L (Chhattisgarh)	270.00	1.0721	1.0721	100.0000
2	SVPPL RENKI	ACB India Limited (Chhattisgarh)	60.00	0.0142	0.0142	100.0703
3	CHAKABURA TPP	ACB (INDIA) Ltd. (Chhattisgarh)	30.00	0.17986	0.17986	100.0000
4	CHAKABURA TPP (EXTN)	ACB (INDIA) Ltd. (Chhattisgarh)	30.00	0.15059	0.15059	100.0000
5	KAWAI	ADANI POWER RAJASTHAN LTD. (Rajasthan)	1320.00	0.41783	0.41914	100.3121
6	B.B.G.S.	C.E.S.C. (West Bengal)	750.00	1.2950	1.2950	100.0000
7	S.G.S.	C.E.S.C. (West Bengal)	135.00	0.0510	0.0510	100.0000
8	CHANDRAPURA	D.V.C.(Jharkhand)	630.00	1.0041	1.4374	143.1508
9	MEJIA	D.V.C.(West Bengal)	2340.00	3.6852	3.9061	105.9932
10	SURAT LIGNITE	G.I.P.C.L. (Gujarat)	500.00	0.5658	0.5658	100.0000
11	AKRIMOTA	G.M.D.C.L. (Gujarat)	250.00	0.2138	0.2755	128.9048
12	GANDHINAGAR	G.S.E.C.L. (Gujarat)	630.00	0.0881	0.1159	131.5551
13	KUTCH LIGNITE	G.S.E.C.L. (Gujarat)	290.00	0.0302	0.0302	100.0000
14	SIKKA	G.S.E.C.L. (Gujarat)	600.00	0.0114	0.0317	278.0702
15	GMR WARORA ENERGY Ltd.	GMR WARORA ENERGY LTD. (Maharashtra)	600.00	0.6582	0.7253	110.1964
16	GMR KAMALANGA TPP	GMR KAMALANGA ENERGY LTD. (Odisha)	1050.00	1.3929	1.6711	119.9710
17	YAMUNANAGAR	H.P.G.C.L.(Haryana)	600.00	0.6842	1.4164	207.0172
18	PANIPAT	H.P.G.C.L.(Haryana)	920.00	0.6710	1.0416	155.2310
19	HALDIA ENERGY LIMITED	HALDIA ENERGY LIMITED (W.B)	600.00	1.0290	1.0290	100.0000
20	DISHERGARH POWER STATION	INDIA POWER CORPORATION Ltd. (W.B)	12.00	0.0353	0.0353	100.0000
21	INDIAN METALS & FERRO ALLOYS LTD.	INDIAN METALS & FERRO ALLOYS Ltd.(Odisha)	258.00	0.4235	0.4235	100.0000
22	JAYPEE BINA TPP	Jaiprakash Power Ventures Limited (MP)	500.00	0.4767	0.4768	100.0168
23	JAYPEE NIGRIE SUPER TPP	Jaiprakash Power Ventures Limited (MP)	1320.00	1.2100	1.2110	100.0826
24	RATNAGIRI	JSW Energy Ltd (Maharashtra)	1200.00	0.3464	0.3469	100.1443
25	MAITHON RBTPP	MPL (Jharkhand)	1050.00	1.7026	1.8084	106.2141
26	NASHIK	M.S.P.G.C.L.(Maharashtra)	630.00	0.7655	1.4741	192.5678
27	PARLI	M.S.P.G.C.L.(Maharashtra)	1170.00	0.8758	0.9142	104.3846
28	THAMMINAPATNAM TPS	MEENAKSHI ENERGY Pvt. Ltd.(Andhra Pradesh)	300.00	0.0285	0.1129	395.4873
29	KWPCL TPP	M/s KORBA WEST POWER COMPANY LIMITED(Chhattisgarh)	600.00	0.1730	0.2530	146.2428
30	NEYVELI - II	NLC LTD.(Tamil Nadu)	1470.00	0.4656	0.6288	135.0627
31	NEYVELI - II EXPN	NLC LTD.(Tamil Nadu)	500.00	0.1260	0.1266	100.5080

Sl. No.	Name of TPS	Power Utility	Installed Capacity (MW)	Fly ash Generation (Mt)	Fly ash Utilization (Mt)	% age Utilization
(1)	(2)	(3)	(4)	(5)	(6)	(7)
32	BARSINGSAR LIGNITE	NLC LTD. (Rajasthan)	250.00	2.5403	2.5403	100.0000
33	NLC TAMILNADU POWER Ltd	NLC TAMIL NADU POWER LIMITED (Tamil Nadu)	1000.00	1.0929	1.0929	100.0000
34	BHILAI	NSPCL (Chhattisgarh)	500.00	0.9079	0.9629	106.0568
35	BADARPUR	NTPC LTD (Delhi).	705.00	0.3280	0.6750	205.7927
36	DADRI	NTPC LTD. (U.P.)	1820.00	2.1540	2.3420	108.7279
37	FEROZE GANDHI UNACHAR	NTPC LTD.(U.P.)	1050.00	1.6800	1.7160	102.1429
38	TANDA	NTPC LTD. (U.P.)	440.00	0.7080	1.0120	142.9379
39	RAMAGUNDAM	NTPC LTD. (Andhra Pradesh).	2600.00	4.5470	4.5910	100.9677
40	SIMHADRI	NTPC LTD. (Andhra Pradesh).	2000.00	3.0110	3.0590	101.5942
41	TALCHAR(TPS)	NTPC LTD (Odisha).	460.00	1.2300	1.2410	100.8943
42	RAJPURA TPS	NABHA POWER PROJECT (Punjab)	1400.00	1.4510	1.6456	113.4114
43	BATHINDA	P.S.P.C.L. (Punjab)	460.00	0.0659	0.1686	255.9795
44	ROPAR	P.S.P.C.L. (Punjab)	1260.00	0.5137	1.0948	213.1130
45	IL&FS TAMIL NADU POWER COMPANY Ltd.	POWER GRID (Tamil Nadu)	1200.00	0.1120	0.1120	100.0000
46	CHHABRA	RRVUNL (Rajasthan)	1000.00	1.2455	1.4562	116.9226
47	SURATGARH	RRVUNL (Rajasthan)	1500.00	1.0580	1.1277	106.5820
48	JALIPA KAPURDI	RWPL (Rajasthan)	1080.00	0.9732	1.0049	103.2608
49	DAHANU	ADANI ELECTRICITY MUMBAI LIMITED (Maharashtra)	500.00	0.6390	0.6545	102.4228
50	SIMHAPURI	SEPL(Andhra Pradesh)	600.00	0.0023	0.0023	100.0000
51	SAILILAGARH POWER GENERATION Ltd.	SAILILAGARH POWER GENERATION LIMITED (Chhattisgarh)	86.00	0.0393	0.0393	100.0000
52	TROMBAY	T.P.CO.(Maharashtra)	750.00	0.0529	0.0530	100.1890
53	SABARMATI	TORRENT POWER LTD.(Gujarat)	422.00	0.3746	0.3747	100.0267
54	PANKI	U.P.R.V.U.N.L. (U.P.)	210.00	0.1099	0.3744	340.7151
55	UDUPI	UDUPI POWER CORPORATION LIMITED (Karnataka)	1200.00	0.1519	0.1526	100.4608
56	BUTIBORI	VIDARBHA INDUSTRIES POWER LTD. (Maharashtra)	600.00	0.6609	0.6884	104.1485
57	VS LIGNITE POWER PRIVATE LTD	VS LIGNITE POWER PRIVATE LIMITED (Rajasthan)	135.00	0.1081	0.1081	100.0000
58	KOLAGHAT	W.B.P.D.C.L(W.B.)	1260.00	1.4990	1.8265	121.8488
59	BANDEL	W.B.P.D.C.L (W.B.)	455.00	0.5742	0.8214	143.0694
60	SANTALDIH	W.B.P.D.C.L (W.B.)	500.00	0.0806	0.0977	121.2626

It may be seen from Table-X above that:

During the Year 2017-18, **60** Thermal Power Stations have achieved the fly ash utilization level of 100% or more including **44** thermal power stations which have achieved fly ash utilization level of more than 100%.

Fly ash utilization level of more than 100% indicates that besides ash generation during the period of report 2017-18, additional fly ash from ash pond was utilized.

4.4 Thermal Power Stations in Fly Ash Utilization Range of less than 100% and up to 90% during the Year 2017-18

The Thermal Power Stations which have achieved the fly ash utilization level of less than 100% and up to 90% during the year 2017-18 along with fly ash utilization level achieved by each of these power stations are given in Table-XI below:

TABLE-XI

THERMAL POWER STATIONS WITH FLY ASH UTILIZATION LEVEL OF LESS THAN 100% AND UP TO 90% DURING THE YEAR 2017-18

Sl. No	Name of TPS	Power Utility	Installed Capacity (MW)	Fly ash Generation (Mt)	Fly ash Utilization (Mt)	% age Utilization
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Dr. N.T.R (Vijawada)	APGENCO (Andhra Pradesh)	1760.00	3.8611	3.5025	90.7125
2	KOTHAGUDEM-VI	TSPGCL (Telangana)	500.00	0.6636	0.6099	91.8987
3	MUNDRA TPS	APL (Gujrat)	4620.00	0.7490	0.7450	99.4660
4	BARKHERA	BEPL (UP)	90.00	0.0630	0.0630	99.8731
5	KHAMBER KHERA	BEPL (UP)	90.00	0.0605	0.0605	99.9747
6	KUNDARKI	BEPL (UP)	90.00	0.05678	0.05678	99.9955
7	MAQSOODAPUR	BEPL (UP)	90.00	0.0546	0.0546	99.9558
8	UTRAULA	BEPL (UP)	90.00	0.0579	0.0579	99.9941
9	MUTIARA	COASTAL ENERGEN PVT. LTD (Tamil Nadu)	1200.00	0.0807	0.0802	99.4177
10	D.P.P.S.	D.P.L (West Bengal).	660.00	0.6047	0.5679	93.9025
11	DHARIWAL INFRASTRUCTURE Ltd.	Dhariwal Infrastructure Ltd.(Maharashtra)	600.00	0.4932	0.4488	91.0033
12	GMR Chhattisgarh	GMR Chhattisgarh Energy LTD. (Chhattisgarh)	1370.00	0.2751	0.2703	98.2384
13	VIJAYANAGAR	JSW Energy Limited (Karnataka)	860.00	0.1825	0.1746	95.6870
14	DERANG TPP	JINDAL INDIA THERMAL POWER LIMITED (Odisha)	1200.00	1.1325	1.0322	91.1404
15	DANGAMAHUA CAPTIVE POWER PLANT	JINDAL STEEL AND POWER LIMITED (CHHATTISGARH)	576.00	1.1443	1.1423	99.8252
16	MCCPL BANDHAKHAR	Maruti Clean Coal and Power Limited (Chhattisgarh)	300.00	0.7724	0.7232	93.6265
17	NEYVELI -I EXPN	NLC LTD.(Tamil Nadu)	420.00	0.2016	0.2016	99.9851
18	UNCHHPINDA	R.K.M.POWERGEN PVT. LTD (PGCIL) (Chhattisgarh)	1080.00	0.3772	0.3763	99.7720

Sl. No.	Name of TPS	Power Utility	Installed Capacity (MW)	Fly ash Generation (Mt)	Fly ash Utilization (Mt)	% age Utilization
(1)	(2)	(3)	(4)	(5)	(6)	(7)
19	AMRAVATI TPS	RATTANINDIA POWER LTD. (Maharashtra)	1350.00	0.8269	0.8031	97.1151
20	CUDDALORE	TAQA NEVELLY POWER CO.PVT. LTD. (Tamil Nadu)	250.00	0.7813	0.7811	99.9752
21	HARDUAGANJ	U.P.R.V.U.N.L. (U.P.)	670.00	0.9625	0.8697	90.3594
22	BAKRESWAR	W.B.P.D.C.L(W.B.)	1050.00	1.699633	1.689086	99.3795
23	SAI WARDHA POWER Ltd. ,WARORA	WPCL (Maharashtra)	540.00	0.273000	0.272000	99.6337

It may be seen from Table-XI above that 23 thermal power stations during the year 2017-18 have achieved fly ash utilization level in the range of less than 100% to 90%.

4.5 Thermal Power Stations in Fly Ash Utilization Range of less than 90% and up to 70% during the Year 2017-18

The Thermal Power Stations which have achieved the fly ash utilization level of less than 90% and up to 70% during the year 2017-18 along with fly ash utilization level achieved by each of these power stations are given in Table-XII below:

TABLE-XII

THERMAL POWER STATIONS WITH FLY ASH UTILIZATION LEVEL OF LESS THAN 90% AND UP TO 70% DURING THE YEAR 2017-18.

Sl. No.	Name of TPS	Power Utility	Installed Capacity (MW)	Fly ash Generation (Mt)	Fly ash Utilization (Mt)	% age Utilization
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	RAYALSEEMA	APGENCO (Andhra Pradesh)	1050.00	2.0777	1.541587	74.1969
2	SRI DAMODARAM SANJEEVAIAH	APPDCL (Andhra Pradesh)	1600.00	0.8240	0.6234	75.6553
3	TIRORA	ADANI POWER LTD. (Maharashtra)	3300.00	3.5318	2.8597	80.9714
4	MUNDRA UMPP	CGPL (Gujrat)	4000.00	0.7861	0.6309	80.2570
5	BOKARO 'B'	D.V.C.(Jharkhand)	710.00	0.8753	0.7391	84.4382
6	DURGAPUR STEEL	D.V.C. (West Bengal)	1000.00	1.7101	1.2613	73.7561
7	KODERMA	D.V.C. (Jharkhand)	1000.00	1.5238	1.0964	71.9514
8	UKAI	G.S.E.C.L. (Gujarat)	1110.00	0.1404	0.1065	75.8547
9	WANAKBORI	G.S.E.C.L. (Gujarat)	1470.00	0.1816	0.1281	70.5121
10	HISAR	H.P.G.C.L.(Haryana)	1200.00	1.2709	1.0777	84.8004
11	MAHATMA GANDHI	JHPL (Haryana)	1320.00	1.8722	1.4309	76.4305

Sl. No.	Name of TPS	Power Utility	Installed Capacity (MW)	Fly ash Generation (Mt)	Fly ash Utilization (Mt)	% age Utilization
(1)	(2)	(3)	(4)	(5)	(6)	(7)
12	O.P.Jindal Super TPP (Stage-I)	JPL (Chhattisgarh.)	1000.00	1.3940	1.0549	75.6743
13	O.P.Jindal Super TPP(Stage-II)	JPL (Chhattisgarh.)	2400.00	2.2700	1.7510	77.1366
14	KMPCL (AKALTARA)	KSK Mahanadi Power Company Limited (Chhattisgarh)	1800.00	1.1723	1.0368	88.4400
15	LALITPUR	LALITPUR POWER GENERATION COMPANY LIMITED (UP)	1980.00	1.7026	1.4629	85.9254
16	SANJAY GANDHI	M.P.P.G.C.L. (M.P.)	1340.00	1.8889	1.3849	73.3166
17	BHUSAWAL	M.S.P.G.C.L.(Maharashtra)	1210.00	1.7373	1.4861	85.5403
18	NEYVELI - I	NLC LTD.(Tamil Nadu)	600.00	0.2384	0.1694	71.0373
19	LEHRA MOHABAT	P.S.P.C.L. (Punjab)	920.00	0.6746	0.4821	71.4598
20	PRAYAGRAJ TPS	PRAYAGRAJ POWER GENERATION COMPANY LTD. (U.P.)	1980.00	1.0065	0.8162	81.0938
21	ROSA PHASE-I	RPSCL(U.P)	1200.00	1.6195	1.2237	75.5578
22	RATIZA TPS	SPECTRUM COAL & POWERLTD. (Chhattisgarh)	100.00	0.6679	0.5794	86.7377
23	JOJOBERA	T.P.CO. (Jharkhand)	547.50	0.7987	0.7018	87.8678
24	METTUR-II	T.N.G & D Corporation (Tamil Nadu)	600.00	0.5113	0.3786	74.0415
25	KAKATIA (Stage-I)	T.S.G.E.N.C.O. (Telangana)	500.00	0.8703	0.6818	78.3416
26	RAIGARH TPP	TRN ENERGY Pvt. Ltd.(Chhattisgarh)	600.00	0.7429	0.5663	76.2341
27	TENUGHAT TPS	TENUGHAT VIDHYUT NIGAM LIMITED (Jharkhand)	420.00	0.6034	0.5373	89.0513
28	M/s TALWANDI SABO POWER LTD	TALWANDI SABO POWER LTD (Punjab)	1980.00	2.1200	1.5400	72.6415

It may be seen from Table-XII above that **28** thermal power stations during the year 2017-18 have achieved fly ash utilization level of less than 90% and up to 70%.

4.6 Thermal Power Stations with Fly Ash Utilization Level of less than 70% and up to 50% during the Year 2017-18

The Thermal Power Stations which have achieved the fly ash utilization level of less than 70% and up to 50% during the year 2017-18 along with fly ash utilization level achieved by each of these power stations are given in Table-XIII:

TABLE-XIII**THERMAL POWER STATIONS WITH FLY ASH UTILIZATION LEVEL OF LESS THAN 70% AND UP TO 50% DURING THE YEAR 2017-18.**

Sl. No.	Name of TPS	Power Utility	Installed Capacity (MW)	Fly ash Generation (Mt)	Fly ash Utilization (Mt)	% age Utilization
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	INDIRA GANDHI	APCPL (Haryana)	1500.00	1.619878	1.116632	68.9331
2	BALLARI	K.P.C.L (Karnataka)	1700.00	0.7098	0.4417	62.2330
3	RAICHUR	K.P.C.L.(Karnataka)	1720.00	2.4020	1.2930	53.8301
4	AMARKANTAK	M.P.P.G.C.L. (M.P.)	210.00	0.3091	0.1749	56.5900
5	SHREE SINGAJI TPS	M.P.P.G.C.L. (M.P.)	1200.00	1.0467	0.6319	60.3711
6	JHABUA POWER LIMITED (SEIONI TPP)	M/S JHABUA POWER LIMITED (MP)	600.00	0.3768	0.2491	66.1249
7	VALLUR	NTPC TAMIL NADU ENERGY COMPANY LTD {(NTECL) (Tamil Nadu)}	1500.00	1.8730	1.2180	65.0294
8	FARAKKA	NTPC LTD. (W.B.)	2100.00	3.0190	1.6000	52.9977
9	MOUDA TPS	NTPC LTD. (Maharashtra)	2320.00	1.9870	1.3900	69.9547
10	SOLAPUR	NTPC LTD. (Maharashtra)	660.00	0.3160	0.1890	59.8101
11	KUDGI	NTPC LTD. (Karnataka)	1600.00	0.7140	0.3570	50.0000
12	IB VALLEY	O.P.G.C.L.(Odisha)	420.00	1.0961	0.6073	55.4074
13	TUTICORIN	T.N.G & D Corporation (Tamil Nadu)	1050.00	1.1030	0.6567	59.5434
14	KAKATIA (Stage-II)	T.S.G.E.N.C.O. (Telangana)	600.00	0.9747	0.6045	62.0246
15	PARICHHA	U.P.R.V.U.N.L. (U.P.)	1140.00	1.7985	1.0339	57.4884
16	SAGARDIGHI	W.B.P.D.C.L(W.B.)	1600.00	1.3805	0.9047	65.5335

It may be seen from Table-XIII above that:

It may be seen from Table-XIII above that **16** thermal power stations during the year 2017-18 have achieved fly ash utilization level of less than 70% and up to 50%.

4.7 Thermal Power Stations with Fly Ash Utilization Level below 50% during the Year 2017-18

TABLE-XIV**THERMAL POWER STATIONS WITH FLY ASH UTILIZATION LEVEL BELOW 50% DURING THE YEAR 2017-18.**

Sl. No.	Name of TPS	Power Utility	Installed Capacity (MW)	Fly ash Generation (Mt)	Fly ash Utilization (Mt)	% age Utilization
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	RAMAGUNDAM'B'	TSPGCL (Telengana)	62.50	0.1133	0.0316	27.8811

Sl. No.	Name of TPS	Power Utility	Installed Capacity (MW)	Fly ash Generation (Mt)	Fly ash Utilization (Mt)	% age Utilization
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2	NABINAGAR	Bharatiya Rail Bijlee Company Limited (Bihar)	500.00	0.2669	0.0754	28.2382
3	KOTHAGUDEM-V	TSPGCL (Telengana)	500.00	1.5662	0.0000	0.0000
4	MARWA TENDUBHATA	C.S.P.G.C.L (Chhattisgarh)	1000.00	1.5083	0.5128	33.9993
5	DSPM	C.S.P.G.C.L. (Chhattisgarh)	500.00	0.9809	0.2010	20.4908
6	KORBA (WEST)	C.S.P.G.C.L Chhattisgarh	1340.00	2.7650	0.4439	16.0542
7	DURGAPUR	D.V.C.(West Bengal)	210.00	0.2835	0.0125	4.4129
8	RAGHUNATHPUR	D.V.C. (West Bengal)	1200.00	0.6347	0.0152	2.3910
9	Vizag TPS	Hinduja National Power Corporation Limited (Andhra Pradesh)	1040.00	0.8479	0.1105	13.0324
10	MUZAFFARPUR TPS	KANTI BIJLEE UTPADAN NIGAM LIMITED (Bihar)	610.00	0.4411	0.1872	42.4415
11	AMARKANTAK TPS	LANCO AMARKANTAK POWER LIMITED (Chhattisgarh)	600.00	1.0201	0.4433	43.4592
12	SATPURA	M.P.P.G.C.L. (M.P.)	1330.00	1.4524	0.4192	28.8664
13	CHANDRAPUR	M.S.P.G.C.L. (Maharashtra)	2920.00	2.6946	0.7098	26.3395
14	KHAPARKHEDA	M.S.P.G.C.L. (Maharashtra)	1340.00	1.7797	0.6329	35.5635
15	KORADI	M.S.P.G.C.L. (Maharashtra)	2600.00	2.7100	0.3560	13.1365
16	PARAS	M.S.P.G.C.L. (Maharashtra)	500.00	0.5424	0.2082	38.3812
17	ANUPPUR TPS	MB POWER (MADHYA PRADESH) LIMITED (M.P.)	1200.00	1.6141	0.7854	48.6581
18	SINGRAULI	NTPC LTD. (U.P.)	2000.00	3.4830	1.0540	30.2613
19	RIHAND	NTPC LTD. (U.P.)	3000.00	4.3440	1.3510	31.1004
20	KORBA	NTPC (Chhattisgarh).	2600.00	4.7840	2.0610	43.0811
21	VINDHYACHAL	NTPC LTD.(M.P.)	4760.00	7.9570	1.9590	24.6198
22	SIPAT	NTPC LTD. (Chhattisgarh).	2980.00	5.2114	0.9720	18.6516
23	KAHALGAON	NTPC LTD.(Bihar)	2340.00	4.1850	1.9200	45.8781
24	BARH SUPER TPS	NTPC LTD (Bihar)	1320.00	2.4850	0.9740	39.1952
25	TALCHAR(KAN)	NTPC LTD. (Odisha).	3000.00	7.9190	3.7620	47.5060
26	BONGAIGAON	NTPC LTD. (Assam)	250.00	0.2430	0.0110	4.5267
27	YERAMARUS TPS	RAICHUR POWER CORPORATION LIMITED (Karnataka)	1600.00	0.1754	0.0000	0.0000
28	SEMBCORP ENERGY INDIA Ltd.	SEMBCORP ENERGY INDIA Ltd. (Formerly Thermal Powertech Corporation India Ltd) (Andhra Pradesh)	1320.00	1.0001	0.3085	30.8442

TABLE-XVI
FLY ASH UTILIZATION STATUS AS PER NOTIFICATION OF 3RD NOVEMBER, 2009
DURING THE YEAR 2017-18 (TARGET ACHIEVED)

Sl. No.	Name of TPS	Power Utility	Installed Capacity (MW)	Fly ash Generation (Mt)	Fly ash Utilization (Mt)	% age Utilization
(1)	(2)	(3)	(4)	(5)	(6)	(7)
29	SASAN UMPP	RELIANCE POWER LIMITED (Madhya Pradesh)	3960.00	4.1204	1.2213	29.6407
30	METTUR-I	T.N.G & D Corporation (Tamil Nadu)	840.00	1.1111	0.4574	41.1654
31	NORTH CHENNAI-I	T.N.G & D Corporation (Tamil Nadu)	630.00	1.1412	0.4534	39.7276
32	NORTH CHENNAI-II	T.N.G & D Corporation (Tamil Nadu)	1200.00	1.5907	0.6382	40.1222
33	KOTHAGUDEM (Stage I to IV)	T.S.P.G.C.L (Telangana)	720.00	1.4140	0.5589	39.5243
34	ANPARA 'A' & 'B'	U.P.R.V.U.N.L. (U.P.)	2630.00	4.3296	0.0732	1.6899
35	OBRA	U.P.R.V.U.N.L. (U.P.)	1000.00	1.0592	0.2198	20.7551

It may be seen from Table-XIV above that:

During the year 2017-18, out of **167** (one hundred sixty seven) Thermal Power Stations, **35** stations could not reach the level of fly ash utilization to 50%.

TABLE-XV

THERMAL POWER STATIONS WITH NO ASH GENERATION DURING THE YEAR 2017-18

Sl. No.	Name of TPS	Power Utility	Installed Capacity (MW)	Fly ash Generation (Mt)	Fly ash Utilization (Mt)	% age Utilization
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	GEPL TPP	GUPTA ENERGY Pvt. Ltd. (Maharashtra)	120.00	0.0000	0.0000	0.0000
2	RAJGHAT TPP	IPGCL (DELHI)	135.00	0.0000	0.0000	0.0000
3	MIHAN TPP	AMNEPL (Maharashtra)	246.00	0.0000	0.0000	0.0000
4	T.G.S. TPP	C.E.S.C. (WEST BENGAL)	240.00	0.0000	0.0000	0.0000
5	PATRATU TPP	Patratu Vidyut Utpadan Nigam Ltd.. (Chhattisgarh)	455.00	0.0000	0.0000	0.0000

It may be seen from Table-XV above that:

It may be seen from Table-XV above that **05** thermal power stations during the year 2017-18 have not generated any significant fly ash.

5.0 FLY ASH UTILIZATION STATUS AS PER NOTIFICATION OF 3RD NOVEMBER, 2009 DURING THE YEAR 2017-18 (TARGET ACHIEVED/NOT ACHIEVED)

As per the targets mandated by the MoEF&CC's notification of dated 3rd November, 2009 for fly ash utilization by the power stations, a total of **69** stations achieved their target and as many as **93** Nos. could not reach the targets,. The details are given at Table- XVI and XVII respectively. However, the date of achieving the 100% ash utilization target is now extended to 31st December, 2017 as per new amendment notification dated 25th January, 2016.

TABLE-XVI
FLY ASH UTILIZATION STATUS AS PER NOTIFICATION OF 3RD NOVEMBER, 2009
DURING THE YEAR 2017-18 (TARGET ACHIEVED)

Sl. No	Name of TPS	Power Utility	Date of Commissioning	Installed Capacity (MW)	Fly ash Generation	Fly ash Utilization	% age Utilization	Target in %age
1	2	3	4	5	6	7	8	9
1	KASAI PALI	ACB(INDIA)L (Chhattisgarh)	13.12.2011	270	1.0721	1.0721	100.0000	100
2	SVPPL Renki	ACB India Limited (Chhattisgarh)	21.10.2011	60	0.01422	0.01423	100.0703	100
3	CHAKABURA TPP	ACB (INDIA) Ltd. (Chhattisgarh)	27.02.2007	30.00	0.1799	0.1799	100.0000	100
4	CHAKABURA TPP (EXTN)	ACB (INDIA) Ltd. (Chhattisgarh)	28.03.2014	30.00	0.1506	0.1506	100.0000	100
5	KAWAI	ADANI POWER RAJASTHAN LTD. (Rajasthan)	31.05.2013	1320.00	0.4178	0.4191	100.3121	100
6	DAHANU	ADANI ELECTRICITY MUMBAI LIMITED (Maharashtra)	01.07.1995	500.00	0.6390	0.6545	102.4228	100
7	B.B.G.S.	C.E.S.C. (West Bengal)	16.09.1997	750.00	1.2950	1.2950	100.0000	100
8	S.G.S.	C.E.S.C. (West Bengal)	12.08.1990	135.00	0.0510	0.0510	100.0000	100
9	MUTIARA	COASTAL ENERGEN PVT. LTD (Tamil Nadu)	23.12.2014	1200.00	0.0807	0.0802	99.4177	90
10	CHANDRAPUR A	D.V.C.(Jharkhand)	07.07.1968	630.00	1.0041	1.4374	143.1508	100
11	MEJIA	D.V.C.(West Bengal)	01.12.1997	2340.00	3.6852	3.9061	105.9932	100
12	SURAT LIGNITE	G.I.P.C.L. (Gujarat)	15.02.2000	500.00	0.5658	0.5658	100.0000	100
13	AKRIMOTA	G.M.D.C.L. (Gujarat)	31.03.2005	250.00	0.2138	0.2755	128.9048	100
14	GANDHINAGAR	G.S.E.C.L. (Gujarat)	20.03.1990	630.00	0.0881	0.1159	131.5551	100
15	KUTCH LIGNITE	G.S.E.C.L. (Gujarat)	09.01.1990	290.00	0.0302	0.0302	100.0000	100
16	SIKKA	G.S.E.C.L. (Gujarat)	14.09.2015	500.00	0.0114	0.0317	278.0702	100
17	GMR WARORA ENERGY Ltd.	GMR WARORA ENERGY LTD. (Maharashtra)	19.03.2013	600.00	0.6582	0.7253	110.1964	100
18	GMR KAMALANGA TPP	GMR KAMALANGA ENERGY LTD. (Odisha)	30.04.2013	1050.00	1.3929	1.6711	119.9710	100
19	GMR Chhattisgarh	GMR Chhattisgarh Energy LTD. (Chhattisgarh)	1.06.2015	1370.00	0.2751	0.2703	98.2384	90
20	YAMUNANAGAR	H.P.G.C.L.(Haryana)	14.04.2008	600.00	0.6842	1.4164	207.0172	100
21	PANIPAT	H.P.G.C.L.(Haryana)	28.03.1989	920.00	0.6710	1.0416	155.2310	100
22	HALDIA ENERGY LIMITED	HALDIA ENERGY LIMITED (W.B)	28-01-15	600.00	1.0290	1.0290	100.0000	90
23	DISHERGARH POWER STATION	INDIA POWER CORPORATION Ltd. (W.B)	25.09.2012	12.00	0.0353	0.0353	100.0000	100
24	INDIAN METALS & FERRO ALLOYS LTD.	INDIAN METALS & FERRO ALLOYS Ltd.(Odisha)	2.1989	258.00	0.4235	0.4235	100.0000	100
25	JAYPEE BINA TPP	Jaiprakash Power Ventures Limited (MP)	07.04.2013	500.00	0.4767	0.4768	100.0168	100
26	JAYPEE NIGRIE SUPER TPP	Jaiprakash Power Ventures Limited (MP)	03.09.2014	1320.00	1.2100	1.2110	100.0826	90

Sl. No	Name of TPS	Power Utility	Date of Commissioning	Installed Capacity (MW)	Fly ash Generation	Fly ash Utilization	% age Utilization	Target in %age
1	2	3	4	5	6	7	8	9
27	RATNAGIRI	JSW Energy Ltd (Maharashtra)	01.09.2010	1200.00	0.3464	0.3469	100.1443	100
28	LALITPUR	LALITPUR POWER GENERATION COMPANY LIMITED (UP)	26.03.2016	1980.00	1.7026	1.4629	85.9254	70
29	MAITHON RBTPP	MPL (Jharkhand)	01.09.2011	1050.00	1.7026	1.8084	106.2141	100
30	NASHIK	M.S.P.G.C.L.(Maharashtra)	26.04.1979	630.00	0.7655	1.4741	192.5678	100
31	PARLI	M.S.P.G.C.L.(Maharashtra)	26.03.1985	1170.00	0.8758	0.9142	104.3846	100
32	MCCPL BANDHAKHAR	Maruti Clean Coal and Power Limited (Chhattisgarh)	30.07.2015	300.00	0.7724	0.7232	93.6265	90
33	THAMMINAPATNAM TPS	MEENAKSHI ENERGY Pvt. Ltd.(Andhra Pradesh)	10.07.2012	300.00	0.0285	0.1129	395.4873	100
34	KWPCL TPP	M/s KORBA WEST POWER COMPANY LIMITED (Chhattisgarh)	31.03.2014	600.00	0.1730	0.2530	146.2428	100
35	NEYVELI - II	NLC LTD.(Tamil Nadu)	17.01.1988	1470.00	0.4656	0.6288	135.0627	100
36	NEYVELI - II EXPN	NLC LTD. (Tamil Nadu)	05.07.2015	500.00	0.1260	0.1266	100.5080	90
37	BARSINGSAR LIGNITE	NLC LTD. (Rajasthan)	27.10.2009	250.00	2.5403	2.5403	100.0000	100
38	NLC TAMILNADU POWER Ltd	NLC TAMIL NADU POWER LIMITED (Tamil Nadu)	08.03.2015	1000.00	1.0929	1.0929	100.0000	90
39	BHILAI	NSPCL (Chhattisgarh)	22.04.2009	500.00	0.9079	0.9629	106.0568	100
40	BADARPUR	NTPC LTD (Delhi).	July-73	705.00	0.3280	0.6750	205.7927	100
41	DADRI	NTPC LTD. (U.P.)	Oct,1991	1820.00	2.1540	2.3420	108.7279	100
42	FEROZE GANDHI UNACHAR	NTPC LTD.(U.P.)	01-11-88	1050.00	1.6800	1.7160	102.1429	100
43	TANDA	NTPC LTD. (U.P.)	01-01-00	440.00	0.7080	1.0120	142.9379	100
44	RAMAGUNDAM	NTPC LTD. (Andhra Pradesh).	01-11-83	2600.00	4.5470	4.5910	100.9677	100
45	SIMHADRI	NTPC LTD. (Andhra Pradesh).	01-02-02	2000.00	3.0110	3.0590	101.5942	100
46	TALCHAR(TPS)	NTPC LTD (Odisha).	03.06.1995	460.00	1.2300	1.2410	100.8943	100
47	SOLAPUR	NTPC LTD. (Maharashtra)	01-04-17	660.00	0.3160	0.1890	59.8101	50
48	KUDGI	NTPC LTD. (Karnataka)	01-12-16	1600.00	0.7140	0.3570	50.0000	50
49	RAJPURA TPS	NABHA POWER PROJECT (Punjab)	24.01.2014	1400.00	1.4510	1.6456	113.4114	100
50	BATHINDA	P.S.P.C.L. (Punjab)	22.09.1974	460.00	0.0659	0.1686	255.9795	100
51	ROPAR	P.S.P.C.L. (Punjab)	26.9.1984	1260.00	0.5137	1.0948	213.1130	100
52	PRAYAGRAJ TPS	PRAYAGRAJ POWER GENERATION COMPANY LTD. (U.P.)	29.02.2016	1980.00	1.0065	0.8162	81.0938	70
53	IL&FS TAMIL NADU POWER COMPANY Ltd.	POWER GRID (Tamil Nadu)	29.09.2015	1200.00	0.1120	0.1120	100.0000	70
54	UNCHHPINDA	R.K.M.POWERGEN PVT. LTD (PGCIL) (Chhattisgarh)	26.11.2015	1080.00	0.3772	0.3763	99.7720	70

Sl. No	Name of TPS	Power Utility	Date of Commissioning	Installed Capacity (MW)	Fly ash Generation	Fly ash Utilization	% age Utilization	Target in %age
1	2	3	4	5	6	7	8	9
55	CHHABRA	RRVUNL (Rajasthan)	11.06.2010	1000.00	1.2455	1.4562	116.9226	100
56	SURATGARH	RRVUNL (Rajasthan)	31.10.1998	1500.00	1.0580	1.1277	106.5820	100
57	JALIPA KAPURDI	RWPL (Rajasthan)	26.11.2009	1080.00	0.9732	1.0049	103.2608	100
58	SIMHAPURI	SEPL(Andhra Pradesh)	29.02.2012	600.00	0.0023	0.0023	100.0000	100
59	SAILILAGARH POWER GENERATION Ltd.	SAILILAGARH POWER GENERATION LIMITED (Chhattisgarh)	10.01.2006	86.00	0.0393	0.0393	100.0000	100
60	TROMBAY	T.P.CO.(Maharashtra)	1984	750.00	0.0529	0.0530	100.1890	100
61	SABARMATI	TORRENT POWER LTD.(Gujarat)	13.04.1997	422.00	0.3746	0.3747	100.0267	100
62	RAIGARH TPP	TRN ENERGY Pvt. Ltd.(Chhattisgarh)	13.08.2016	300.00	0.7429	0.5663	76.2341	70
63	PANKI	U.P.R.V.U.N.L.(U.P.)	11.10.1976	210.00	0.1099	0.3744	340.7151	100
64	UDUPI	UDUPI POWER CORPORATION LIMITED (Karnataka)	11.11.2010	1200.00	0.1519	0.1526	100.4608	100
65	BUTIBORI	VIDARBHA INDUSTRIES POWER LTD. (Maharashtra)	04.04.2013	600.00	0.6609	0.6884	104.1485	100
66	VS LIGNITE POWER PRIVATE LTD	VS LIGNITE POWER PRIVATE LIMITED (Rajasthan)	2.2010	135.00	0.1081	0.1081	100.0000	100
67	KOLAGHAT	W.B.P.D.C.L(W.B.)	16.08.1990	1260.00	1.4990	1.8265	121.8488	100
68	BANDEL	W.B.P.D.C.L (W.B.)	04.09.1965	455.00	0.5742	0.8214	143.0694	100
69	SANTALDIH	W.B.P.D.C.L (W.B.)	01.04.2009	500.00	0.0806	0.0977	121.2626	100

TABLE-XVII
FLY ASH UTILIZATION STATUS AS PER NOTIFICATION OF 3RD NOVEMBER, 2009
DURING THE YEAR 2017-18 (TARGET NOT ACHIEVED)

Sl. No.	Name of TPS	Power Utility	Date of Commissioning	Installed Capacity	Fly ash Generation	Fly ash Utilization	% age Utilization	Target in %age
1	2	3	4	5	6	7	8	9
1	Dr. N.T.R (Vijawada)	APGENCO (Andhra Pradesh)	01.11.1979	1760.00	3.8611	3.5025	90.7125	100
2	RAYALSEEMA	APGENCO (Andhra Pradesh)	16.11.1994	1050.00	2.0777	1.5416	74.1969	100
3	RAMAGUNDAM'B'	TSPGCL (Telengana)	17.10.1971	62.50	0.1133	0.0316	27.8811	100
4	KOTHAGUDEM-V	TSPGCL (Telengana)	27.03.1997	500.00	1.5662	0.0000	0.0000	100
5	KOTHAGUDEM-VI	TSPGCL (Telengana)	23.10.2011	500.00	0.6636	0.6099	91.8987	100

Sl. No.	Name of TPS	Power Utility	Date of Commissioning	Installed Capacity	Fly ash Generation	Fly ash Utilization	% age Utilization	Target in % age
1	2	3	4	5	6	7	8	9
6	SRI DAMODARAM SANJEEVAIAH	APPDCL(Andhra Pradesh)	05.02.2015	1600.00	0.8240	0.6234	75.6553	90
7	INDIRA GANDHI	APCPL (Haryana)	31.10.2010	1500.00	1.6199	1.1166	68.9331	100
8	MUNDRA TPS	APL (Gujrat)	04.08.2009	4620.00	0.75	0.75	99.4660	100
9	TIRORA	ADANI POWER LTD. (Maharashtra)	23.09.2012	3300.00	3.5318	2.8597	80.9714	100
10	BARKHERA	BEPL (UP)	29.10.2011	90.00	0.0630	0.0630	99.8731	100
11	KHAMBER KHERA	BEPL (UP)	30.09.2011	90.00	0.0605	0.0605	99.9747	100
12	KUNDARKI	BEPL (UP)	03.01.2012	90.00	0.05678	0.05678	99.9955	100
13	MAQSOODAPUR	BEPL (UP)	27.10.2011	90.00	0.0546	0.0546	99.9558	100
14	UTRAULA	BEPL (UP)	30.01.2012	90.00	0.0579	0.0579	99.9941	100
15	NABINAGAR	Bharatiya Rail Bijlee Company Limited (Bihar)	15.01.2017	500.00	0.2669	0.0754	28.2382	50
16	MARWA TENDUBHATA	C.S.P.G.C.L (Chhattisgarh)	31.03.2016	1000.00	1.5083	0.5128	33.9993	70
17	DSPM	C.S.P.G.C.L. (Chhattisgarh)	21.10.2007	500.00	0.9809	0.2010	20.4908	100
18	KORBA (WEST)	C.S.P.G.C.L Chhattisgarh	21.03.1983	1340.00	2.7650	0.4439	16.0542	100
19	MUNDRA UMP	CGPL (Gujarat)	07.03.2012	4000.00	0.7861	0.6309	80.2570	100
20	BOKARO 'B'	D.V.C.(Jharkhand)	31.03.1993	710.0000	0.8753	0.7391	84.4382	100
21	DURGAPUR	D.V.C.(West Bengal)	Sep,1982	210.00	0.2835	0.0125	4.4129	100
22	DURGAPUR STEEL	D.V.C. (West Bengal)	15.05.2012	1000.00	1.7101	1.2613	73.7561	100
23	KODERMA	D.V.C. (Jharkhand)	18.07.2013	1000.00	1.5238	1.0964	71.9514	100
24	RAGHUNATHPUR	D.V.C. (West Bengal)	18.07.2013	1200.00	0.6347	0.0152	2.3910	100
25	D.P.P.S.	D.P.L (West Bengal).	03.07.1985	660.00	0.6047	0.5679	93.9025	100
26	DHARIWAL INFRASTRUCTURE Ltd.	Dhariwal Infrastructure Ltd. (Maharashtra)	11.2.2014	600.00	0.4932	0.4488	91.0033	100
27	UKAI	G.S.E.C.L. (Gujarat)	21.01.1979	1110.00	0.1404	0.1065	75.8547	100
28	WANAKBORI	G.S.E.C.L. (Gujarat)	23.03.1982	1470.00	0.1816	0.1281	70.5121	100
29	HISAR	H.P.G.C.L.(Haryana)	24.08.2010	1200.00	1.2709	1.0777	84.8004	100
30	Vizag TPS	Hinduja National Power Corporation Limited (Andhra Pradesh)	11.01.2016	1040.00	0.8479	0.1105	13.0324	70
31	MAHATMA GANDHI	JHPL (Haryana)	29.03.2012	1320.00	1.8722	1.4309	76.4305	100
32	O.P.Jindal Super TPP (Stage-I)	JPL (Chhattisgarh.)	08.12.2007	1000.00	1.3940	1.0549	75.6743	100
33	O.P.Jindal Super TPP(Stage-II)	JPL (Chhattisgarh.)	14.03.2014	2400.00	2.2700	1.7510	77.1366	100
34	VIJAYANAGAR	JSW Energy Limited	18.01.2000	860.00	0.1825	0.1746	95.6870	100

Sl. No.	Name of TPS	Power Utility	Date of Commissioning	Installed Capacity	Fly ash Generation	Fly ash Utilization	% age Utilization	Target in % age
1	2	3	4	5	6	7	8	9
		(Karnataka)						
35	DERANG TPP	JINDAL INDIA THERMAL POWER LIMITED (Odisha)	05.06.2014	1200.00	1.1325	1.0322	91.1404	100
36	DANGAMAHUA CAPTIVE POWER PLANT	JINDAL STEEL AND POWER LIMITED (CHHATTISGARH)	04.09.2010	576.00	1.1443	1.1423	99.8252	100
37	BALLARI	K.P.C.L (Karnataka)	25.03.2008	1700.00	0.7098	0.4417	62.2330	100
38	RAICHUR	K.P.C.L.(Karnataka)	29.03.1985	1720.00	2.4020	1.2930	53.8301	100
39	MUZAFFARPUR TPS	KANTI BIJLEE UTPADAN NIGAM LIMITED (Bihar)	11.2013	610.00	0.4411	0.1872	42.4415	100
40	KMPCL (AKALTARA)	KSK Mahanadi Power Company Limited (Chhattisgarh)	Sept,2013	1800.00	1.1723	1.0368	88.4400	100
41	AMARKANTAK TPS	LANCO AMARKANTAK POWER LIMITED (Chhattisgarh)	04.05.2009	600.00	1.0201	0.4433	43.4592	100
42	SANJAY GANDHI	M.P.P.G.C.L. (M.P.)	07.10.1993	1340.00	1.8889	1.3849	73.3166	100
43	SATPURA	M.P.P.G.C.L. (M.P.)	01.07.1979	1330.00	1.4524	0.4192	28.8664	100
44	AMARKANTAK	M.P.P.G.C.L. (M.P.)	10.09.2009	210.00	0.3091	0.1749	56.5900	100
45	SHREE SINGAJI TPS	M.P.P.G.C.L. (M.P.)	01.02.2014	1200.00	1.0467	0.6319	60.3711	90
46	BHUSAWAL	M.S.P.G.C.L. (Maharashtra)	04.05.1982	1210.00	1.7373	1.4861	85.5403	100
47	CHANDRAPUR	M.S.P.G.C.L. (Maharashtra)	03.05.1985	2920.00	2.6946	0.7098	26.3395	100
48	KHAPARKHEDA	M.S.P.G.C.L. (Maharashtra)	26.03.1989	1340.00	1.7797	0.6329	35.5635	100
49	KORADI	M.S.P.G.C.L. (Maharashtra)	15.07.1974	2600.00	2.7100	0.3560	13.1365	100
50	PARAS	M.S.P.G.C.L. (Maharashtra)	31.03.2008	500.00	0.5424	0.2082	38.3812	100
51	JHABUA POWER LIMITED (SEIONI TPP)	M/S JHABUA POWER LIMITED (MP)	02.05.2016	600.00	0.3768	0.2491	66.1249	70
52	ANUPPUR TPS	MB POWER (MADHYA PRADESH) LIMITED (M.P.)	20.05.2015	1200.00	1.6141	0.7854	48.6581	90
53	NEYVELI - I	NLC LTD.(Tamil Nadu)	1962	600.00	0.2384	0.1694	71.0373	100
54	NEYVELI -I EXPN	NLC LTD.(Tamil Nadu)	21.10.2002	420.00	0.2016	0.2016	99.9851	100
55	VALLUR	NTPC TAMIL NADU ENERGY COMPANY LTD {(NTECL) (Tamil Nadu)}	09.03.2012	1500.00	1.8730	1.2180	65.0294	100

Sl. No.	Name of TPS	Power Utility	Date of Commissioning	Installed Capacity	Fly ash Generation	Fly ash Utilization	% age Utilization	Target in % age
1	2	3	4	5	6	7	8	9
56	SINGRAULI	NTPC LTD. (U.P.)	February/82	2000.00	3.4830	1.0540	30.2613	100
57	RIHAND	NTPC LTD. (U.P.)	March/88	3000.00	4.3440	1.3510	31.1004	100
58	KORBA	NTPC (Chhattisgarh).	3/1/1983	2600.00	4.7840	2.0610	43.0811	100
59	VINDHYACHAL	NTPC LTD. (M.P.)	10/1/1987	4760.00	7.9570	1.9590	24.6198	100
60	SIPAT	NTPC LTD. (Chhattisgarh).	6/1/2011	2980.00	5.2114	0.9720	18.6516	100
61	FARAKKA	NTPC LTD. (W.B.)	1/1/1986	2100.00	3.0190	1.6000	52.9977	100
62	KAHALGAON	NTPC LTD.(Bihar)	3/1/1992	2340.00	4.1850	1.9200	45.8781	100
63	BARH SUPER TPS	NTPC LTD (Bihar)	11/1/2014	1320.00	2.4850	0.9740	39.1952	100
64	TALCHAR(KAN)	NTPC LTD.(Odisha).	2/1/1995	3000.00	7.9190	3.7620	47.5060	100
65	MOUDA TPS	NTPC LTD. (Maharashtra)	4/1/2012	2320.00	1.9870	1.3900	69.9547	100
66	BONGAIGAON	NTPC LTD. (Assam)	June,2015	250.00	0.2430	0.0110	4.5267	90
67	IB VALLEY	O.P.G.C.L. (Odisha)	21.12.1994	420.00	1.0961	0.6073	55.4074	100
68	LEHRA MOHABAT	P.S.P.C.L. (Punjab)	25.05.1998	920.00	0.6746	0.4821	71.4598	100
69	ROSA PHASE-I	RPSCL(U.P)	12.03.2010	1200.00	1.6195	1.2237	75.5578	100
70	AMRAVATI TPS	RATTANINDIA POWER LTD. (Maharashtra)	03.06.2013	1350.00	0.8269	0.8031	97.1151	100
71	YERAMARUS TPS	RAICHUR POWER CORPORATION LIMITED (Karnataka)	07.03.2017	1600.00	0.1754	0.0000	0.0000	50
72	RATIZA TPS	SPECTRUM COAL & POWER LTD.(Chhattisgarh)	27.02.2013	100.00	0.6679	0.5794	86.7377	100
73	SEMBCORP ENERGY INDIA Ltd.	SEMBCORP ENERGY INDIA Ltd. (Formerly Thermal Powertech Corporation India Ltd) (Andhra Pradesh)	03.01.2015	1320.00	1.0001	0.3085	30.8442	90
74	SASAN UMPP	REILIANCE POWER LIMITED (Madhya Pradesh)	31.03.2013	3960.00	4.1204	1.2213	29.6407	100
75	CUDDALORE	TAQA NEYVELLY POWER CO.PVT. LTD. (Tamil Nadu)	15.12.2002	250.00	0.7813	0.7811	99.9752	100
76	JOJOBERA	T.P.CO. (Jharkhand)	04.01.1996	547.50	0.7987	0.7018	87.8678	100

Sl. No.	Name of TPS	Power Utility	Date of Commissioning	Installed Capacity	Fly ash Generation	Fly ash Utilization	% age Utilization	Target in % age
1	2	3	4	5	6	7	8	9
77	TUTICORIN	T.N.G & D Corporation (Tamil Nadu)	09.07.1979	1050.00	1.1030	0.6567	59.5434	100
78	METTUR-I	T.N.G & D Corporation (Tamil Nadu)	07.01.1987	840.00	1.1111	0.4574	41.1654	100
79	METTUR-II	T.N.G & D Corporation (Tamil Nadu)	11.10.2012	600.00	0.5113	0.3786	74.0415	100
80	NORTH CHENNAI-I	T.N.G & D Corporation	25.10.1994	630.00	1.1412	0.4534	39.7276	100
81	NORTH CHENNAI-II	T.N.G & D Corporation (Tamil Nadu)	03.01.2013	1200.00	1.5907	0.6382	40.1222	100
82	KOTHAGUDEM (Stage I to IV)	T.S.P.G.C.L (Telangana)	07.04.1966	720.00	1.4140	0.5589	39.5243	100
83	KAKATIA (Stage-I)	T.S.G.E.N.C.O. (Telangana)	03.31.2010	500.00	0.8703	0.6818	78.3416	100
84	KAKATIA (Stage-II)	T.S.G.E.N.C.O. (Telangana)	24.03.2016	600.00	0.9747	0.6045	62.0246	70
85	TENUGHAT TPS	TENUGHAT VIDHYUT NIGAM LIMITED (Jharkhand)	14.04.1994	420.00	0.6034	0.5373	89.0513	100
86	M/s TALWANDI SABO POWER LTD	TALWANDI SABO POWER LTD (Punjab)	05.07.2014	1980.00	2.1200	1.5400	72.6415	100
87	ANPARA 'A' & 'B'	U.P.R.V.U.N.L. (U.P.)	01.01.1987	2630.00	4.3296	0.0732	1.6899	100
88	HARDUAGANJ	U.P.R.V.U.N.L. (U.P.)	03.31.1977	670.00	0.9625	0.8697	90.3594	100
89	OBRA	U.P.R.V.U.N.L. (U.P.)	26.01.1980	1000.00	1.0592	0.2198	20.7551	100
90	PARICHHA	U.P.R.V.U.N.L. (U.P.)	31.03.1984	1140.00	1.7985	1.0339	57.4884	100
91	SAGARDIGHI	W.B.P.D.C.L (W.B.)	07.09.2008	1600.00	1.3805	0.9047	65.5335	100
92	BAKRESWAR	W.B.P.D.C.L (W.B.)	18.07.1999	1050.00	1.6996	1.6891	99.3795	100
93	SAI WARDHA POWER Ltd. ,WARORA	WPCL (Maharashtra)	15.04.2010	540.00	0.2730	0.2720	99.6337	100

6.0 MODES OF FLY ASH UTILIZATION DURING THE YEAR 2017-18

The data on fly ash utilization received from Thermal Power Stations/Power Utilities for the year 2017-18 has been analyzed 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 year 2017-18 along with utilization in each mode are given in Table-XVIII below:

TABLE-XVIII

MODES OF FLY ASH UTILIZATION DURING THE YEAR 2017-18

Sl. No.	Mode of utilization	Quantity of Fly Ash utilized in the mode of utilization (from Annexure - I)	
		Million-ton	Percentage (%)
(1)	(2)	(3)	(4)
1	Cement	50.2909	25.60
2	Mine filling	12.5159	6.37
3	Bricks & Tiles	17.6943	9.01
4	Reclamation of low lying area	20.5779	10.48
5	Ash Dyke Raising	13.5500	6.90
6	Roads & flyovers	6.6733	3.40
7	Agriculture	0.5732	0.29
8	Concrete	1.2974	0.66
9	Hydro Power Sector	0.0077	0.004
10	Others	8.6857	4.42
11	Unutilized Fly Ash	64.5747	32.87
	Total	196.4410	100.00

The pie diagram showing the modes of utilization of fly ash during the Year 2017-18 is given in Figure-1 below:

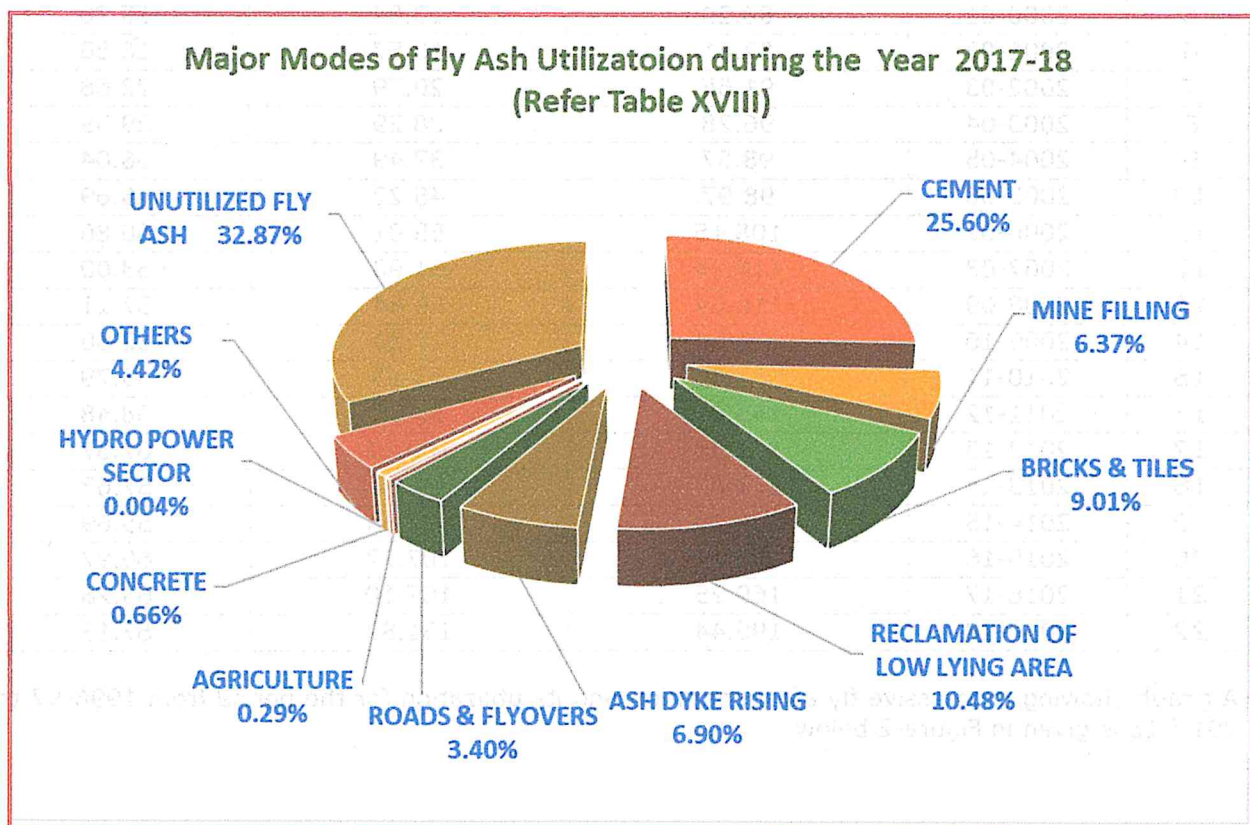


FIGURE-1

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

During the Year 2017-18, the maximum utilization of fly ash to the extent of 25.60% of total fly ash generated was in the Cement sector, followed by 10.48 % in Reclamation of Low lying area, 9.01 % in Bricks & Tiles, 6.90 in Ash Dyke, 6.37 % in Mine Filling, 3.40 % in roads & Flyovers, 0.66 % in Concrete, 0.29 % in Agriculture 0.004 % in Hydro Power Sector, 4.42 % in Others and 32.87% remained as unutilized fly ash.

TABLE XVIII

7.0 PROGRESSIVE FLY ASH GENERATION & UTILIZATION DURING THE PERIOD FROM 1996-97 TO 2018-18

Central Electricity Authority has been monitoring since 1996-1997, the fly ash generation and its utilization at coal/lignite based thermal power stations in the country. Based on data of fly ash generation and utilization received from Thermal Power Stations/Power Utilities since 1996-97, the progressive fly ash generation and its utilization for the period from 1996-97 to 2017-18 is given in Table-XIX below:

TABLE-XIX

PROGRESSIVE FLY ASH GENERATION AND ITS UTILIZATION DURING THE PERIOD FROM 1996-97 TO 2017-18

Sl. No.	Year	Fly Ash Generation (Million-ton)	Fly Ash Utilization (Million-ton)	Fly Ash Utilization in % age
(1)	(2)	(3)	(4)	(5)
1	1996-97	68.88	6.64	9.63
2	1997-98	78.06	8.43	10.80
3	1998-99	78.99	9.22	11.68
4	1999-2000	74.03	8.91	12.03
5	2000-01	86.29	13.54	15.70
6	2001-02	82.81	15.57	18.80
7	2002-03	91.65	20.79	22.68
8	2003-04	96.28	28.29	29.39
9	2004-05	98.57	37.49	38.04
10	2005-06	98.97	45.22	45.69
11	2006-07	108.15	55.01	50.86
12	2007-08	116.94	61.98	53.00
13	2008-09	116.69	66.64	57.11
14	2009-10	123.54	77.33	62.60
15	2010-11	131.09	73.13	55.79
16	2011-12	145.41	85.05	58.48
17	2012-13	163.56	100.37	61.37
18	2013-14	172.87	99.62	57.63
19	2014-15	184.14	102.54	55.69
20	2015-16	176.74	107.77	60.97
21	2016-17	169.25	107.10	63.28
22	2017-18	196.44	131.87	67.13

A graph showing progressive fly ash generation and its utilization for the period from 1996-97 to 2017-18 is given in Figure-2 below:

FIGURE 2

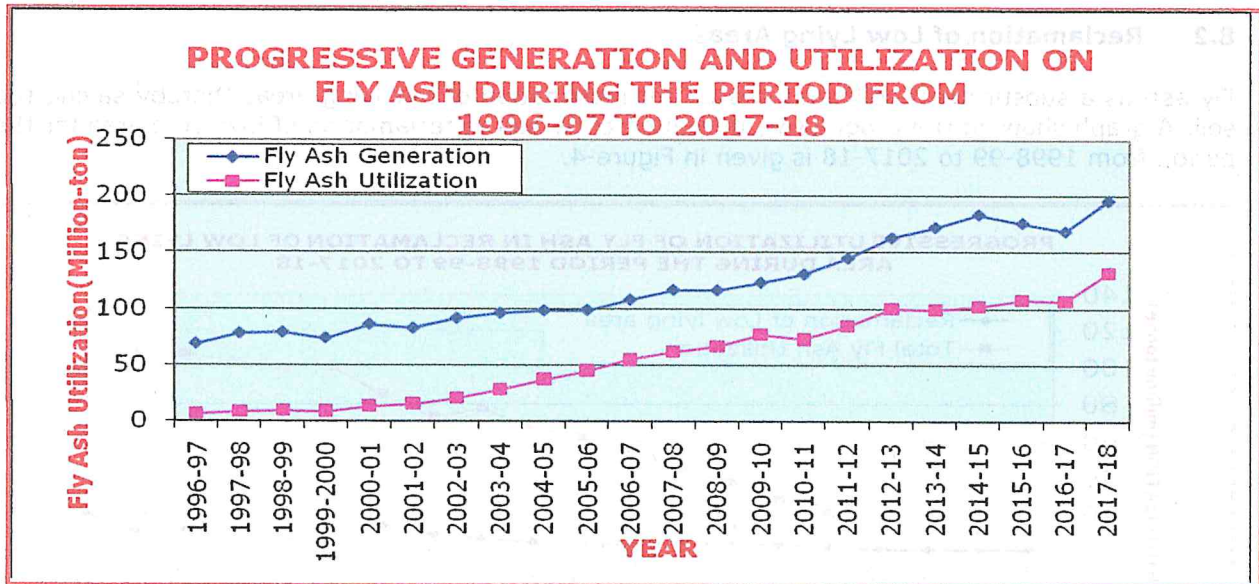


FIGURE-2

It may be seen from Table-XIX and Figure-2 above that:

- (i) The fly ash generation as well as utilization has generally been increasing since 1996-97.
- (ii) Fly ash utilization has increased from 9.63% in 1996-97 to the highest level of 67.13% during 2017-18.
- (iii) The fly ash generation has increased from 68.88 million-ton in 1996-97 to 196.44 million-ton in 2017-18 i.e. nearly 2.85 times.
- (iv) However, fly ash utilization has increased from 6.64 million-ton in 1996-97 to a level of 131.87 million ton in 2017-18 i.e. nearly more than 19.86 times over the same period.
- (v) From the Table XIX, it is seen that quantities of fly ash generation during 2014-15, 2015-16, 2016-17 and 2017-18 have been 184.14, 176.74, 169.25 and 196.44 million-ton respectively. Fly ash utilization during the said four years are 102.54, 107.77, 107.10 and 131.87 million-ton. The utilization of fly ash during 2017-18 is the highest ever so far.

8.0 PROGRESSIVE FLY ASH UTILIZATION IN VARIOUS MODES DURING THE PERIOD FROM 1998-99 TO 2017-18

8.1 Cement Industry

Fly ash is being used by Cement Industry as a pozzolanic material in manufacturing of Portland Pozzolana Cement. It saves both precious lime stone and coal. The utilization of fly ash in manufacturing of cement is highly value added use. A graph showing progressive utilization of fly ash by Cement Industry for the period from 1998-99 to 2017-18 is given in Figure-3 below:

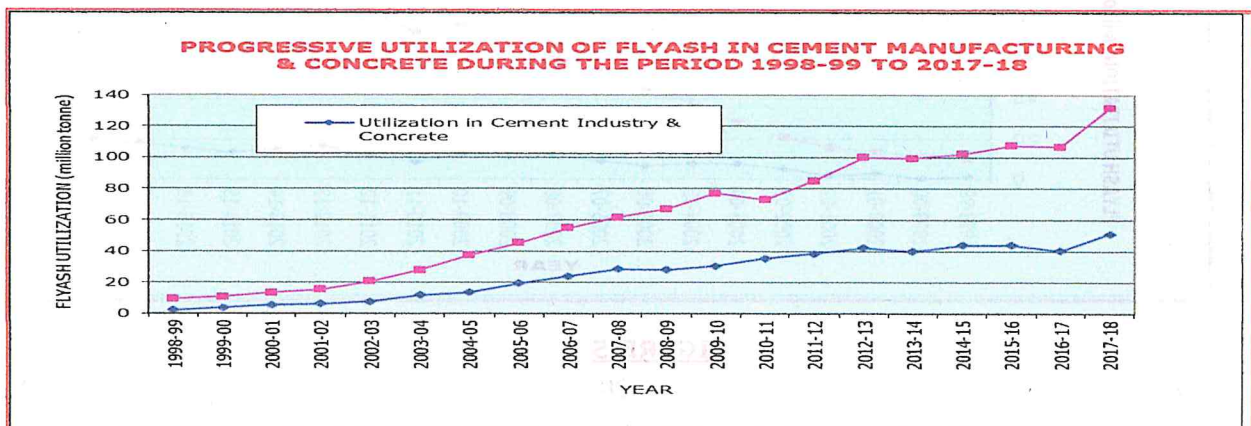


FIGURE-3

It may be seen from Figure-3 above that 2.45 million-ton of fly ash was used by Cement Industry in 1998-99 which increased to 50.29 million-ton during 2017-18 and constituted 25.60 % of total fly ash utilization in the aforesaid year.

8.2 Reclamation of Low Lying Areas

Fly ash as a substitute of soil/sand is used for reclamation of low lying areas thereby saving top soil. A graph showing the progressive utilization of fly ash in reclamation of low lying area for the period from 1998-99 to 2017-18 is given in Figure-4.

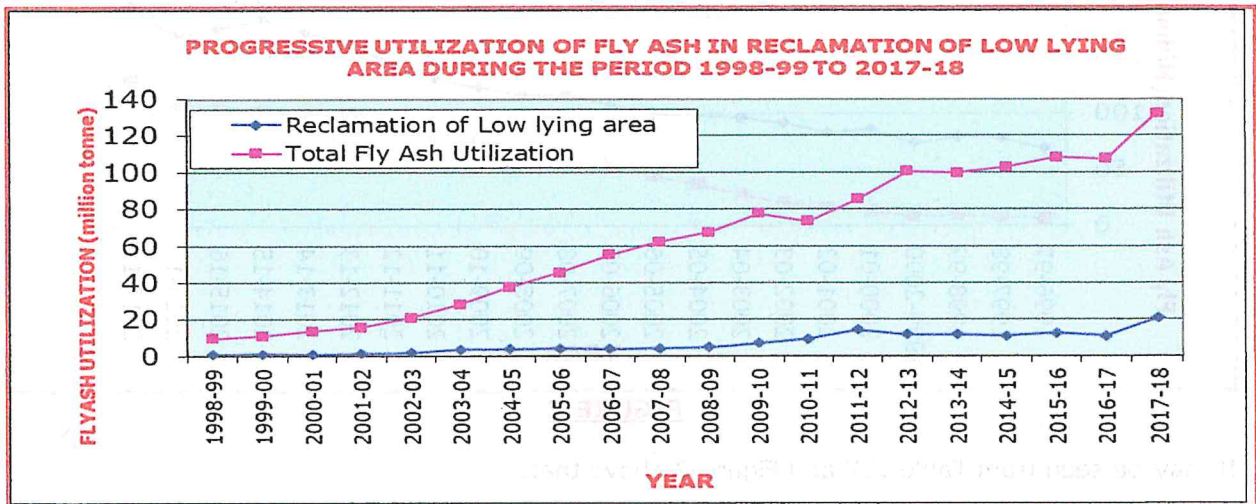


FIGURE-4

It may be seen from Figure-4 above that 4.17 million-ton of fly ash was used for reclamation of low lying area in 1998-99 which has increased to 20.58 million ton in 2017-18 constituting 10.48% of total fly ash utilization during the aforesaid year.

8.3 Construction of Roads/Embankments/Flyovers and raising of Ash Dykes

Fly ash is being used in construction of roads/embankments/flyovers and the raising of ash dykes. It has a large potential for fly ash utilization. A graph showing the progressive utilization of fly ash in the construction of roads & embankments and the raising of ash dykes for the period from 1998-99 to 2017-18 is given in Figure-5 below:

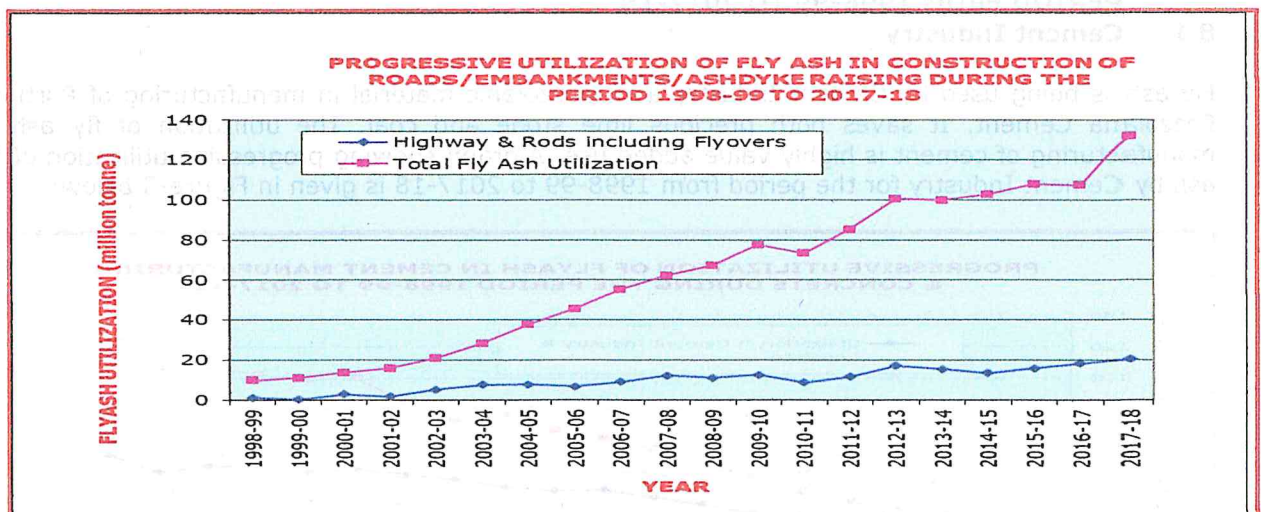


FIGURE-5

It may be seen from Figure-5 above that 1.055 million-ton of fly ash was used in the construction of roads/embankments/flyovers and raising of ash dykes etc. during 1998-99 which increased to 20.22 million-ton in 2017-18 and constituted 10.29 % of total fly ash utilization in the aforesaid year. However, falling trend in recent past is seen.

8.4 Back Filling/Stowing of Mines

Fly ash is being used for backfilling of open cast mines and stowing of underground mines which results in saving of top fertile soil and precious river sand. It has large potential for fly ash utilization especially for pit head thermal power stations. A graph showing the progressive utilization of fly ash in backfilling/stowing of mines for the period from 1998-99 to 2017-18 is given in Figure-6:

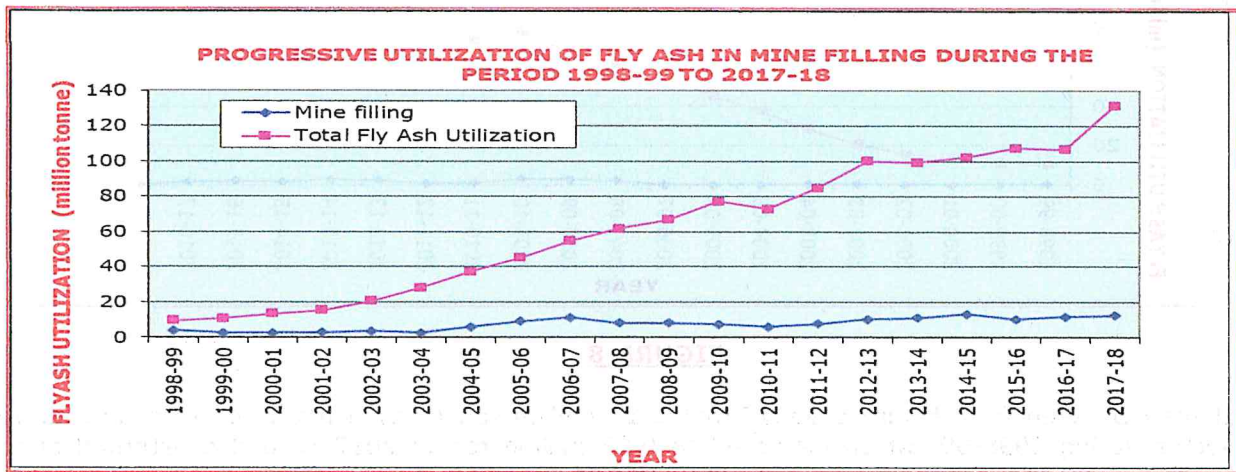


FIGURE-6

It may be seen from Figure-6 above that 0.65 million-ton of fly ash was used for backfilling/stowing of open cast and underground mines during 1998-99 which increased to 12.52 million-ton in 2017-18 constituting 6.37 % of total fly ash utilization in the aforesaid year. The trend was on increasing side and increase in this year as compared to last year.

8.5 Building Materials like Bricks, Blocks and Tiles etc.

Fly ash is used in manufacturing of fly ash based building products like bricks, blocks, tiles etc which results in saving of fertile top soil. Fly ash based bricks/blocks/tiles are as good as clay based conventional building products. It has substantial potential of fly ash utilization especially for thermal power stations located near load centers. A graph showing progressive utilization of fly ash in making of fly ash based building products for the period from 1998-99 to 2017-18 is given in Figure -7.

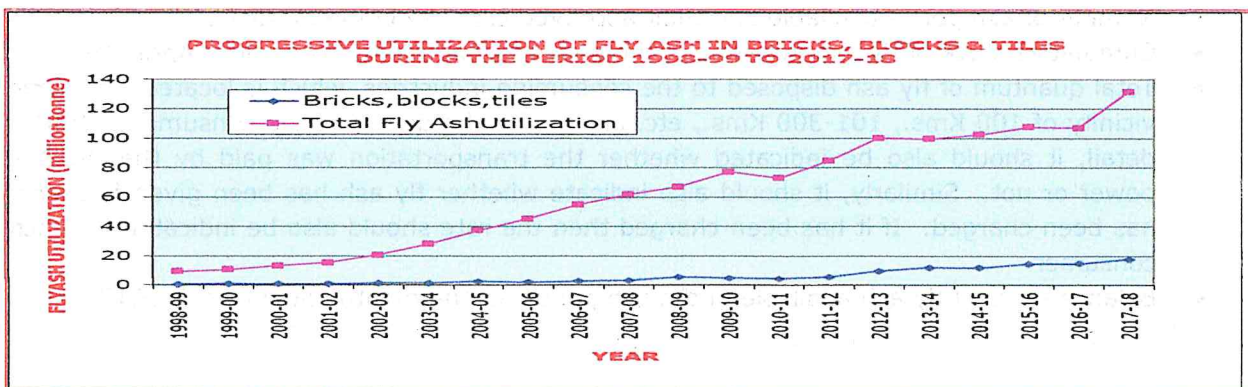


FIGURE-7

It may be seen from Figure-7 above that 0.70 million-ton of fly ash was used for making of fly ash based bricks/blocks/tiles etc during 1998-99 which increased to 17.69 million-ton in 2017-18 and constituted 9.01 % of total fly ash utilization in the aforesaid year.

8.6 Agriculture

Fly ash is being used as manure in agricultural sector as it has many micronutrients. The progressive utilization of fly ash in Agricultural Sector for the period from 1998-99 to 2017-18 is given in Figure-8.

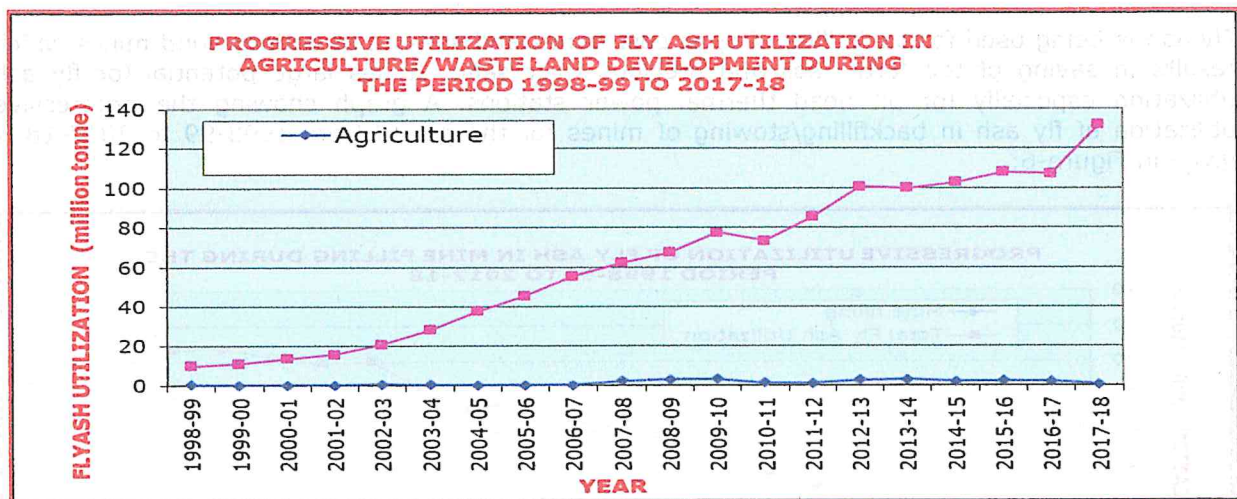


FIGURE-8

It may be seen from Figure-8 above that 0.13 million ton of fly ash was used in agricultural sector during 1998-99, which increased to 0.57 million ton in 2017-18 and constituted about 0.29 % of total fly ash utilization in the aforesaid year.

9.0 WEB BASED MONITORING SYSTEM AND A MOBILE APPLICATION FOR UTILIZATION OF FLY ASH

Annual Fly ash utilization has remained 67.13% of the fly ash generated and therefore, it has become a matter of concern in view of its environmental effect. Besides, progressive accumulation may lead to a situation when ash pond may not be in a position to accommodate fly ash further. Due to the importance of utilization of fly ash & slag for reducing the burden on the environment, NITI AAYOG has convened several meetings on policy framework on utilization of fly ash and slag. During the meeting held on 17.03.2017, it was decided by NITI AAYOG that an online repository of the fly ash generated by thermal power plants indicating the following parameters should be launched by Ministry of Power by 15th April, 2017:

- Cumulative amount of fly ash available in the ash ponds as on 31.3.2017
- Quantum of fly ash generated for the respective month (Ex. For the month of April 2017)
- Number of ash ponds available and their approved capacity in metric tonne
- Cumulative stock of fly ash available in the ponds for the month as on 30th April 2017
- Total quantum of fly ash disposed to the consuming industries, which is located within the vicinity of 100 Kms., 101-300 Kms., etc. along with the details of the consumers. In this detail, it should also be indicated whether the transportation was paid by the thermal power or not. Similarly, it should also indicate whether fly ash has been given free or it has been charged. If it has been charged then the rate should also be indicated for each consumer
- Balance stock of fly ash available in the ash ponds for the month ending April ,2017

Accordingly, a web based monitoring system and a mobile application (Ash Track) have been developed by CEA with collaboration of M/s NTPC Limited on behalf of Ministry of Power. Login ID and password have been issued to Power Utilities/ Thermal Power Stations for uploading the monthly data of fly ash generation and its utilization. A workshop for facilitating the users had been organized on 28th August, 2017. Further, two video conferences had also been organized on the above issues on dated 12.09.2017 and 05.10.2017 with the help of M/s NTPC Limited. Feeding of data by the Thermal Power Stations on the web based monitoring system is under progress.

10.0 CONCLUSIONS & RECOMMENDATIONS

1. The fly ash generation during 2017-18 is 196.44 MT due to combustion of 624.88 MT coal. During 2016-17, 169.25 MT of fly ash was generated due to combustion of 509.46 MT coal. However, the fly ash utilizations during 2016-17 and 2017-18 are 107.10 MT and 131.87 MT respectively. It is seen that the absolute quantity of fly ash utilization has increased as compared to last year and similarly the percentage utilization of fly ash has increased.
2. The highest level of fly ash utilization of about 67.13% is achieved during the year 2017-18. It would require a lot of efforts to achieve the target of 100% utilization of fly ash. The stipulations of notification of 2009 and recent amendment should be effectively implemented. As per this report about 32.87% un-utilized fly ash is lying dumped at the various Thermal Power Stations in the country.
3. 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 Stations need 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.
 - As per MoEF&CC's Amendment Notification dated 25.01.2016, Para 2 (14) " The coal or lignite based thermal power plants shall within a radius of three hundred kilometers bear the entire cost of transportation of ash to the site of road construction projects under Pradhan Mantri Gramin Sadak Yojana and asset creation programmes of the Government involving construction of building, road, dams and embankments ". The meaning of the words "Asset Creation Programme of the Government" may be read in the context of projects carried out under certain plan scheme of the Government Department. In this regard, The Ministry of Environment, Forest and climate change (MoEF&CC) has clarified that road being constructed by NHAI as well as the State Government are covered by the Notification dated 25.01.2016 in order to fully utilize the fly ash.
 - 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 RDSO, a research organization under the Ministry of Railways.
 - Thermal Power Stations have to 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. Department of Science and Technology Govt. of India, through their research Projects, has established that use of fly ash in agriculture is safe.

- A large number of technologies have been developed for gainful utilization and safe management of fly ash through research projects funded by Fly Ash Mission/ Fly Ash Unit under Ministry of Science & Technology, GOI since 1994. Propagation of these technologies by establishing 'Self-sustaining technology demonstration centers' would facilitate and accelerate the fly ash utilization in the country.
- Thermal Power Stations have to 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's notification of 3rd November, 2009.
- There is a need to encourage 'Industry-Institute Interactions' for entrepreneur development, creating awareness and organizing training programmes and workshops.
- Induction of 'Fly Ash' as a subject in academic curriculum of Engineering and Architecture is needed.

11.0 Abbreviations

CEA	:	Central Electricity Authority
MoEF	:	Ministry of Environment & Forest
MoEF&CC	:	Ministry of Environment & Forest and Climate Change (erstwhile MoEF)
MW	:	Mega Watt
MoP	:	Ministry of Power
MT	:	Million Tonnes
TPS	:	Thermal Power Stations
APGENCO	:	Andhra Pradesh Power Generation Corporation Ltd.
APPDCL	:	Andhra Pradesh Power Distribution Company Limited
ACBPL	:	Aryan Coal Benefication Private Ltd.
APL	:	Adani Power Ltd.,
APCPL	:	Aravali Power Corporation Pvt.Ltd.
AMNEPL	:	Abhijet MADC Nagpur energy Pvt. Ltd.
BEPL	:	Bajaj Energy Pvt. Ltd.
BSPGC	:	Bihar State Power Generation Company
CESC	:	Calcutta Electric Supply Company
CGPL	:	Coastal Gujarat Power Ltd.
CSPGCL	:	Chattisgarh State Power Generation Company Ltd.
DVC	:	Damodar Valley Corporation
DPL	:	Durgapur Project Ltd.
DPSC	:	Dishergarh Power Supply Company Ltd.
EPGL	:	Essar Power Gujarat Ltd.
GIPCL	:	Gujarat Industries Power Corporation Ltd.
GMDCL	:	Gujarat Mineral Development Corporation Ltd.
GSECL	:	Gujarat State Electric Corporation Ltd.
HPGCL	:	Haryana Power Generating company Ltd.
IPGCL	:	Indraprastha Power Generation Company Ltd.
IPCL	:	IL&FS Tamil Nadu Power Company Ltd.
JSEB	:	Jharkhand State Electricity Board.
JHPL	:	Jhajjar Power Ltd.
JPL	:	Jindal Power Ltd.
JSW	:	Jindal Steel Works
KPCL	:	Karnataka Power Corporation Ltd.
KBUNL	:	Kanti Bijlee Utpadan Nigam Ltd.
MPPGCL	:	Madhya Pradesh Power Generating Company Ltd.
MPL	:	Maithon Power Ltd.
MSPGCL	:	Maharashtra State Power Generating Company Ltd.
NLC	:	Neyveli Lignite Corporation
NSPCL	:	NTPC -SAIL Power Corporation Ltd.
NTPC	:	National thermal Power Corporation
NTECL	:	NTPC – Tamilnadu Electric Company Ltd.
OPGCL	:	Odisha Power Generation Corporation Ltd.
PSPCL	:	Punjab State Power Corporation Ltd.
RRVUNL	:	Rajasthan Rajya Vidyut Utpadan Nigam Ltd.
RIL	:	Reliance Infrastructure Ltd.
RPSCL	:	Rosa Power Supply Company Ltd.
RWPL	:	Raj West Power Ltd.
SEL	:	Sterlite energy Ltd.
SVPPL	:	Shri Vardhman Power Pvt. Ltd.
ST-CMS	:	ST-CMS
TPCO	:	Tata Power Company Ltd.
TVNL	:	Tenunghat Vidyut Nigam Ltd.
TNG&D	:	Tamil Nadu Generating and Distribution Corporation Ltd.
UPCI	:	Udupi Power Company Ltd.
UPRVUNL	:	Uttar Pradesh Rajya Vidyut Utpadan Nigam Ltd.
VESPL	:	Vandanca energy Supply Power Ltd.
WBPDC	:	West Bengal Power Development Corporation Ltd.
WPCL	:	Wardha Power Company Ltd.

GEPL : Gupta Power Company Ltd.
 VIP: Vidharbha Industries Power Ltd.
 EPL: Essar Power Ltd.
 ACB : Aryan Coal Beneficiary Ltd.
 AP : Andhra Pradesh
 MP : Madhya Pradesh
 TN : Tamil Nadu
 UP : Uttar Pradesh
 WB: West Bengal

Annex-I
FLY ASH GENERATION AND ITS UTILIZATION AT COAL/LIGNITE BASED THERMAL POWER STATIONS IN THE COUNTRY FOR THE YEAR 2017-18 (APRIL-2017 TO MARCH-2018)
(POWER UTILITY WISE)

Sl no.	Name of TPS	Power Utility & state	Installed Capacity (MW)	Coal Consumed (MT)	Ash Content of coal (%) (7)/(5)*100	Fly Ash Generation (MT)	Fly Ash Utilization (MT)	%age utilization (8)/(7)*100	In making of Fly Ash based/Brick/Blocks/Tiles etc. (MT)	In manufacture of portland cement pozzolana cement (MT)	In construction of Highways & Roads including flyovers (MT)	Part replacement of cement in concrete (MT)	In Hydro power sector in RCC Dam construction (MT)	In Ash Dyke raising (MT)	In reclamation of low lying Area (MT)	In Mining filling (MT)	In agriculture/waste land Development (MT)	Others (MT)	Total Utilization (MT)	Date Of Commission
1	Dr. N.T.R. (Vijawada)	APGENCO (Andhra Pradesh)	1760.00	8.5367	45.23	3.8611	3.5025	90.71	1.7497	1.0210	0.0159	0.0774		0.5175				0.1211	3.5025	01.11.1979
2	RAYALSEEMA	APGENCO (Andhra Pradesh)	1050.00	4.9679	41.74	2.0777	1.5416	74.20	0.3150	1.2266									1.5416	16.11.1994
3	RAMAGUNDAMB	TSPGCL (Telengana)	62.50	0.3397	33.36	0.1133	0.0316	27.88		0.0316									0.0316	17.10.1971
4	KOTHAGUDEM-V	TSPGCL (Telengana)	500.00	2.9890	52.40	1.5662	0.0490	3.1305	0.0000	0.0000	0.0000							0.0490	0.0490	27.03.1997
5	KOTHAGUDEM-VI	TSPGCL (Telengana)	500.00	2.2519	29.47	0.6636	0.6099	91.90	0.0891	0.5191				0.0011				0.0005	0.6099	23.10.2011
6	SRI DAMODARAM SANJEEVAIAH	APPDCL(Andhra Pradesh)	1600.00	2.9200	28.22	0.8240	0.6234	75.66	0.1016	0.3143				0.2075				0.0000	0.6234	05.02.2015
7	KASAI PALI	ACB(INDIA) (Chhattisgarh)	270.00	1.8811	56.99	1.0721	1.0721	100.00	0.0864					0.9857					1.0721	13.12.2011
8	SVPP L Renki	ACB India Limited (Chhattisgarh)	60.00	0.0239	59.55	0.0142	0.0142	100.07	0.0059					0.0083					0.0142	21.10.2011
9	CHAKABURA TPP	ACB (INDIA) Ltd. (Chhattisgarh)	30.00	0.3270	55.00	0.1799	0.1799	100.00	0.0146					0.1653					0.1799	27.02.2007
10	CHAKABURA TPP (EXTN)	ACB (INDIA) Ltd. (Chhattisgarh)	30.00	0.2739	54.98	0.1506	0.1506	100.00	0.0146					0.1360					0.1506	28.03.2014
11	INDIRA GANDHI	APCL (Haryana)	1500.00	5.0739	31.93	1.6199	1.1166	68.93	0.3650	0.7517									1.1166	31.10.2010
12	MUNDRA TPS	APL (Gujrat)	4620.00	11.1960	6.69	0.7490	0.7450	99.47	0.2890	0.2890				0.1840				0.2720	0.7450	04.08.2009
13	TIRORA	ADANI POWER LTD. (Maharashtra)	3300.00	10.9935	32.13	3.5318	2.8597	80.97	0.0555	0.0425	0.0341			0.4104				2.0461	2.8597	23.09.2012
14	KAWAI	ADANI POWER RAJASTHAN LTD. (Rajasthan)	1320.00	2.4987	16.72	0.4178	0.4191	100.31	0.0471	0.3424				0.0296					0.4191	31.05.2013
15	MIHAN	AMNEPL (Maharashtra)	246.00		#DIV/0!			#DIV/0!											0.0000	05.01.2011
16	DAHANU	ADANI ELECTRICITY MUMBAI LIMITED (Maharashtra)	500.00	2.1700	29.45	0.6390	0.6545	102.42	0.0005	0.3040				0.0770				0.2730	0.6545	01.07.1995
17	BARKHERA	BEPL (UP)	90.00	0.1490	42.32	0.0630	0.0630	99.87	0.0004	0.0151				0.0475					0.0630	29.10.2011
18	KHAMBER KHERA	BEPL (UP)	90.00	0.1429	42.35	0.0605	0.0605	99.97	0.0225	0.0255				0.0125					0.0605	30.09.2011
19	KUNDARKI	BEPL (UP)	90.00	0.1385	41.01	0.0568	0.0568	100.00	0.0007	0.0497				0.0064					0.0568	03.01.2012
20	MAQSOODAPUR	BEPL (UP)	90.00	0.1347	40.54	0.0546	0.0546	99.96	0.0001	0.0105				0.0440					0.0546	27.10.2011
21	UTRAULA	BEPL (UP)	90.00	0.1426	40.60	0.0579	0.0579	99.99	0.0027	0.0464				0.0087					0.0579	30.01.2012
22	NABINAGAR	Bharatiya Rail Bijlee Company Limited (Bihar)	500.00	0.6816	39.16	0.2669	0.0754	28.24		0.0754									0.0754	15.01.2017

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23	B.B.G.S.	C.E.S.C. (West Bengal)	750.00	3,6080	35.89	1,2950	1,2950	100.00	0.0330	0.9980	0.0230	0.0060	1,2950	0.2350	0.0070	0.0000	0.0462	0.0322	1,2950	16.09.1997
24	S.G.S.	C.E.S.C. (West Bengal)	135.00	0,2150	23.72	0,0510	0,0510	100.00	0.0060	0.0290	0.0000	0.0090	0,0070	0.0000	0.0000	0.0434	0.0000	0.0322	0,0070	12.08.1990
25	T.G.S.	C.E.S.C. (West Bengal) Generation	240.00	0.0000	#DIV/0!	0.0000	0.0000	#DIV/0!	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0462	0.0322	0.0000	05.03.1983
26	MARWA TENDUBHATA	C.S.P.G.C.L.(Chhattisgarh)	1000.00	3,7251	40.49	1,5083	0,5128	34.00	0.0240	0.4454			0,0434					0.0322	0,5128	31.03.2016
27	DSPM	C.S.P.G.C.L. (Chhattisgarh)	500.00	2,5491	38.48	0,9809	0,2010	20.49					0,0966						0.2010	21.10.2007
28	KORBA (WEST)	C.S.P.G.C.L.Chhattisgarh	1340.00	6,7700	40.84	2,7650	0,4439	16.05	0.0604				0,2896					0.0322	0,4439	21.03.1993
29	MUTARA	COASTAL ENERGEN PVT. LTD (Tamil Nadu)	1200.00	2,4294	3.32	0,0807	0,0802	99.42	0.0221	0.0582								0.0802	0,0802	23.12.2014
30	MUNDRA UMPP	CGPL (Gujrat)	4000.00	10,7990	7.28	0,7861	0,6309	80.26	0.0083	0.5979		0.0247						0.6309	0,6309	07.03.2012
31	BOKARO 'B'	D.V.C.(Jharkhand)	710.00	2,0573	42.55	0,8753	0,7391	84.44					0,7287					0.7391	0,7391	31.03.1993
32	CHANDRAPURA	D.V.C.(Jharkhand)	630.00	2,3050	43.56	1,0041	1,4374	143.15	0.00000	0.0269			1,4105					1,4374	07.07.1968	
33	DURGAPUR	D.V.C.(West Bengal)	210.00	0,6569	43.16	0,2835	0,0125	4.41		0.0125								0.0125	0,0125	sep.1982
34	MEHA	D.V.C.(West Bengal)	2340.00	7,8569	46.90	3,6852	3,9061	105.99	0.0090	1.1726			2,7244					3,9061	01.12.1997	
35	DURGAPUR STEEL	D.V.C. (West Bengal)	1000.00	4,0971	41.74	1,7101	1,2613	73.76	0.0100	0.9490			0,3023					1,2613	15.05.2012	
36	KODERMA	D.V.C. (Jharkhand)	1000.00	3,4401	44.30	1,5238	1,0964	71.95	0.0020	0.6414			0,4530					1,0964	18.07.2013	
37	RAGHUNATHPUR	D.V.C. (West Bengal)	1200.00	1,4219	44.64	0,6347	0,0152	2.39	0.0152									0.0152	0,0152	18.07.2013
38	D.P.P.S.	D.P.L.(West Bengal).	660.00	1,5992	37.82	0,6047	0,5679	93.90	0.0093	0.4124	0.0963		0,0499					0,5679	03.07.1985	
39	DHARIWAL INFRASTRUCTURE Ltd.	Dharwal Infrastructure Ltd.(Maharashtra)	600.00	1,4600	33.78	0,4932	0,4488	91.00	0.0058	0.4430								0,4488	11.2.2014	
40	SURAT LIGNITE	G.I.P.C.L. (Gujarat)	500.00	3,4225	16.53	0,5658	0,5658	100.00	0.4235	0.0000								0,5658	15.02.2000	
41	AKRIMOTA	G.M.D.C.L. (Gujarat)	250.00	1,2343	17.32	0,2138	0,2755	128.90	0.0275	0.0576	0.0145	0.0146	0,2755					0,2755	31.03.2005	
42	GANDHINAGAR	G.S.E.C.L. (Gujarat)	630.00	0,2512	35.07	0,0881	0,1159	131.56	0.0275	0.0576	0.0145	0.0146	0,2755					0,1159	20.03.1990	
43	KUTCH LIGNITE	G.S.E.C.L. (Gujarat)	290.00	0,1543	19.57	0,0302	0,0302	100.00	0.0040	0.0040			0,0262					0,0302	09.01.1990	
44	SIKKA	G.S.E.C.L. (Gujarat)	500.00	0,1330	8.57	0,0114	0,0317	278.07	0.0192	0.0125			0,0317					0,0317	14.09.2015	
45	UKAI	G.S.E.C.L. (Gujarat)	1110.00	0,4286	32.76	0,1404	0,1065	75.85	0.0524	0.0363			0,1065					0,1065	21.01.1979	
46	WANAKBORI	G.S.E.C.L. (Gujarat)	1470.00	0,5081	35.74	0,1816	0,1281	70.51	0.0106	0.0885			0,0017					0,0273	0,1281	23.03.1982

**FLY ASH GENERATION AND ITS UTILIZATION AT COAL/LIGNITE BASED THERMAL POWER STATIONS IN THE COUNTRY FOR THE YEAR 2017-18 (APRIL-2017 TO MARCH-2018)
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47	GMR WARORA ENERGY LTD. (Maharashtra)	GMR WARORA ENERGY LTD. (Maharashtra)	600.00	2.2737	28.95	0.6582	0.7253	110.20	0.0025	0.6399	0.0829								0.7253	19.03.2013
48	GMR KAMALANGA TPP	GMR KAMALANGA ENERGY LTD. (Odisha)	1050.00	3.9259	35.48	1.3929	1.6711	119.97	0.5201	0.0283	0.0026			0.1512	0.9668				1.6711	30.04.2013
49	GMR Chhattisgarh	GMR Chhattisgarh Energy LTD. (Chhattisgarh)	1370.00	0.8773	31.36	0.2751	0.2703	98.24	0.0077	0.2618	0.00084								0.2703	1.06.2015
50	GEPL TPP	GUPTA ENERGY Pvt. Ltd. (Maharashtra)	120.00		#DIV/0!			#DIV/0!											0.0000	19.07.2012
51	HISAR	H.P.G.C.L.(Haryana)	1200.00	3.2503	39.10	1.2709	1.0777	84.80	0.0267	0.5491	0.4804	0.0214							1.0777	24.08.2010
52	YAMUNANAGAR	H.P.G.C.L.(Haryana)	600.00	2.2375	30.58	0.6842	1.4164	207.02	0.0144	0.5238	0.6463						0.2319		1.4164	14.04.2008
53	PANIPAT	H.P.G.C.L.(Haryana)	920.00	1.7420	38.52	0.6710	1.0416	155.23	0.0704	0.7990	0.1313			0.0342				0.0067	1.0416	28.03.1989
54	HALDIA ENERGY LIMITED	HALDIA ENERGY LIMITED (W.B)	600.00	3.0700	33.52	1.0290	1.0290	100.00	0.0810	0.8580			0.0900						1.0290	1/28/2015
55	Vizag TPS	Hinduja National Power Corporation Limited (Andhra Pradesh)	1040.00	2.6187	32.38	0.8479	0.1105	13.03	0.1021				0.0053					0.0031	0.1105	11.01.2016
56	RAJGHAT	IPGCL (Delhi)	135.00	0.0000	#DIV/0!	0.0000	0.0000	#DIV/0!											0.0000	20.02.1990
57	DISHARGARH POWER STATION	INDIA POWER CORPORATION Ltd. (W.B)	12.00	0.0694	50.93	0.0353	0.0353	100.00								0.0353			0.0353	25.09.2012
58	INDIAN METALS & FERRO ALLOYS LTD.	INDIAN METALS & FERRO ALLOYS Ltd.(Odisha)	258.00	0.9307	45.50	0.4235	0.4235	100.00	0.1580	0.0006	0.0857			0.1764				0.0028	0.4235	2.1.989
59	MAHATMA GANDHI	JHPL (Haryana)	1320.00	4.3280	43.26	1.8722	1.4309	76.43	0.0176	1.3345	0.0003							0.0784	1.4309	29.03.2012
60	O.P.Jindal Super TPP (Stage-I)	JPL (Chhattisgarh.)	1000.00	3.1750	43.91	1.3940	1.0549	75.67	0.0000				0.8070	0.2159		0.0320			1.0549	08.12.2007
61	O.P.Jindal Super TPP(Stage-II)	JPL (Chhattisgarh.)	2400.00	5.1320	44.23	2.2700	1.7510	77.14	0.0530	0.0340	0.0000		1.5170						1.7510	14.03.2014
62	JAYPEE BINA TPP	Jaiprakash Power Ventures Limited (MP)	500.00	1.5838	30.10	0.4767	0.4768	100.02	0.0102	0.3801			0.0864						0.4768	07.04.2013
63	JAYPEE NIGRI SUPER TPP	Jaiprakash Power Ventures Limited (MP)	1320.00	4.4200	27.38	1.2100	1.2110	100.08	0.0120	1.0400			0.1500					0.0090	1.2110	03.09.2014
64	RATNAGIRI	JSW Energy Ltd (Maharashtra)	1200.00	3.1566	10.97	0.3464	0.3469	100.14	0.0289	0.0480	0.2700								0.3469	01.09.2010
65	VIJAYANAGAR	JSW Energy Limited (Karnataka)	860.00	1.3980	13.05	0.1825	0.1746	95.69	0.0170	0.1231			0.0025					0.0520	0.1746	18.01.2000
66	DERANG TPP	JINDAL INDIA THERMAL POWER LIMITED (Odisha)	1200.00	2.9074	38.95	1.1325	1.0322	91.14	0.0777										1.0322	05.06.2014
67	DANGAMHUA CAPTIVE POWER PLANT	JINDAL STEEL AND POWER LIMITED (CHHATTISGARH)	576.00	2.3234	49.25	1.1443	1.1423	99.83								1.1423			1.1423	04.09.2010
68	BALLARI	K.P.C.L (Karnataka)	1700.00	2.4600	28.85	0.7098	0.4417	62.23	0.1626	0.2766	0.0025								0.4417	25.03.2008
69	RAICHUR	K.P.C.L.(Karnataka)	1720.00	6.9320	34.65	2.4020	1.2930	53.83	0.2230	1.0700									1.2930	29.03.1985
70	MUZAFFARPUR TPS	KANTI BILEE UTPADAN NIGAM LIMITED (Bihar)	610.00	1.3611	32.41	0.4411	0.1872	42.44	0.0035	0.0000	0.0500							0.1337	0.1872	11.2013

**FLY ASH GENERATION AND ITS UTILIZATION AT COAL/LIGNITE BASED THERMAL POWER STATIONS IN THE COUNTRY FOR THE YEAR 2017-18 (APRIL-2017 TO MARCH-2018)
(POWER UTILITY WISE)**

Sl. no.	Name of TPS	Power Utility & state	Installed Capacity	Coal Consumed	Ash Content of coal	Fly Ash Generation	Fly Ash Utilization	%age utilization	In making of Fly ash based/dic K/Blocks/T pozzolana lites etc.	In manufacture of portland cement	In construction of Highways & Roads including flyovers	Part replacement of concrete in RCC Dam construction	In Hydro power sector in RCC Dam construction	In Ash Dyke raising	In reclamation of low lying Area	In Mining filling	In agriculture /waste land Development	Others	Total Utilization	Date Of Commission	
			(MW)	(MT)	%age (7)/(5)x100	(MT)	(MT)	(MT)	(%age (6)/(7)x100)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)
71	KMPCL (AKALITARA)	KSK Mahanadi Power Company Limited (Chhattisgarh)	1800.00	3,5636	32.90	1,1723	1,0368	88.44	0.0130	1,0074	0.0158				0.0006				1,0368	Sept. 2013	
72	AMARKANTAK TPS	LANCO AMARKANTAK POWER LIMITED (Chhattisgarh)	600.00	2,6612	38.33	1,0201	0,4433	43.46	0.0011	0.0119	0.0280			0.4024	0.0006				0.4433	04.06.2009	
73	LALTPUR	LALTPUR POWER GENERATION COMPANY LIMITED (UP)	1980.00	5,1705	32.93	1,7026	1,4629	85.93	0.0131	0.8705					0.5794				1,4629	08.01.2016	
74	MATIHON RBTPP	MPL (Bihar) (M.P.)	1050.00	4,2485	40.08	1,7026	1,8084	106.21	0.0532	0.0076	0.0386					1.7090			1,8084	01.09.2011	
75	SANJAY GANDHI	M.P.P.G.C.L. (M.P.)	1340.00	5,1426	36.73	1,8889	1,3849	73.32	0.0564	1.3042	0.0244			0.0077					1,3849	07.10.1993	
76	SATPURA	M.P.P.G.C.L. (M.P.)	1330.00	3,5568	40.83	1,4524	0,4192	28.87	0.3784	0.0121						0.0210			0,4192	07.01.1979	
77	AMARKANTAK	M.P.P.G.C.L. (M.P.)	210.00	0,9573	32.29	0,3091	0,1749	56.59	0.0748	0.0981	0.0019								0,1749	10.09.2009	
78	SHREE SINGAI TPS	M.P.P.G.C.L. (M.P.)	1200.00	2,6017	40.23	1,0467	0,6319	60.37	0.0039	0.0222				0.4772					0,6319	01.02.2014	
79	BHUSAWAL	M.S.P.G.C.L.(Maharashtra)	1210.00	5,1099	34.00	1,7373	1,4861	85.54	0.5371	0.3501				0.2158					1,4861	04.05.1992	
80	CHANDRAPUR	M.S.P.G.C.L.(Maharashtra)	2920.00	10,6606	25.28	2,6946	0,7098	26.34	0.0239	0.6839									0,7098	03.05.1985	
81	KHAPARKHEDA	M.S.P.G.C.L.(Maharashtra)	1340.00	5,2243	34.00	1,7797	0,6329	35.56	0.1885	0.0000	0.0000			0.3074			0.1370		0,6329	26.03.1989	
82	KORADI	M.S.P.G.C.L.(Maharashtra)	2600.00	6,8410	39.61	2,7100	0,3560	13.14	0.1590		0.1960	0.0010							0,3560	15.07.1978	
83	NASHIK	M.S.P.G.C.L.(Maharashtra)	630.00	2,3212	32.98	0,7655	1,4741	192.57	1.1270	0.3463				0.0008					1,4741	26.04.1979	
84	PARLI	M.S.P.G.C.L.(Maharashtra)	1170.00	2,2305	39.26	0,8758	0,9142	104.38	0.4741	0.2360							0.0219		0,9142	26.03.1985	
85	PARAS	M.S.P.G.C.L.(Maharashtra)	500.00	2,2791	23.80	0,5424	0,2082	38.38	0.0805	0.1277									0,2082	31.03.2008	
86	MCCPL BANDHAKHAR	Maruti Clean Coal and Power Limited (Chhattisgarh)	300.00	1,6863	45.81	0,7724	0,7232	93.63			0.0112				0.7120				0,7232	30.07.2015	
87	THAMMUNAATNAM TPS	MEENAKSHI ENERGY Pvt. Ltd.(Andhra Pradesh)	300.00	0,3840	7.43	0,0285	0,1129	395.49	0.0529					0.0600					0,1129	07.10.2012	
88	JHABUA POWER LIMITED (SEONI TPP)	M/S JHABUA POWER LIMITED (MP)	600.00	1,1810	31.90	0,3768	0,2491	66.12	0.0258	0.1316	0.0451								0,2491	02.05.2016	
89	KWPL TPP	M/S KORBA WEST POWER COMPANY LIMITED (Chhattisgarh)	600.00	0,4340	39.86	0,1730	0,2530	146.24	0.0000	0.0000				0.1890	0.0640				0,2530	31.03.2014	
90	ANUPPUR TPS	NB POWER (MADHYA PRADESH) LIMITED (M.P.)	1200.00	4,3339	37.24	1,6141	0,7854	48.66	0.0153	0.5492	0.0027			0.1840	0.0265				0,7854	20.05.2015	
91	NEWELL - I	NLC LTD.(Tamil Nadu)	600.00	5,1562	4.62	0,2384	0,1694	71.04	0.0281	0.1377									0,1694	1982	
92	NEWELL -I EXPN	NLC LTD.(Tamil Nadu)	420.00	3,3410	6.03	0,2016	0,2016	99.99	0.0259	0.1355									0,2016	21.10.2002	
																			Σ(10) to (19)		

FLY ASH GENERATION AND ITS UTILIZATION AT COAL/LIGNITE BASED THERMAL POWER STATIONS IN THE COUNTRY FOR THE YEAR 2017-18 (APRIL-2017 TO MARCH-2018)
(POWER UTILITY WISE)

Sl no.	Name of TPS	Power Utility & state	Installed Capacity (MW)	Coal Consumed (MT)	Ash Content of coal (%) (7)/(5) x 100	Fly Ash Generation (MT)	Fly Ash Utilization (MT)	%age utilization (5)/(7) x 100	In making of Fly Ash based/Brick/Blocks/Tiles etc. (MT)	In manufacture of portland cement pozzolana cements (MT)	In construction of Highways & Roads including flyovers. (MT)	Part replacement of cement in concrete (MT)	In Hydro power sector in RCC Dam construction (MT)	In Ash Dyke raising (MT)	In reclamation of low lying Area (MT)	In Mining filling (MT)	In agriculture /waste land Development (MT)	Others (MT)	Total Utilization (MT)	Date Of Commission
93	NEWVELI - II	NLC LTD.(Tamil Nadu)	1470.00	11.3519	4.10	0.4656	0.6288	135.06	0.1058	0.3511	0.0062					0.1656	0.0001		0.6288	29.03.1986
94	NEWVELI - II EXPN	NLC LTD. (Tamil Nadu)	500.00	2.0078	6.28	0.1260	0.1266	100.51	0.0841					0.0426					0.1266	22.04.2015
95	BARSINGSAR LIGNITE	NLC LTD. (Rajasthan)	250.00	15.7761	16.10	2.5403	2.5403	100.00	0.6306	1.0887						0.8210			2.5403	27.10.2009
96	NLC TAMILNADU POWER Ltd	NLC TAMIL NADU POWER LIMITED (Tamil Nadu)	1000.00	3.4757	31.44	1.0929	1.0929	100.00	0.0869	0.9934					0.0126				1.0929	08.03.2015
97	BHILAI	NSPCL (Chhattisgarh)	500.00	2.3511	38.61	0.9079	0.9629	106.06	0.1467	0.7164				0.0777	0.0221				0.9629	22.04.2009
98	VALLUR	NTPC TAMIL NADU ENERGY COMPANY LTD ((NTECL) (Tamil Nadu)	1500.00	5.2240	35.85	1.8730	1.2180	65.03	0.2430	0.1890		0.1890			0.0030			0.5940	1.2180	09.03.2012
99	BADARPUR	NTPC LTD (Delhi).	705.00	1.1050	29.68	0.3280	0.6750	205.79	0.2240	0.1040	0.3470								0.6750	Jul-73
100	DADRI	NTPC LTD. (U.P.)	1820.00	6.4840	33.22	2.1540	2.3420	108.73	0.5040	1.2120	0.5270			0.0990					2.3420	Oct, 1991
101	SINGRAULI	NTPC LTD. (U.P.)	2000.00	10.0600	34.62	3.4830	1.0540	30.26	0.0020	0.0100				0.1930	0.8490				1.0540	Feb-82
102	RIHAND	NTPC LTD. (U.P.)	3000.00	14.4540	30.05	4.3440	1.3510	31.10	0.1240	0.0100				0.3710	0.8080			0.0380	1.3510	Mar-88
103	FEROZE GANDHI UNACHAR	NTPC LTD.(U.P.)	1050.00	4.3900	38.27	1.6600	1.7160	102.14	0.0350	0.9840	0.4660			0.0210	0.0940			0.2100	1.7160	Nov-88
104	TANDA	NTPC LTD. (U.P.)	440.00	2.1050	33.63	0.7080	1.0120	142.94	0.0290	0.4400	0.4130			0.0360	0.0940				1.0120	Jan-00
105	KORBA	NTPC (Chhattisgarh).	2600.00	13.1010	36.52	4.7840	2.0610	43.08	0.1490	0.0050	0.0000			0.9500		0.0300		0.9270	2.0610	Mar-83
106	VINDHYACHAL	NTPC LTD. (M.P.)	4760.00	24.5240	32.45	7.9570	1.9590	24.62	0.1260	0.0440				0.3990	0.5670			0.8230	1.9590	Oct-87
107	SIPAT	NTPC LTD. (Chhattisgarh).	2980.00	13.9650	37.32	5.2114	0.9720	18.65	0.2820	0.3510	0.0250			0.1350	0.1400			0.0390	0.9720	May-07
108	RAMAGUNDAM	NTPC LTD. (Andhra Pradesh).	2600.00	11.9310	38.11	4.5470	4.5910	100.97	1.1870	0.4310	0.0000			0.8340		1.9240		0.2150	4.5910	Nov-83
109	SIMHADRI	NTPC LTD. (Andhra Pradesh).	2000.00	8.6530	34.80	3.0110	3.0590	101.59	0.7620	0.4680				1.7180	0.0980			0.0130	3.0590	Feb-02
110	FARAKKA	NTPC LTD. (W.B.)	2100.00	8.7150	34.64	3.0190	1.6000	53.00	0.0510	0.3620	0.1490			0.0960	0.6840			0.2580	1.6000	Jan-86
111	KAHALGAON	NTPC LTD.(Bihar)	2340.00	12.6170	33.17	4.1850	1.9200	45.88	0.1460	0.5010	0.0220	0.0000	0.0000	0.3810	0.4730	0.0000	0.0000	0.3970	1.9200	Mar-92
112	BARH SUPER TPS	NTPC LTD (Bihar)	1320.00	6.0220	41.27	2.4850	0.9740	39.20	0.1470	0.1280	0.6990								0.9740	Nov-14
113	TALCHAR(TPS)	NTPC LTD(Odisha).	460.00	3.1530	39.01	1.2300	1.2410	100.89	0.0180					0.0110		1.2120			1.2410	03.06.1995
114	TALCHAR(KAN)	NTPC LTD.(Odisha).	3000.00	18.3550	43.14	7.9190	3.7620	47.51	0.0830	0.0250				3.6540					3.7620	Feb-95
115	MOUDA TPS	NTPC LTD. (Maharashtra)	2320.00	5.6190	35.36	1.9970	1.3940	70.16	0.6470	0.2470	0.4960			0.0040					1.3940	Apr-12

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Sl no.	Name of TPS	Power Utility & State	Installed Capacity (MW)	Coal Consumed (MT)	Ash Content of coal %age (7)/(5)x100	Fly Ash Generation (MT)	Fly Ash Utilization (MT)	%age utilization (8)/(7)x100	In making of Fly Ash based/Bric k/Blocks/Tiles etc. (MT)	In manufacture of Portland & Pozzolana cement (MT)	In construction of Highways & Roads including flyovers (MT)	Part replacement of concrete in RCC Dam construction (MT)	In Hydro power sector in RCC Dam raising (MT)	In Ash Dyke raising (MT)	In reclamation of low lying Area (MT)	In Mining filling (MT)	In agriculture /waste land Development (MT)	Others (MT)	Total Utilization (MT)	Date Of Commission
116	BONGAIGANON	NTPC LTD. (Assam)	250.00	0.8770	27.71	0.2430	0.0110	4.53	0.0010	0.0100									0.0110	June, 2015
117	SOLARUR	NTPC LTD. (Maharashtra)	660.00	0.9370	33.72	0.3160	0.1890	59.81	0.0010	0.1880									0.1890	Apr-17
118	KUDGI	NTPC LTD. (Karnataka)	1600.00	2.0730	34.44	0.7140	0.3570	50.00	0.0110	0.3460									0.3570	Dec-16
119	RAJPUTRA TPS	NABHA POWER PROJECT (Punjab)	1400.00	4.7153	30.77	1.4510	1.6456	113.41	0.0375	1.0743	0.3695	0.1375							1.6456	24.01.2014
120	IB VALLEY	O.P.G.C.L.(Odisha)	420.00	2.5827	42.44	1.0961	0.6073	55.41	0.0104	0.1100									0.6073	21.12.1994
121	BATHINDA	P.S.P.C.L. (Punjab)	460.00	0.1808	36.44	0.0659	0.1686	255.98	0.0494	0.1032	0.0160								0.1686	22.09.1974
122	LEHRA MOHABAT	P.S.P.C.L. (Punjab)	920.00	1.8173	37.12	0.6746	0.4821	71.46	0.0139	0.4490	0.0137	0.0055							0.4821	25.05.1998
123	ROPAR	P.S.P.C.L. (Punjab)	1260.00	1.4881	34.52	0.5137	1.0948	213.11	0.0302	0.6625	0.1763	0.0036							1.0948	26.9.1984
124	PRAVAGRAJ TPS	PRAVAGRAJ POWER GENERATION COMPANY LTD. (U.P.)	1980.00	3.5835	28.09	1.0065	0.8162	81.09	0.0198	0.7964									0.8162	29.02.2016
125	PATRATU	Parpatu Vidyut Utpadan Nigam Limited (Jharkhand) (No Generation)	455.00	0.0000	#DIV/0!	0.0000	0.0000	#DIV/0!	0.0000	0.1120									0.0000	30.01.1969
126	IL&FS TAMIL NADU POWER COMPANY Ltd.	IPCL (Tamil Nadu)	1200.00	3.1136	3.60	0.1120	0.1120	100.00		0.1120									0.1120	29.09.2015
127	UNCCHPINDA	R.K.M.POWERGEN PVT. LTD (PGCIL) (Chhattisgarh)	1080.00	1.0044	37.55	0.3772	0.3763	99.77	0.0030	0.3042	0.0134								0.3763	23.11.2015
128	CHHABRA	RRVUNL (Rajasthan)	1000.00	3.7657	33.07	1.2455	1.4562	116.92	0.2734	1.0019	0.0231								1.4562	11.06.2010
129	SURATGARH	RRVUNL (Rajasthan)	1500.00	3.0602	34.57	1.0580	1.1277	106.58	0.1075	0.5378									1.1277	31.10.1998
130	JALIPA KAPURDI	RWPL (Rajasthan)	1080.00	6.3570	15.31	0.9732	1.0049	103.26	0.0968	0.9000									1.0049	26.11.2009
131	ROSA PHASE-I	RPSC(LUP)	1200.00	4.8461	33.42	1.6195	1.2237	75.56	0.0346	0.7429									1.2237	12.03.2010
132	AMBAVATI TPS	RATTANINDIA POWER LTD. (Maharashtra)	1350.00	2.8099	29.43	0.8269	0.8031	97.12	0.4463		0.0290	0.0123							0.8031	03.06.2013
133	YERAMARUS TPS	RAJCHUR POWER CORPORATION LIMITED (Karnataka)	1600.00	0.6346	27.64	0.1254	0.0000	0.00											0.0000	07.03.2017
134	SIMHAAPURI	SEPL(Andhra Pradesh)	600.00	0.0132	17.53	0.0023	0.0023	100.00	0.0023										0.0023	29.02.2012
135	RATZA TPS	SPECTRUM COAL & POWER LTD.(Chhattisgarh)	100.00	1.0774	62.00	0.6679	0.5794	86.74	0.0156										0.5794	27.02.2013
136	SAILLIGARH POWER GENERATION LTD.	SAILLIGARH POWER GENERATION LIMITED (Chhattisgarh)	86.00	0.0877	44.74	0.0393	0.0393	100.00	0.0055	0.0200									0.0393	Oct.-.2006

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(POWER UTILITY WISE)**

Sl no.	Name of TPS	Power Utility & state	Installed Capacity (MW)	Coal Consumed (MT)	Ash Content of coal (%)	Fly Ash Generation (MT)	Fly Ash Utilization (MT)	%age utilization (9/7)x100	In making of Fly Ash based/Brick/Blocks/Tiles etc. (MT)	In manufacture of portland cement (MT)	In construction of Highways & Roads including flyovers (MT)	Part replacement of cement in concrete (MT)	In Hydro power sector/RCC Dam construction (MT)	In Ash Dyke raising (MT)	In reclamation of low lying Area (MT)	In Mining filling (MT)	In agriculture/waste land Development (MT)	Others (MT)	Total Utilization (MT)	Date Of Commission
																			Σ(10) to (19)	
137	SEBICORP ENERGY INDIA Ltd. (Formerly Thermal Powertech Corporation India Ltd) (Andhra Pradesh)	SEBICORP ENERGY INDIA Ltd. (Formerly Thermal Powertech Corporation India Ltd) (Andhra Pradesh)	1320.00	5,2798	18.94	1,0001	0,3085	30.84	0.2581	0.0504									0.3085	Mar-15
138	SASAN UMPP	RELIANCE POWER LIMITED (Madhya Pradesh)	3960.00	17,9838	22.91	4,1204	1,2213	29.64	0.0011	0.2804		0.0112			0.9287				1.2213	31.03.2013
139	CUDDALORE	TAAQA NEVELLY POWER CO PVT. LTD. (Tamil Nadu)	250.00	10,4807	7.46	0,7813	0,7811	99.98	0.0997	0.5073				0.1574				-0.0017	0.7811	15.12.2002
140	JOJOBERA	T.P.CO. (Jharkhand)	547.50	2,5063	31.87	0,7987	0,7018	87.87	0.0081	0.6420		0.0517							0.7018	04.01.1996
141	TROMBAY	T.P.CO.(Maharashtra)	750.00	2,4520	2.16	0,0529	0,0530	100.19				0.0425				0.0070	0.0035		0.0530	1984
142	SABARMATI	TORRENT POWER LTD.(Gujarat)	422.00	1,5051	24.89	0,3746	0,3747	100.03		0.2843				-0.0338			0.1242		0.3747	13.04.1997
143	TUTTICORIN	T.N.G & D Corporation (Tamil Nadu)	1050.00	4,0585	27.18	1,1030	0,6567	59.54	0.1057	0.5319					0.0191				0.6567	09.07.1979
144	METTUR-I	T.N.G & D Corporation (Tamil Nadu)	840.00	3,5934	30.92	1,1111	0,4574	41.17	0.1099	0.3475									0.4574	07.01.1987
145	METTUR-II	T.N.G & D Corporation (Tamil Nadu)	600.00	1,6649	30.71	0,5113	0,3786	74.04	0.0790	0.2996									0.3786	11.10.2012
146	NORTH CHENNAI-I	T.N.G & D Corporation (Tamil Nadu)	630.00	3,0492	37.43	1,1412	0,4534	39.73	0.0538	0.2327	0.1669								0.4534	25.10.1994
147	NORTH CHENNAI-II	T.N.G & D Corporation (Tamil Nadu)	1200.00	4,4258	35.94	1,5907	0,6382	40.12	0.2562	0.3686	0.0134								0.6382	Mar-13
148	KOTHAGUDEM (Stage I to IV)	T.S.P.G.C.L (Telangana)	720.00	4,0535	34.88	1,4140	0,5589	39.52	0.3034	0.2459								0.0096	0.5589	04.07.1966
149	KAKATIA (Stage-I)	T.S.G.E.N.C.O. (Telangana)	500.00	2,1667	40.17	0,8703	0,6818	78.34	0.2021	0.4730				0.0059	0.0008				0.6818	31.03.2010
150	KAKATIA (Stage-II)	T.S.G.E.N.C.O. (Telangana)	600.00	2,3967	40.67	0,9747	0,6045	62.02	0.2162	0.3808	0.00001			0.0067	0.0008				0.6045	24.03.2016
151	RAIGARH TPP	TRN ENERGY Pvt. Ltd.(Chhattisgarh)	600.00	2,2040	33.71	0,7429	0,5663	76.23	0.0484						0.5179				0.5663	13.08.2016
152	TENUGHAT TPS	TENUGHAT VIDHYUT NIGAM LIMITED (Jharkhand)	420.00	1,4152	42.63	0,6034	0,5373	89.05							0.5373				0.5373	14.04.1994
153	M/s TALWANDI SABO POWER LTD	TALWANDI SABO POWER LTD (Punjab)	1980.00	5,8200	36.43	2,1200	1,5400	72.64	0.0100	1.1700	0.0800				0.2800				1.5400	05.07.2014
154	ANPARA 'A' & 'B'	U.P.R.V.U.N.L. (U.P.)	2630.00	11,3597	38.11	4,3296	0,0732	1.69	0.0038	0.0596					0.0093			0.0004	0.0732	01.01.1987
155	HARDUAGANJ	U.P.R.V.U.N.L. (U.P.)	670.00	2,3405	41.12	0,9625	0,8697	90.36	0.0135	0.3926					0.4636				0.8697	31.03.1977
156	OBRA	U.P.R.V.U.N.L. (U.P.)	1000.00	3,2818	32.27	1,0592	0,2198	20.76	0.0010	0.0408	0.1780								0.2198	26.01.1980
157	PANKI	U.P.R.V.U.N.L. (U.P.)	210.00	0,3210	34.22	0,1099	0,3744	340.72	0.0003	0.0112	0.1393							0.2237	0.3744	10.11.1976
158	PARICHHA	U.P.R.V.U.N.L. (U.P.)	1140.00	4,3013	41.81	1,7985	1,0339	57.49	0.0568	0.8471				0.1301					1.0339	31.03.1984
159	UDUPI	UDUPI POWER CORPORATION LIMITED (Karnatek)	1200.00	2,6120	5.82	0,1519	0,1526	100.46	0.0121	0.1021		0.0325						0.0059	0.1526	11.11.2010
160	BUTIBORI	VIDARHA INDUSTRIES POWER LTD. (Maharashtra)	600.00	2,0647	32.01	0,6609	0,6884	104.15	0.1005	0.2361		0.0788			0.0186				0.6884	04.04.2013
161	VS LIGNITE POWER PRIVATE LTD	VS LIGNITE POWER PRIVATE LIMITED (Rajasthan)	135.00	0,4389	24.64	0,1081	0,1081	100.00	0.0004									0.1078	0.1081	2.2010

FLY ASH GENERATION AND ITS UTILIZATION AT COAL/LIGNITE BASED THERMAL POWER STATIONS IN THE COUNTRY FOR THE YEAR 2017-18 (APRIL-2017 TO MARCH-2018)
(POWER UTILITY WISE)

Sl no.	Name of TPS	Power Utility & state	Installed Capacity	Coal Consumed	Ash Content of coal	Fly Ash Generation	Fly Ash Utilization	%age utilization	In making of Fly Ash based/Brick/Blocks/Tiles etc.	In manufacture of portland cement	In construction of Highways & Roads including flyovers	Part replacement of cement in concrete	In Hydro power sector in RCC Dam construction	In Ash reclamation of low lying Area	In Mining filling	In agriculture /waste land Development	Others	Total Utilization	Date Of Commission	
			(MW)	(MT)	(%)/(5)X100	(MT)	(MT)	(%)/(7)X100	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)	(MT)
162	KOLAGHAT	W.B.P.D.C.(W.B.)	1260.00	3,7476	40.00	1,4990	1,8255	121.85	0.0716	0.5812				1.1737				1.8255	16.08.1990	
163	SAGARDIGHI	W.B.P.D.C.(W.B.)	1600.00	3,9147	35.26	1,3805	0,9047	65.53	0.0838	0.3878	0.0086			0.4244				0.9047	07.09.2008	
164	BANDEL	W.B.P.D.C.L (W.B.)	455.00	1,4294	40.17	0,5742	0,8214	143.07	0.0200	0.2878				0.5136				0.8214	04.09.1965	
165	SANTALDIH	W.B.P.D.C.L (W.B.)	500.00	0.1830	44.03	0.0806	0.0977	121.26	0.0016	0.0311				0.0646			0.0005	0.0977	01.04.2009	
166	BAKRESWAR	W.B.P.D.C.(W.B.)	1050.00	4,3307	39.25	1,6996	1,6891	99.38	0.0358	0.6439				1.0094				1,6891	18.07.1999	
167	SAI WARDHA POWER Ltd.,WARORA	WPCL (Maharashtra)	540.00	0.8080	33.79	0.2730	0.2720	99.63	0.0370	0.1920				0.0100	0.0330			0.2720	15.04.2010	
	Grand Total		177070.00	624.8761	31.44	196.4410	131.8663	67.13	17.6943	50.2909	6.6733	1.2974	0.0077	13.5500	20.5779	12.5159	0.5732	8.6857	131.8662	

ANNEX-II
FLY ASH GENERATION AND ITS UTILIZATION AT COAL/LIGNITE BASED THERMAL POWER STATIONS IN THE COUNTRY FOR THE YEAR 2017-18 (APRIL-2017 TO MARCH-2018) (State WISE)

Sl no.	Name of TPS	Power Utility & state	Installed Capacity (MW)	Coal Consumed (MT)	Ash Content of coal (%) (7)/(5)x100	Fly Ash Generation (MT)	Fly Ash Utilization (MT)	%age utilization (8)/(7)x100	In making of Fly Ash based/Brick/Blocks/Tile etc. (MT)	In manufacture of portland cement pozzolana (MT)	In construction of Highways & Roads including flyovers (MT)	Part replacement of cement in concrete (MT)	In Hydro power sector in RCC Dam construction (MT)	In Ash Dyke raising (MT)	In reclamation of low lying Area (MT)	In Mining filling (MT)	In agriculture/waste land Development (MT)	Others (MT)	Total Utilization $\Sigma(10)$ to (19)
8	UKAI	G.S.E.C.L. (Gujarat)	1110.00	0.4286	32.76	0.1494	0.1065	75.85	0.0524	0.0363								0.0178	0.1065
9	WANAKBORI	G.S.E.C.L. (Gujarat)	1470.00	0.5081	35.74	0.1816	0.1281	70.51	0.0106	0.0885				0.0017				0.0273	0.1281
10	SABARMATI	TARENT POWER Ltd.(Gujarat)	422.00	1.5051	24.89	0.3746	0.3747	100.03		0.2843				-0.0338			0.1242		0.3747
HARYANA																			
1	INDIRA GANDHI	APCL (Haryana)	1500.00	5.0739	31.93	1.6199	1.1166	68.93	0.3650	0.7517									1.1166
2	HISAR	H.P.G.C.L.(Haryana)	1200.00	3.2503	39.10	1.2709	1.0777	84.80	0.0267	0.4804	0.0214								1.0777
3	YAMUNANAGAR	H.P.G.C.L.(Haryana)	600.00	2.2375	30.58	0.6842	1.4164	207.02	0.0144	0.5238	0.6463							0.2319	1.4164
4	PANIPAT	H.P.G.C.L.(Haryana)	920.00	1.7420	38.52	0.6710	1.0416	155.23	0.0704	0.7990	0.1313			0.0342				0.0067	1.0416
5	MAHATMA GANDHI	JHPL (Haryana)	1320.00	4.3280	43.26	1.8722	1.4309	76.43	0.0176	1.3345	0.0003							0.0784	1.4309
JHARKHAND																			
1	BOKARO 'B'	D.V.C.(Jharkhand)	710.00	2.0573	42.55	0.8753	0.7391	84.44								0.72873	0.01035		0.7391
2	CHANDRAPURA	D.V.C.(Jharkhand)	630.00	2.3050	43.56	1.0041	1.4374	143.15	0.0269							1.4105			1.4374
3	KODERMA	D.V.C. (Jharkhand)	1000.00	3.4401	44.30	1.5238	1.0964	71.95	0.0020	0.6414				0.4530					1.0964
4	PATRATU	J.U.U.N.L.(Jharkhand)	455.00	0.0000	#DIV/0!	0.0000	0.0000	#DIV/0!	0.0000										0.0000
5	MAITHON RBTPP	NPL (Jharkhand)	1050.00	4.2485	40.08	1.7026	1.8084	106.21	0.0532	0.0076	0.0386					1.7090			1.8084
6	JOJOBARA	T.P.CO. (Jharkhand)	547.50	2.5063	31.87	0.7987	0.7018	87.87	0.0081	0.6420									0.7018
7	TENUGHAT TPS	TENUGHAT VIDHYUT NIGAM LIMITED (Jharkhand)	420.00	1.4152	42.63	0.6034	0.5373	89.05							0.5373				0.5373
KARNATAKA																			
1	VIJAYANAGAR	JSW Energy Limited (Karnataka)	860.00	1.3980	13.05	0.1825	0.1746	95.69	0.0170	0.1231				0.0025				0.0320	0.1746
2	BELLARY	K.P.C.L (Karnataka)	1700.00	2.4600	28.85	0.7098	0.4417	62.23	0.1626	0.2766	0.0025								0.4417
3	RAICHUR	K.P.C.L.(Karnataka)	1720.00	6.9320	34.65	2.4020	1.2930	53.83	0.2230	1.0700									1.2930
4	KUDGI	NTPC LTD. (Karnataka)	1600.00	2.0730	34.44	0.7140	0.3570	50.00	0.0110	0.3460									0.3570
5	YERAMARUS TPS	RAICHUR POWER CORPORATION LIMITED (Karnataka)	1600.00	0.6346	27.64	0.1754	0.0000	0.00											0.0000
6	UDUPI	UPCL (Karnataka)	1200.00	2.6420	5.82	0.1519	0.1526	100.46	0.0121	0.1021								0.0059	0.1526
MADHYA PRADESH																			
1	JAYPEE BINA TPP	Jalprakash Power Ventures Limited (MP)	500.00	1.5838	30.10	0.4767	0.4768	100.02	0.0102	0.3801					0.0864				0.4768
2	JAYPEE NIGRIE SUPER TPP	Jalprakash Power Ventures Limited (MP)	1320.00	4.4200	27.38	1.2100	1.2110	100.08	0.0120	1.0400				0.1500				0.0090	1.2110

FLY ASH GENERATION AND ITS UTILIZATION AT COAL/LIGNITE BASED THERMAL POWER STATIONS IN THE COUNTRY FOR THE YEAR 2017-18 (APRIL-2017 TO MARCH-2018) (State Wise)

ANNEX-II

Sl no.	Name of TPS	Power Utility & State	Installed Capacity (MW)	Coal Consumed (MT)	Ash content of coal (%) (7)/(5)x100	Fly Ash Generation (MT)	Fly Ash Utilization (MT)	%age utilization (8)/(7)x100	In making of Fly Ash based/Brick/Blocks/Tiles etc. (MT)	In manufacture of Portland cement (MT)	In construction of Highways & Roads including flyovers (MT)	Part replacement of concrete in construction (MT)	In Hydro power sector in RCC Dam construction (MT)	In Ash Dyke raising (MT)	In reclamation of low lying Area (MT)	In Mining filling (MT)	In agriculture/waste land Development (MT)	Others (MT)	Total Utilization (MT)	Σ(10) to (19) (MT)
2	NEWELL - I	N.L.C.LTD(Tamil Nadu)	600.00	5.1562	4.62	0.2384	0.1694	71.04	0.0281	0.1377		0.0036							0.2016	0.1694
3	NEWELL -I EXPN	N.L.C.LTD(Tamil Nadu)	420.00	3.3410	6.03	0.2016	0.2016	99.99	0.0259	0.1355		0.0002							0.2016	0.1694
4	NEWELL - II	N.L.C.LTD(Tamil Nadu)	1470.00	11.3519	4.10	0.4656	0.6288	135.06	0.1058	0.3511	0.0062			0.0426					0.6288	0.6288
5	NEWELL - II EXPN	N.L.C (Tamil Nadu)	500.00	2.0078	6.28	0.1260	0.1266	100.51	0.0841	0.9934									0.1266	0.1266
6	NLC TAMILNADU POWER LTD	NLC TAMIL NADU POWER LIMITED (Tamil Nadu)	1000.00	3.4757	31.44	1.0929	1.0929	100.00	0.0869	0.9934									1.0929	1.0929
7	VALUR	NTGC (Tamil Nadu)	1500.00	5.2240	35.85	1.8730	1.2180	65.03	0.2430	0.1890		0.1890							0.1266	1.2180
8	IL&ES TAMIL NADU POWER COMPANY LTD.	IPCL (Tamil Nadu)	1200.00	3.1136	3.60	0.1120	0.1120	100.00	0.1120	0.1120									0.1120	0.1120
9	CUDDALORE	TAQA NEWVELLY POWER CO.PVT. LTD. (Tamil Nadu)	250.00	10.4807	7.46	0.7813	0.7811	99.98	0.0997	0.5073				0.1574					0.7811	0.7811
10	TUTICORIN	T.N.G & D Corporation (Tamil Nadu)	1050.00	4.0585	27.18	1.1030	0.6567	59.54	0.1057	0.5319									0.6567	0.6567
11	METTUR-I	T.N.G & D Corporation (Tamil Nadu)	840.00	3.5934	30.92	1.1111	0.4574	41.17	0.1099	0.3475									0.4574	0.4574
12	METTUR-II	T.N.G & D Corporation (Tamil Nadu)	600.00	1.6649	30.71	0.5113	0.3786	74.04	0.0790	0.2896									0.3786	0.3786
13	NORTH CHENNAI-I	T.N.G & D Corporation (Tamil Nadu)	630.00	3.0492	37.43	1.1412	0.4534	39.73	0.0538	0.2327		0.1669							0.4534	0.4534
14	NORTH CHENNAI-II	T.N.G & D Corporation (Tamil Nadu)	1200.00	4.4258	35.94	1.5907	0.6382	40.12	0.2562	0.3686	0.0134								0.6382	0.6382
TELANGANA																				
1	KOTHAGUDEM (Stage I to IV)	T.S.P.G.C.L (Telangana)	720.00	4.0535	34.88	1.4140	0.5589	39.52	0.3034	0.2459									0.5589	0.5589
2	KAKATIA (Stage-I)	T.S.G.E.N.C.O.(Telangana)	500.00	2.1667	40.17	0.8703	0.6818	78.34	0.2021	0.4730	0.00001			0.0059					0.6818	0.6818
3	KAKATIA (Stage-II)	T.S.G.E.N.C.O.(Telangana)	600.00	2.3967	40.67	0.9747	0.6045	62.02	0.2162	0.3808	0.00001			0.0067					0.6045	0.6045
4	RAMAGUNDAMB	TSFGCL (Telangana)	62.50	0.3397	33.36	0.1133	0.0316	27.88		0.0316									0.0316	0.0316
5	KOTHAGUDEM-V	TSFGCL (Telangana)	500.00	2.9890	52.40	1.5662	0.0490	3.13											0.0490	0.0490
6	KOTHAGUDEM-VI	TSFGCL (Telangana)	500.00	2.2519	29.47	0.6636	0.6099	91.90	0.0891	0.5191									0.6099	0.6099
UTTAR PRADESH																				
1	BARKHERA	BEPL (UP)	90.00	0.1490	42.32	0.0630	0.0630	99.87	0.0004	0.0151									0.0630	0.0630
2	KHAMBER KHERA	BEPL (UP)	90.00	0.1429	42.35	0.0605	0.0605	99.97	0.0225	0.0255									0.0605	0.0605
3	KUNDARKI	BEPL (UP)	90.00	0.1385	41.01	0.05678	0.0568	100.00	0.0007	0.0497									0.0568	0.0568
4	MASOODAPUR	BEPL (UP)	90.00	0.1347	40.54	0.05459	0.0546	99.96	0.0001	0.0105									0.0546	0.0546
5	UTRAULA	BEPL (UP)	90.00	0.1426	40.60	0.05788	0.0579	99.99	0.0027	0.0464									0.0579	0.0579
6	LALITPUR	LALITPUR POWER GENERATION COMPANY LIMITED (UP)	1980.00	5.1705	32.93	1.7026	1.4629	85.93	0.0131	0.8705									1.4629	1.4629

FLY ASH GENERATION AND ITS UTILIZATION AT COAL/LIGNITE BASED THERMAL POWER STATIONS IN THE COUNTRY FOR THE YEAR 2017-18 (APRIL-2017 TO MARCH-2018) (State WISE)

Sl no.	Name of TPS	Power Utility & state	Installed Capacity (MW)	Coal Consumed (MT)	Ash Content of coal (%age (7)/(5)x100)	Fly Ash Generation (MT)	Fly Ash Utilization (MT)	%age utilization (9)/(7)x100	In making of Fly Ash based/Brick/Blocks/Tile/ etc.	In manufacture of portland cement/pozzolana cement	In 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 reclamation of low lying Areas	In Mining filling	In agriculture/waste land Development	Others	Total Utilization (MT)	
																				Σ(10) to
7	DADRI	N.T.P.C.LTD. (U.P.)	1820.00	6.4840	33.22	2.1540	2.3420	108.73	0.5040	1.2120	0.5270			0.0990				MT	2.3420	
8	SINGRAULI	N.T.P.C.LTD. (U.P.)	2000.00	10.0600	34.62	3.4830	1.0540	30.26	0.0020	0.0100				0.1930	0.8490			MT	1.0540	
9	RIHAND	N.T.P.C.LTD. (U.P.)	3000.00	14.4540	30.05	4.3440	1.3510	31.10	0.1240	0.0100				0.3710	0.8080			MT	1.3510	
10	FEROZE GANDHI UNACHAR	NTPC Ltd.(U.P.)	1050.00	4.3900	38.27	1.6800	1.7160	102.08	0.0350	0.9840	0.4660			0.0210				MT	1.7160	
11	TANDA	N.T.P.C.LTD. (U.P.)	440.00	2.1050	33.63	0.7080	1.0120	142.94	0.0290	0.4400	0.4130			0.0360	0.0940			MT	1.0120	
12	PRAYAGRAJ TPS	PRAYAGRAJ POWER GENERATION COMPANY LTD. (U.P.)	1980.00	3.5835	28.09	1.0065	0.8162	81.09	0.0198	0.7964				0.0000				MT	0.8162	
13	ROSA PHASE-I	RPSC(L.U.P)	1200.00	4.8461	33.42	1.6195	1.2237	75.56	0.0346	0.7429	0.0010			0.1020	0.2303		0.1128	MT	1.2237	
14	ANPARA 'A' & 'B'	U.P.R.V.U.N.L. (U.P.)	2630.00	11.3597	38.11	4.3296	0.0732	1.69	0.0038	0.0596				0.0093				MT	0.0732	
15	HARDUAGANJ	U.P.R.V.U.N.L. (U.P.)	670.00	2.3405	41.12	0.9625	0.8697	90.36	0.0135	0.3926				0.4636				MT	0.8697	
16	OBRA	U.P.R.V.U.N.L. (U.P.)	1000.00	3.2818	32.27	1.0592	0.2198	20.76	0.0010	0.0408	0.1780							MT	0.2198	
17	PANKI	U.P.R.V.U.N.L. (U.P.)	210.00	0.3210	34.22	0.1099	0.3744	340.72	0.0003	0.0112	0.1393							MT	0.3744	
18	PARICHAHA	U.P.R.V.U.N.L. (U.P.)	1140.00	4.3013	41.81	1.7985	1.0339	57.49	0.0568	0.8471				0.1301				MT	1.0339	
WEST BENGAL																				
1	B.B.G.S.	C.E.S.C. (West Bengal)	750.00	3.6080	35.89	1.2950	1.2950	100.00	0.0330	0.9980	0.0230	0.0060		0.2350					MT	1.2950
2	S.G.S.	C.E.S.C. (West Bengal)	135.00	0.2150	23.72	0.0510	0.0510	100.00	0.0060	0.0290		0.0090		0.0070					MT	0.0510
3	T.G.S.	C.E.S.C. (West Bengal)	240.00	0.0000	#DIV/0!	0.0000	0.0000	#DIV/0!											MT	0.0000
4	DURGAPUR	D.V.C.(West Bengal)	210.00	0.6569	43.16	0.2835	0.0125	4.41	0.0125	0.0125									MT	0.0125
5	MEJIA	D.V.C.(West Bengal)	2340.00	7.8569	46.90	3.6852	3.9061	105.99	0.0090	1.1726						2.7244			MT	3.9061
6	DURGAPUR STEEL	D.V.C. (West Bengal)	1000.00	4.0971	41.74	1.7101	1.2613	73.76	0.0100	0.9490				0.3023					MT	1.2613
7	RAGHUNATHPUR	D.V.C. (West Bengal)	1200.00	1.4219	44.64	0.6347	0.0152	2.39	0.0152										MT	0.0152
8	D.P.P.S.	D.P.L (West Bengal).	660.00	1.5992	37.82	0.6047	0.5679	93.90	0.0093	0.4124	0.0953			0.0499					MT	0.5679
9	FARAOKA	N.T.P.C.LTD.(West Bengal).	2100.00	8.7150	34.64	3.0190	1.6000	53.00	0.0510	0.3620	0.1490			0.0960					MT	1.6000
10	KOLAGHAT	W.B.P.D.C.(West Bengal).	1260.00	3.7476	40.00	1.4990	1.8265	121.85	0.0716	0.5812				1.1737					MT	1.8265
11	SAGARDIGHI	W.B.P.D.C.(West Bengal).	1600.00	3.9147	35.26	1.3805	0.9047	65.53	0.0838	0.3878	0.0086			0.4244					MT	0.9047
12	BANDEL	W.B.P.D.C.L (West Bengal).	455.00	1.4294	40.17	0.5742	0.8214	143.07	0.0200	0.2878				0.5136					MT	0.8214
13	SANTALDIH	W.B.P.D.C.L (West Bengal).	500.00	0.1830	44.03	0.0806	0.0977	121.26	0.0016	0.0311				0.0646					MT	0.0977
14	BAKRESWAR	W.B.P.D.C.L(West Bengal).	1050.00	4.3307	39.25	1.6996	1.6891	99.38	0.0358	0.6439				1.0094					MT	1.6891

FLY ASH GENERATION AND ITS UTILIZATION AT COAL/LIGNITE BASED THERMAL POWER STATIONS IN THE COUNTRY FOR THE YEAR 2017-18 (APRIL-2017 TO MARCH-2018) (State wise)

ANNEX-II

Sl no.	Name of TPS	Power Utility & state	Installed Capacity (MW)	Coal Consumed (MT)	Ash Content of coal (%) (7)/(5) \times 100	Fly Ash Generation (MT)	Fly Ash Utilization (MT)	%age utilization (B)/(7) \times 100	In making of Fly Ash based/Brick/Blocks/Tiles etc.	In manufacture of portland cement	In construction of Highways & Roads including Flyovers (MT)	Part replacement of cement in concrete	In Hydro power sector in construction	In Ash Dyke reclamation of low lying Area	In Milling filling	In agriculture/waste land development	Others	Total Utilization (MT)	
																			(A)
15	HALDIA ENERGY LIMITED (W.B)	HALDIA ENERGY LIMITED (West Bengal).	600.00	3,0700	33.52	1,0290	1,0290	100.00	0.0810	0.8580				0.0900				1,0290	
16	DISHERGARH POWER STATION	IPCL (West Bengal).	12.00	0,0694	50,93	0,0353	0,0353	100,00							0,0353			0,0353	
Grand Total			177070,00	624,8761	31,44	196,4410	131,8663	67,13	17,6943	50,2909	6,6733	1,2974	0,0077	13,5500	20,5779	12,5159	0,5732	8,6857	131,8663

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भारत का राजपत्र

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पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय

अधिसूचना

नई दिल्ली, 25 जनवरी, 2016

का.आ. 254(अ).—भारत सरकार, पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय की अधिसूचना सं. का.आ. 763(अ), तारीख 14 सितंबर, 1999 (जिसे इसमें इसके पश्चात् उक्त अधिसूचना कहा गया है) में कतिपय संशोधनों का प्रारूप, जिन्हें केन्द्रीय सरकार पर्यावरण (संरक्षण) नियम, 1986 के नियम 5 के उप-नियम (3) के खंड (घ) के साथ पठित पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 3 की उप-धारा (1) और उप-धारा (2) के खंड (v) के अंतर्गत करने का प्रस्ताव करती है, भारत के राजपत्र, असाधारण, भाग II, खंड 3, उप-खंड (ii) में अधिसूचना सं. का.आ. 1396(अ), तारीख 25 मई, 2015 द्वारा प्रकाशित किया गया था, जिसके द्वारा ऐसे सभी व्यक्तियों से, जिनके उनसे प्रभावित होने की संभावना थी, उस तारीख से, जिसको उक्त प्रारूप संशोधनों को अंतर्विष्ट करने वाली राजपत्र की प्रतियां जनता को उपलब्ध करा दी जाती हैं, साठ दिनों के अवसान से पूर्व आक्षेप और सुझाव आमंत्रित किए गए थे;

और उक्त राजपत्र की प्रतियां 25 मई, 2015 को जनता को उपलब्ध करा दी गई थी;

और उक्त प्रारूप अधिसूचना के संबंध में, ऐसे सभी व्यक्तियों से, जिनके उनसे प्रभावित होने की संभावना थी, प्राप्त सभी आक्षेपों और सुझावों पर केन्द्रीय सरकार द्वारा सम्यक् रूप से विचार कर लिया गया है;

अतः, अब, केन्द्रीय सरकार पर्यावरण (संरक्षण) नियम, 1986 के नियम 5 के उप-नियम (3) के खंड (घ) के साथ पठित पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 3 की उप-धारा (1) और उप-धारा (2) के खंड (v) द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए उक्त अधिसूचना में निम्नलिखित संशोधन करती है, अर्थात् :-

1. उक्त अधिसूचना के पैरा 1 में-

- (क) उप पैरा 1(क) में "सौ किलोमीटर" शब्दों के स्थान पर "तीन सौ किलोमीटर" शब्द रखें जाएंगे;
- (ख) उप पैरा 3 में "100 कि.मी." अंकों और शब्दों के स्थान पर "तीन सौ किलोमीटर" शब्द रखें जाएंगे;
- (ग) उप पैरा 5 में "सौ किलोमीटर" शब्दों के स्थान पर "तीन सौ किलोमीटर" शब्द रखें जाएंगे;
- (घ) उप पैरा 7 में "सौ किलोमीटर" शब्दों के स्थान पर "तीन सौ किलोमीटर" शब्द रखें जाएंगे;

2. उक्त अधिसूचना के पैरा 2 में:-

(क) उप पैरा (1) के पश्चात् निम्नलिखित परंतुक अंतःस्थापित किया जाएगा, अर्थात्:-

“परंतु यह और कि शुष्क ईएसपी फ्लाई ऐश के 20 प्रतिशत का निःशुल्क प्रदाय करने का निर्बंधन उन तापीय विद्युत संयंत्रों पर लागू नहीं होगा, जो विहित रीति में सौ प्रतिशत फ्लाई ऐश का उपयोग करने में समर्थ हैं।”

(ख) उप पैरा (7) के पश्चात् निम्नलिखित उप पैरा अंतःस्थापित किए जाएंगे, अर्थात् :-

- (8) प्रत्येक कोयला या लिग्नाइट आधारित तापीय विद्युत संयंत्र (जिसके अंतर्गत कैपटिव और/या सह उत्पादन केन्द्र भी हैं), अधिसूचना की तारीख से तीन मास के भीतर उनके पास उपलब्ध प्रत्येक किस्म की ऐश के स्टॉक के ब्यौरे अपनी वेबसाइट पर अपलोड करेगा और उसके पश्चात् मास में कम से कम एक बार स्टॉक की स्थिति को अद्यतन करेगा।
- (9) प्रत्येक कोयला या लिग्नाइट आधारित तापीय विद्युत संयंत्र समर्पित शुष्क ऐश साइलस प्रतिष्ठापित करेगा, जिनके पास पृथक् पट्टा मार्ग होंगे, जिससे कि फ्लाई ऐश के परिदान को सुगम बनाया जा सके।
- (10) कोयला या लिग्नाइट आधारित तापीय विद्युत संयंत्र से 100 किलोमीटर की परिधि के भीतर सड़क संनिर्माण परियोजनाओं या ऐश आधारित उत्पादों के संनिर्माण के लिए या कृषि संबंधित क्रियाकलापों में मृदा अनुकूलक के रूप में उपयोग के लिए ऐश के परिवहन की लागत ऐसे कोयला या लिग्नाइट आधारित तापीय विद्युत संयंत्र द्वारा वहन की जाएगी और 100 किलोमीटर की परिधि से परे और 300 किलोमीटर की परिधि के भीतर ऐसे परिवहन की लागत को उपयोक्ता और कोयला या लिग्नाइट आधारित तापीय विद्युत संयंत्र के बीच समान रूप से अंश भाजित की जाएगी।
- (11) कोयला या लिग्नाइट आधारित तापीय विद्युत संयंत्र अपने परिसरों के भीतर या अपने परिसरों के आस-पास ऐश आधारित उत्पाद संनिर्माण सुविधाओं का संवर्धन करेंगे, उन्हें अपनाएंगे और उनकी स्थापना करेंगे (वित्तीय और अन्य सहबद्ध अवसंरचना)।
- (12) नगरों के आस-पास बने कोयला या लिग्नाइट आधारित तापीय विद्युत संयंत्र ऐश आधारित उत्पाद विनिर्माण इकाइयों का संवर्धन करेंगे और उनकी स्थापना का समर्थन और उसमें सहायता करेंगे ताकि ईंटों और अन्य भवन संनिर्माण सामग्रियों की अपेक्षाओं की पूर्ति की जा सके और साथ ही परिवहन में कमी की जा सके।
- (13) यह सुनिश्चित करने के लिए कि किसी सड़क संनिर्माण का संविदाकार सड़क निर्माण में ऐश का उपयोग करता है, सड़क संनिर्माण के लिए संबद्ध प्राधिकारी संविदाकार को किए जाने वाले संदाय को तापीय विद्युत संयंत्र से ऐश के प्रदाय के प्रमाणीकरण के साथ जोड़ेगा।
- (14) कोयला या लिग्नाइट आधारित तापीय विद्युत संयंत्र, 300 किलोमीटर की परिधि के भीतर प्रधानमंत्री ग्रामीण सड़क योजना के अधीन सड़क संनिर्माण परियोजनाओं और भवनों, सड़कों, बांधों और तटबंधों के संनिर्माण को अंतर्वलित करने वाले सरकार के आस्तित्व सृजन कार्यक्रमों के स्थल तक ऐश के परिवहन की संपूर्ण लागत का वहन करेगा।”।

3. उक्त अधिसूचना के पैरा (2) के उप-पैरा (2क) को उप-पैरा (15) के रूप में पढ़ा जाए और उक्त उप-पैरा के अंत में निम्नलिखित उप-पैरा जोड़ा जाएगा, अर्थात् :-

“और तटीय जिलों में अवस्थित कोयला या लिग्नाइट आधारित तापीय विद्युत संयंत्र तटरेखा सुरक्षा उपायों का समर्थन करेंगे, उनके संनिर्माण में सहायता करेंगे या उसमें प्रत्यक्ष रूप से सम्मिलित होंगे।”

4. उक्त अधिसूचना के पैरा 3 में उप-पैरा (7) के पश्चात् निम्नलिखित अंतःस्थापित किया जाएगा, अर्थात् :-

- (8) विभिन्न संनिर्माण परियोजनाओं का अनुमोदन करने वाले सभी राज्य प्राधिकारियों का यह उत्तरदायित्व होगा कि वे यह सुनिश्चित करें कि फ्लाई ऐश का उपयोग करने या फ्लाई ऐश आधारित उत्पादों के लिए तापीय विद्युत संयंत्रों और संनिर्माण अभिकरण या संविदाकारों के बीच परस्पर समझ ज्ञापन या कोई अन्य ठहराव किया जाता है।
- (9) राज्य प्राधिकारी, दस लाख या अधिक की जनसंख्या वाले नगरों की भवन निर्माण संबंधी उप विधियों का संशोधन करेंगे ताकि भार वहन करने वाली संरचनाओं हेतु तकनीकी अपेक्षाओं के अनुसार आवश्यक विनिर्देशों को ध्यान में रखते हुए ऐश आधारित ईंटों के आज्ञापक उपयोग को सुनिश्चित किया जा सके।

(10) संबद्ध प्राधिकारी सभी सरकारी स्कीमों या कार्यक्रमों में, उदाहरणार्थ महात्मा गांधी राष्ट्रीय ग्रामीण रोजगार गारंटी अधिनियम, 2005 (मनरेगा), स्वच्छ भारत अभियान, शहरी और ग्रामीण आवासन स्कीम, जहां संनिर्मित क्षेत्र एक हजार वर्ग फुट से अधिक है और अवसंरचना संबंधी संनिर्माण में, जिसके अंतर्गत अभिहित औद्योगिक संपदाओं या पार्कों या विशेष आर्थिक जोनों में भवन निर्माण भी है, ऐश आधारित ईटों या उत्पादों के आज्ञापक उपयोग को सुनिश्चित करेंगे।

(11) कृषि मंत्रालय कृषि क्रियाकलापों में ऐश के मृदा अनुकूलक के रूप में उपयोग का संवर्धन करने पर विचार कर सकेगा।”

5. सभी संबद्ध प्राधिकारियों द्वारा उपरोक्त उपबंधों का अनुपालन करने की समयावधि 31 दिसंबर, 2017 है। कोयला या लिग्नाइट आधारित तापीय विद्युत संयंत्र, उनके द्वारा उत्पादित फ्लाई ऐश के 100 प्रतिशत उपयोग के अतिरिक्त उपरोक्त उपबंधों का अनुपालन 31 दिसंबर, 2017 से पूर्व करेंगे।

[फा. सं. 9-8/2005-एचएसएमडी]

बिश्वनाथ सिन्हा, संयुक्त सचिव

टिप्पण:- मूल अधिसूचना भारत के राजपत्र, असाधारण, भाग II, खंड 3, उप-खंड (ii) में अधिसूचना सं. का.आ. 763(अ), तारीख 14 सितंबर, 1999 द्वारा प्रकाशित की गई थी और इसमें पश्चातवर्ती संशोधन अधिसूचना सं. का.आ. 979(अ), तारीख 27 अगस्त, 2003 और का.आ. 2804(अ), तारीख 3 नवंबर, 2009 द्वारा किए गए थे।

MINISTRY OF ENVIRONMENT, FORESTS AND CLIMATE CHANGE
NOTIFICATION

New Delhi, the 25th January, 2016

S.O. 254(E).—Whereas a draft of certain amendments to the Government of India in the Ministry of Environment, Forests and Climate Change number S.O. 763(E), dated the 14th September, 1999 (hereinafter referred to as the said notification) which the Central Government proposes to make under sub-section (1) and clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986) read with clause (d) of sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986, was published in the Gazette of India, Extraordinary, Part II, section 3, Sub-section (ii), vide S.O. 1396(E), dated the 25th May, 2015 inviting objections and suggestions from all persons likely to be affected thereby before the expiry of sixty days from the date on which copies of the Gazette containing the said draft amendments were made available to the public.

And, whereas copies of the said Gazette were made available to the public on 25th May, 2015;

And, whereas all the objections and suggestions received from all persons likely to be affected thereby in respect of the said draft notification have been duly considered by the Central Government;

Now, therefore, in exercise of the powers conferred by sub-section (1) and clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986) read with clause (d) of sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986, the Central Government hereby makes the following amendments to the said notification, namely: —

1. In the said notification, in paragraph 1,-

- (a) in sub-paragraph 1(A), for the words “hundred kilometers”, the words “three hundred kilometers” shall be substituted;
- (b) in sub-paragraph (3), for the figures and letters “100 km”, the words “three hundred kilometers” shall be substituted;
- (c) in sub-paragraph (5), for the words “hundred Kilometers”, the words “three hundred Kilometers” shall be substituted;
- (d) in sub-paragraph (7), for the words “hundred Kilometers”, the words “three hundred Kilometers” shall be substituted.

2. In the said notification, in paragraph 2:-**(a) after sub-paragraph (1), the following proviso shall be inserted, namely:-**

“provided further that the restriction to provide 20 % of dry ESP fly ash free of cost shall not apply to those thermal power plants which are able to utilise 100 % fly ash in the prescribed manner.”

(b) after sub-paragraph (7), the following sub-paragraphs shall be inserted, namely:-

“(8) Every coal or lignite based thermal power plants (including captive and or co-generating stations) shall, within three months from the date of notification, upload on their website the details of stock of each type of ash available with them and thereafter shall update the stock position at least once a Month.

(9) Every coal or lignite based thermal power plants shall install dedicated dry ash silos having separate access roads so as to ease the delivery of fly ash.

(10) The cost of transportation of ash for road construction projects or for manufacturing of ash based products or use as soil conditioner in agriculture activity within a radius of hundred kilometers from a coal or lignite based thermal power plant shall be borne by such coal or lignite based thermal power plant and the cost of transportation beyond the radius of hundred kilometers and up to three hundred kilometers shall be shared equally between the user and the coal or lignite based thermal power plant.

(11) The coal or lignite based thermal power plants shall promote, adopt and set up (financial and other associated infrastructure) the ash based product manufacturing facilities within their premises or in the vicinity of their premises so as to reduce the transportation of ash.

(12) The coal or lignite based thermal power plants in the vicinity of the cities shall promote, support and assist in setting up of ash based product manufacturing units so as to meet the requirements of bricks and other building construction materials and also to reduce the transportation.

(13) To ensure that the contractor of road construction utilizes the ash in the road, the Authority concerned for road construction shall link the payment of contractor with the certification of ash supply from the thermal power plants.

(14) The coal or lignite based thermal power plants shall within a radius of three hundred kilometers bear the entire cost of transportation of ash to the site of road construction projects under Pradhan Mantri Gramin Sadak Yojna and asset creation programmes of the Government involving construction of buildings, road, dams and embankments”.

3. In the said notification, in paragraph 2, sub-paragraph (2A) be read as sub-paragraph (15) and at the end of the said sub-paragraph, the following sub-paragraph shall be added, namely:-

“and the coal or lignite based thermal power plants located in coastal districts shall support, assist or directly engage into construction of shore line protection measures.”

4. In the said notification, in paragraph 3, after sub-paragraph (7), the following shall be inserted, namely:-

“(8) It shall be the responsibility of all State Authorities approving various construction projects to ensure that Memorandum of Understanding or any other arrangement for using fly ash or fly ash based products is made between the thermal power plants and the construction agency or contractors.

(9) The State Authorities shall amend Building Bye Laws of the cities having population One million or more so as to ensure the mandatory use of ash based bricks keeping in view the specifications necessary as per technical requirements for load bearing structures.

(10) The concerned Authority shall ensure mandatory use of ash based bricks or products in all Government Scheme or programmes e.g. Mahatma Gandhi National Rural Employment Guarantee Act, 2005 (MNREGA), SWACHH BHARAT ABIYAN, Urban and Rural Housing Scheme, where built up area is more than 1000 square feet and in infrastructure construction including buildings in designated industrial Estates or Parks or Special Economic Zone.

(11) The Ministry of Agriculture may consider the promotion of ash utilisation in agriculture as soil conditioner.”

5. **The time period to comply with the above provisions by all concerned authorities is 31st December, 2017. The coal or lignite based thermal power plants shall comply with the above provision in addition to 100 % utilization of fly ash generated by them before 31st December, 2017.**

[F. No. 9-8/2005-HSMD]

BISHWANATH SINHA, Jt. Secy.

Note:- The principal notification was published in the Gazette of India, Extraordinary, Part II, section 3, Sub-section (ii) *vide* notification S.O. 763(E), dated the 14th September, 1999 and was subsequently amended *vide* notification S.O. 979(E), dated the 27th August, 2003 and S.O. 2804(E), dated the 3rd November, 2009.

