

ODISHA POWER GENERATION CORPORATION LTD.

(A Government Company of the State of Odisha)
CIN: U40104OR1984SG001429

Ib Thermal Power Station

Balnarpali, Dist.: Jharsuguda, Odisha - 768 234, India
Plant Manager : (+916645) 289266, Fax: (+916645) 222-230
Factory Manager : (+916645) 222224, Fax: (+916645) 222-230



Letter No. ITPS/655(A)/WE
April 08, 2021

The Director
Ministry of Environment Forests & Climate Change
Eastern Regional Office
A/3, Chandrasekharpur,
Bhubaneswar – 751023

Dear Sir,

Sub.: Submission of annual implementation report of Ash for the period from 01-04-2020 to 31-03-2021 for Ib Thermal Power Station (2X 660 MW ITPS), of Odisha Power Generation Corporation.

Ref.: Fly ash Notification S.O. 763(E) Dated 14th September 1999

This has reference to the captioned subject and the cited reference. Please find here the annual implementation report of ash for 2 X 660 MW ITPS of M/s Odisha Power Generation Corporation, Jharsuguda for the period from 01-04-2020 to 31-03-2021 in dully filled in prescribed format.

Hope the above is in line with your requirement.

Thanking you,

Yours Sincerely

Sukanta Mohapatra
Director Operation (I/C)

Encl.: Annual Implementation Report of Ash

- Copies to: 1. The Member Secretary, State Pollution Control Board, Bhubaneswar, Odisha
2. The Member Secretary, Central Pollution Control Board, East Arjun Nagar, Delhi

Corporate Office : Zone-A, 7th Floor, Fortune Tower
Chandrasekharpur, Bhubaneswar - 751023, Odisha
Ph: 0674-2303765-66, Fax : 0674-2303755
website : www.opgc.co.in



**Fly ash Notification S.O. 763(E) Dated 14th September 1999 - Statutory compliance
report for the period from 01.04.2020 to 31.03.2021**

S. No.	Item	Reply
1	Name of the Thermal Power station	Ib Thermal Power Station (2X660 MW) of Odisha Power Generation Corporation
2	Full address including Pin code	At: Banharpali Post: Banharpali Jharsuguda-786 234, Odisha
3	E Mail address	Sitaram.sahu@opgc.co.in
4	Name of the Nodal officer dealing with ash management with designation (not below DGM rank)	Sitaram Sahu Head-EHS
5	Telephone No	06645-289258
6	Fax No	06645-222230
7	Capacity of the Thermal Power station	1320 MW
8	Details of the Number of units and capacity of each unit	Units: 2 Nos Capacity: 660 MW each
9	Coal/ Lignite consumption in 2020-2021 (million tonnes)	4.76
A. Ash Generation in 2020-2021 (in tonnes)		
10	Bottom Ash	425118
11	Fly ash	1700458
	Total A	2125576
B. Ash Unutilized (in tonnes)		
12	Ash pond disposal	1640999
13	Ash Yard	0
14	Ash Dump	0
	Total B (12 to 14)	1640999

C. Ash Utilization in 2020-2021 (in tonnes)				
Purpose for which ash is utilized	Target (as per action plan)	Actual		Total
		From ESP Dry Ash	From Pond Ash	
15 Ash pond dyke rising	-	-	-	-
16 Cement Industry	-	-	-	-
17 Land fill		484577	-	484577
18 Own Brick unit	-	-	-	-
19 Outside brick units other than	-	-	-	-

	brick kilns						
20*	Brick kilns	-	-		-		-
21	Own ash based products (other than bricks)	-	-		-		-
22	Ash based products (out side)	-	-		-		-
23*	Road and Flyover embankments	-	-		-		-
24*	Back filling of mines	-	-		-		-
25	Agriculture	-	-		-		-
26	Ready mix concrete	-	-		-		-
27	Asbestos	-	-		-		-
28*	Exports	-	-		-		-
29	Other (Please Specify)	-	-		-		-
	Total C (15-29)	-	484577		-		484577

D. Reasons for variation from the target –

Plant has been commissioned in FY-2019-20 (Unit#3 in July & Unit#4 in August) and we have achieved 22.80% ash utilization for the FY 2020-21. OPGC is putting all efforts to maximize ash utilization and to achieve target as per Fly Ash notification.

**However, OPGC is still working on high priority to achieve 70% ash utilization by August'21*

E. Efforts made by OPGCL to Maximise Utilisation of Fly-Ash :

1. OPGCL has installed its own Fly-Ash brick plant with production capacity of 10,000 bricks per day, and steps have been made for all the bricks that are produced being utilised in all the ongoing and upcoming construction activities of OPGC.
2. 3 dedicated dry ash silos with capacity of 2500 MT each has been provided for utilization of ash in avenues like cement, brick, asbestos, ready mix concrete & roads. Provision has been made for evacuation of ash through trucks, bulkcontainers as well as by rail.
3. OPGCL has entered into an agreement with Visveswariya National Institute of Technology, Nagpur (“VNIT”) to devise technological advancements for enhancing ash percentage up to 90% in production of bricks and for geopolymeric use of ash in road construction.
4. OPGCL has been conducting various ash utilization awareness campaigns in the nearby community by way of street plays, distribution of pamphlets, etc.
5. Strong initiatives have been taken to identify low lying area/ stone quarries in the vicinity. Publications have been made in local newspapers for execution of low land reclamation to supply ash free of cost to the owner for proper utilization of abandoned low land.
6. A task force has been created by committee comprising representatives from CEA, MoEF &CC, Ministry of Mines, CIL, CIMFR, CMPDIL, CPCB & NTPC. The task force has listed Rampur Colliery as one of the abandoned mines for backfilling of ash nearest to OPGC. In response to the letter of CEA for a feasibility report on mine void filling, OPGC has made a preliminary survey and has found that the Rampur underground mine is at a distance of around 25 Km from the plant and can accommodate ash generated from OPGC for a period of 5 years and it is also feasible for OPGC to dispose ash in the mentioned mine void. OPGC has also proposed the name of BOCM to Central Electricity Authority which can meet the ash utilization requirement of OPGC for atleast a period of 10 years. Once the mine void is made available, OPGC shall take rapid measures to start backfilling of the mentioned mines at the earliest.

F. Quantity in ash pond:

30	Estimated quantity of Pond ash in active ash pond (Pond in use) as on 31.03.2021 (million tonnes)	0.928
----	--	--------------

G. Ash Pond details

31	Total area ear marked for ash pond (ha)	Forest area	Non forest area	Total
		Nil	126	126
32	Ash ponds already filled up and reclaimed (ha)	Nil	Nil	Nil
33	Ash ponds already filled up but yet to be reclaimed (ha)	Nil	Nil	Nil
34	Ash ponds in use (ha) (Active ash ponds)	Nil	107	107
35	Area earmarked for ash ponds but ash ponds yet to be constructed (ha)	Nil	Nil	Nil

Fly ash Notification S.O. 763(L) Dated 14th September 1999 - Statutory compliance report for the period from 01.04.2020 to 31.03.2021

S. No.	Item	Reply
1	Name of the Thermal Power station	Ib Thermal Power Station (2X210 MW) of Odisha Power Generation Corporation
2	Full address including Pin code	At: Banharpali Post: Banharpali Jharsuguda-786 234, Odisha
3	E Mail address	sitaram.sahu@opgc.co.in
4	Name of the Nodal officer dealing with ash management with designation (not below DGM rank)	Sitaram sahu Head-EHS
5	Telephone No	06645-289258
6	Fax No	06645-222230
7	Capacity of the Thermal Power station	420 MW
8	Details of the Number of units and capacity of each unit	Units: 2 Nos Capacity: 210 MW each
9	Coal/ Lignite consumption in 2020-2021 (million tonnes)	2.468
A. Ash Generation in 2020-2021 (in tonnes)		
10	Bottom Ash	219301
11	Fly ash	877084
	Total A	1096385
B. Ash Unutilized (in tonnes)		
12	Ash pond disposal	365395
13	Ash Yard	0
14	Ash Dump	0
	Total B (12 to 14)	365395

C. Ash Utilization in 2020-2021 (in tonnes)						
	Purpose for which ash is utilized	Target (as per action plan)	Actual			Total
			From ESP Dry Ash	From Pond Ash	From Bottom Ash	
15	Ash pond dyke rising	-	-	-	-	-
16*	Cement Industry		-	-	-	-
17	Land fill		150381	68168	-	218549

18	Own Brick unit	-	1462	-	-	1462
19*	Outside brick units other than brick kilns	-	8608	-	-	8608
20*	Brick kilns	-	-	-	-	-
21	Own ash based products (other than bricks)	-	-	-	-	-
22	Ash based products (out side)	-	-	-	-	-
23*	Road and Flyover embankments	-	-	497487	-	497487
24*	Back filling of mines	-	-	-	-	-
25	Agriculture	-	-	-	-	-
26	Ready mix concrete	-	-	-	-	-
27	Asbestos	-	4800	-	-	4800
28*	Exports	-	-	-	-	-
29	Other (Please Specify)	-	-	84 (Cenosphere)	-	84
	Total C (15 – 29)	-	165251	565739	0	730990

D. Reasons for variation from the target –

1. Since the plant is situated in a remote location (pit head power plant located in rural area) there is very limited scope of ash utilization in brick manufacturing. More ever utilization in this particular area cannot exceed more than 2% to 3%.
2. Big stone quarry or low lands are not available in the locality.
3. Export of ash is not feasible since the site is located at a distance of 500 Km from the nearest port. Transportation from site to nearest port through rail or any other means is not feasible.
4. No scope available in major ash utilization area i.e. Cement Plant use for production of PPC cement. Only one cement plant is available in the vicinity i.e. M/s Ultratech Cement Ltd. M/s Ultratech off takes entire quantity of ash for cement manufacturing from its sister concern plant i.e. from M/s Aditya Aluminium (Lapanga).
6. Considering OPGC plant's location (Pit Head), mine void back filling of ash is the only means of utilization by which OPGC can achieve 100% ash utilization. The steps so far are as follows.
 - i. MCL has also been directed repeatedly by OPGC Chairman & Principal Secretary, Energy, Govt of Odisha, managing Director and Director (Operation) but no positive response has so far been received from MCL.
 - ii. In a meeting held on 24.01.2011 with Principal secretary Energy, Govt. of Odisha, CMD, MCL has given consent to give principal approval for back filling BOCM mine void but the same has not been done, so far.
 - iii. In response to the letter of Director (Operation), OPGC, dtd.24.08.2013 on the subject, Director (Tech. P&P), MCL neglected the request on the ground of BOCM expansion towards dip slide and no scope to back fill ash in running mine even though OPGC proposed for a partition bund to separate the void space from active mine for ash back filling.
 - iv. In a high-level meeting held on 13.12.2013 under the Chairmanship of Chief Secretary, GoO, directions for allotment of BOCM mine void to OPGC were issued to MCL on 03.04.2014 by Dept. of Environment & Forest, GoO. The said directions were for taking expeditious steps on this front. However, there has not been any progress as yet.
 - v. OPGC vide letter dated 10.08.2020 had again requested Director (Tech/P&P), MCL for allotment of BOCM mine void for backfilling of ash, however Director Technical, MCL vide letter dated 28.08.2020 turned down the proposal stating integration of Lakhanpur-Belpahar-Lilari mines and extraction of further seams from these mines.
 - vi. OPGC sources entire coal from MCL mines. Coal being supplied has high ash content i.e. from 40%-45%. The utilization of this huge quantity of ash has significant cost implication. Any relief on this matter (Like cost pass through in tariff) will be immensely helpful for companies like OPGC.

****However OPGC is still working on high priority to pursue MCL, involving Government & other agency to get newly allotted nearest mine void to fulfill this important regulatory obligation.***

E. Efforts made by OPGCL to Maximise Utilization of Fly-Ash:

1. OPGCL has installed its own Fly-Ash brick plant with production capacity of 10,000 bricks per day, and steps have been made for all the bricks that are produced being utilised in all the ongoing and upcoming construction activities of OPGC.
2. Further, not only is OPGCL utilizing the Fly-Ash generated from its own Project in its own brick plant, OPGCL is also supplying Fly-Ash to 6 (six) ash brick plants, which are located in and around the site of OPGCL's Project.
3. In order to further incentivize these brick plants to utilise the Fly-Ash from OPGCL's Project, OPGCL has extended a subsidy of Rs 150 per MT for use of Fly-Ash at its cost. However, ash utilization in brick manufacturing is limited to 2-3 % due to poor market demand.
4. OPGCL has entered into an agreement with Visveswariya National Institute of Technology, Nagpur ("VNIT") to devise technological advancements for enhancing ash percentage up to 90% in production of bricks and for geopolymeric use of ash in road construction.
5. OPGCL has been conducting various ash utilization awareness campaigns in the nearby community by way of street plays, distribution of pamphlets, etc.
6. Strong initiatives have been taken to identify low lying area/ stone quarries in the vicinity. Publications have been made in local newspapers for execution of low land reclamation to supply ash free of cost to the owner for proper utilization of abandoned low land. OPGC now is in process of reclaiming 3 low lying areas of 6.17 acres, 1.28 acres & 1.12 acres for which consent has been taken from State Pollution Control Board, Odisha.
7. Action has been initiated to utilise ash in OPGC expansion project MGR line construction.
8. Working to get mine voids allotment from MCL.
9. OPGCL has ensured that Fly-Ash ash is utilised, instead of precious earth, in the construction of embankment for ash pond as well as raising of bund height for ash pond.

10. OPGCL has also awarded a consultancy order to Centre For Fly Ash Research & Management ("C-FARM") headed by Dr. Vimal Kumar (Former Mission Director & Head, Fly-Ash Unit, Department of Science and Technology, Government of India) for scientific and technical advice for obtaining "Consent for mine void filling with fly ash". C-FARM is continuously deliberating with MCL, as well as with Central Mine Planning and design institute, on behalf of OPGCL for allotment of mine void for stowing ash.
11. A task force has been created by committee comprising representatives from CEA, MoEF & CC, Ministry of Mines, CIL, CIMFR, CMPDIL, CPCB & NTPC. The task force has listed Rampur Colliery as one of the abandoned mines for backfilling of ash nearest to OPGC. In response to the letter of CEA for a feasibility report on mine void filling, OPGC has made a preliminary survey and has found that the Rampur underground mine is at a distance of around 25 Km from the plant and can accommodate ash generated from OPGC for a period of 5 years and it is also feasible for OPGC to dispose ash in the mentioned mine void. OPGC has also proposed the name of BOCM to Central Electricity Authority which can meet the ash utilization requirement of OPGC for atleast a period of 10 years. Once the mine void is made available, OPGC shall take rapid measures to start backfilling of the mentioned mines at the earliest.

F. Quantity in ash pond:

30	Estimated quantity of Pond ash in active ash pond (Pond in use) as on 31.03.2021 (million tonnes)	9.94 (Additional 1.73 million MT of ash has been disposed from Unit#3 & Unit#4)
----	---	---


G. Ash Pond details


31	Total area ear marked for ash pond (ha)	Forest <small>area</small>	Non forest area	Total
		Nil	Nil	Nil

32	Ash ponds already filled up and reclaimed (ha)	Nil	Nil	Nil
33	Ash ponds already filled up but yet to be reclaimed (ha)	Nil	98	98
34	Ash ponds in use (ha) (Active ash ponds)	Nil	107	107
35	Area earmarked for ash ponds but ash ponds yet to be constructed (ha)	Nil	Nil	Nil
H. Dry ash collection facilities				
36	Whether Mechanical handling facility for dry fly ash collection is available	Yes		
37	If yes for how many units	To facilitate dry ash utilization at ITPS, 1st & 2nd field of both the Units (Unit#1 & Unit#2) has been retrofitted with dense phase dry ash collection system. Dry ash collection facility of 1100 MT capacity for utilization of dry fly ash in asbestos plant, ash brick/block & land reclamation is already in place.		
I. Dry fly ash storage.				
38	Daily ash generation (TPD)	Capacity of storage as on 31.03.2021 (tonnes)	Capacity proposed if any in 2021-22(tonnes)	
	3004 MT *Average of 2020-21	620 MT (Silo)	Not required now, since the present storage capacity is surplus to meet dry ash off-take demand.	
J. Capital Expenditure (Rs. Lakhs)				
	Item	Expenditure in 2020-21(Rs .Lakhs)	Budgetary provision in 2021-22 (Rs. Lakhs)	
39	Mechanical dry fly ash collection facility	Nil Provisions of capital expenditures had been made in the previous years and the dry ash collection facility is adequate to meet the present requirement.	Nil The dry ash collection facility is adequate to meet the present requirement.	
40	Dry fly ash storage	-do-	-do-	
K. Dispute settlement committee				
41	No. of meetings held in 2020-21	If no meetings were held reason for the same		
	Nil	During 2020-21 no such cases were brought into notice of the management.		
L. Provision regarding supply to the brick kilns				
42	Whether the Thermal Power Station is maintaining month-wise records of ash made available to each brick kiln	Yes, month wise records maintained.		

43	If yes, how many brick kilns have been supplied with fly ash	6 Nos 1. Bhawani ash bricks 2. Talibahal ash bricks 3. Kitatama ash bricks 4. Best ash brick 5. BB ash bricks 6. ADCL ash bricks 7. OPGC ash bricks* *Own brick plant		
M. Mode of Transport for ash (strikeout whichever not applicable)				
44	Dry Ash	Through Closed Containers/Bulkers covered with Tarpaulin		
45	Wet Ash	Low Concentration Slurry Disposal through ash pipelines (LCSD)		
N. Promotional Measures				
		No. of meetings/ workshops exhibition held during 2020-2021	Amount spent in 2020-21 (Rs. Lakhs)	Outlay for 2021-22 (Rs. Lakhs)
46	Exhibitions	No awareness session could be conducted due to COVID-19 pandemic issue.	NIL	-
47	Seminars for awareness creations amongst farmers for use of ash in agriculture.			-
48	Workshops			3
49	Advertisement in News Papers			0.5
50	Advertisement in TV			-
51	Advertisement in Radio			-
52	Others (Please specify)	-	-	
	Total N (46 to 52)			3.5
O. Administrative measures taken				
S.N	Administrative measures	Outcome		
53	Meeting with brick manufacturers	Better coordination & confidence building among the manufacturer as a part of awareness process.		

N. Promotional Measures				
		No. of meetings/ workshops/ exhibition held during 2020-2021	Amount spent in 2020-21 (Rs. Lakhs)	Outlay for 2021-22 (Rs. Lakhs)
46	Exhibitions	-	-	-
47	Seminars for awareness creations amongst farmers for use of ash in agriculture.	-	-	-
48	Workshops	-	-	3
49	Advertisement in News Papers	-	-	0.5
50	Advertisement in TV	-	-	-
51	Advertisement in Radio	-	-	-
52	Others (Please specify)	-	-	-
	Total N (46 to 52)			3.5
O. Administrative measures taken				
S.N	Administrative measures	Outcome		
53	Meeting with brick manufacturers	-		
54	Meeting with State Government/agencies	-		
55	Any other measure (Please specify)	-		


 Prepared by: Parthasarathi Panda
 Designation: Dy. Manager- Environment
 Date: 08-04-2021


Signature of the CEO/General Manager/CE of the Thermal power station
 Name: Sukanta Mohapatra
 Designation: Director Operation (I/C)
 Date: 08.04.2021