Next Date: 18/03/2025 **1855**

HON'BLE NATIONAL GREEN TRIBUNAL
WESTERN ZONE BENCH, PUNE

ORIGINAL APPLICATION NO.62/2021 (WZ)

Kirshi Arogya & Vigyan Sanstha .... Applicant & Ors

Versus

Maharashtra State Power Generation Company Ltd & Ors ....Respondent

SUBMISSION OF COMPLIANCE AUDIT REPORT FOR ASH DISPOSAL BY VNIT NAGPUR AS AN ADDITIONAL DOCUMENT BY R-1 (MAHAGENCO)

INDEX

Date: **17/03/2025**
Place: **Thane**

Adv. R. B. Mahabal
For Respondent No.1

1856

Ax. A

COMPLIANCE AUDIT REPORT FOR ASH DISPOSAL

KORADI THERMAL POWER STATION
MSPGCL, KORADI, NAGPUR – 441111
(1 × 210 MW + 3 × 660 MW)

FINANCIAL YEAR: 2023 – 2024

AUDITING AGENCY

Department of Civil Engineering
VISVESVARAYA NATIONAL INSTITUTE OF TECHNOLOGY
SOUTH AMBAZARI ROAD, NAGPUR – 440010

MAHAGENCO
Maharashtra State Power Generation Co. Ltd.

VISVESVARAYA NATIONAL INSTITUTE OF TECHNOLOGY · NAGPUR ·

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1. Preamble

As per Ministry of Environment, Forest and Climate Change Gazette notification dated 31 Dec 2021 and Ash utilization notification no. 5481(E) dated 31 Dec 2021, it is mandatory for thermal power stations to comply ash compliance audit from authorized auditors stated in CPCB office memorandum no. IPC-II/TPP/CP-11/76/2022/1252 dated 06 Mar 2023.

2. Introduction

The nominated CPCB auditors from VNIT Nagpur participated in the bid for conducting compliance fly ash audit and the work order was awarded to VNIT Nagpur. After completion of all the formalities, the date of audit mutually decided were 19th and 21st October 2024. The auditing team reached the office of KTPS on 19th October 2024 around 10:00 a.m. and initiated the audit. The audit initiated with document verification

Initially all the document verification was conducted, and later site visits to ash bunds and thermal power plant was carried out.

3. Brief About KTPS

Koradi Thermal Power Station (KTPS) located at Koradi, Nagpur District in Maharashtra, India, is a coal-based thermal power plant in the country with an installed capacity of 2190 MW. KTPS comprises of four operating units. Unit 6 has a production capacity of 210 MW and was commissioned in the year 1982 with lean phase (wet) ash disposal system. Unit 8, Unit 9 and Unit 10 has a production capacity of 660 MW each and were commissioned in the year May 2015, March 2016 and December 2016 respectively. The location of KTPS is shown in Figur e 1.

4. Documents Verified During the Audit for financial year 2023-24

1. KTPS Bunkered coal proximate analysis reports
2. KTPS plant load factor reports
3. Calculation method for generation of fly ash and bottom ash at TPS
4. Fly ash Silo drawings
5. KTPS dry fly ash utilisation reports
6. Gate pass copies for dry fly ash utilization.
7. Acknowledgement/ receipt copies of users for utilization of legacy ash.
8. Weigh bridge calibration certificate.
9. TPS ash bund drawings

10. Ash water recovery report
11. Ash handling plant- daily plant report
12. Ash bund effluent water quality test reports
13. NABL accreditation of third-party agency
14. Action plan for 100% fly ash utilization

Figure 1: Location of Koradi Thermal Power Station

5. Compliance Audit Details

Sr. No.	Details		Observations/ Remarks
1.	Name of Power Plant	Koradi Thermal Power Station	-
2.	Name of the company	Maharashtra State Power Generation Company Ltd.	-
3.	District	Nagpur	-
4.	State	Maharashtra	-
5.	Postal address for communication	Office of Chief Engineer (O&M), TPS, Koradi, Dist: Nagpur - 441111	-
6.	E-mail:	cegenkoradi@mahagenco.in	-
7.	Power Plant installed capacity (MW):	Stage: II – 1 × 210 MW Stage: III – 3 × 660 MW Station: II + III = 2190 MW	-
8.	Plant Load Factor (PLF):	Stage: II – 75.28 % Stage: III – 67.913 % Station: II + III = 68.62%	-
9.	No. of units generated (MWh):	Stage: II – 1,388.59 Stage: III – 11,811.72 Station: II + III = 13,200.3	-
10.	Total area under power plant (ha): (including are under ash ponds)	1593.37	-
11.	Quantity of coal consumption during reporting period (Metric Tons per Annum):	Stage: II – 11,63,393 Stage: III – 85,17,535 Station: II + III = 96,80,928	Verified
12.	Average ash content in percentage (per cent):	Stage: II – 41.717% Stage: III – 36.349% Station: II + III = 36.994%	Verified
13.	Quantity of current ash generation during reporting period (Metric Tons per Annum):	Stage: II – 4,85,335 Stage: III – 30,96,062 Station: II + III = 35,81,397	Verified

	Fly ash (Metric Tons per Annum):	Stage: II – 3,39,734 Stage: III – 21,67,243 Station: II + III = 25,06,978	Verified
	Bottom ash (Metric Tons per Annum):	Stage: II – 1,45,600 Stage: III – 9,28,819 Station: II + III = 10,74,419	Verified
14.	Capacity of dry fly ash storage silo(s) (Metric Tons)	Stage: II – NIL Stage: III – 3 × 1125 = 3375 MT (Intermediate Silos) + 3 × 1125 = 3375 MT (Remote Silos) Total Stage III = 6750 MT Station: II + III = 6750 MT	Verified 1 × 210 MW station was commissioned in 1982 with a wet slurry disposal system for both, fly ash and bottom ash.
15.	Details of utilization of current ash generated during reporting period		
	(a)Total quantity of current ash utilised (MTPA) during reporting period	Stage: II – 4,85,335 (The stated figure is the utilization of ash from Koradi ash bund. Which includes utilization of fly ash and bottom ash) Stage: III – 2,21,770 (silos) + 12,07,306 (The stated figure is the utilization of ash from Khasara ash bund. Which includes utilization of fly ash and bottom ash) Station: II + III – 19,14,411	During the audit, it was observed that the current generated unutilized ash was disposed into Koradi and Khasala ash bunds. Therefore, the utilization of ash from ash bunds includes current generated ash as well as legacy ash. The initial utilization of ash from ash bunds is the utilization of current generated ash. If the utilization of ash from bunds is beyond the current generated ash, then the ash utilized over and above the current generated ash is legacy ash.
	(b) Quantity of fly ash utilised (MTPA): Avenue wise breakup (separately for fly ash and bottom ash)	Stage: II – NIL Stage: III – 2,21,770 Station: II + III – 2,21,770	Verified

	(i) Fly ash based products (bricks or blocks or tiles or fibre cement sheets orpipes or boards or panels)	Stage: II – NIL Stage: III – 23,952 Station: II + III – 23,952	Verified
	(ii) Cement manufacturing:	Stage: II – NIL Stage: III – 1,97,818 Station: II + III – 1,97,818	Verified
	(iii) Ready mix concrete:	NIL	-
	(iv) Ash and Geo-polymer-based construction material:	NIL	-
	(v) Manufacturing of sintered or cold bonded ash aggregate:	NIL	-
	(vi) Construction of roads, road and fly over embankment:	NIL	-
	(vii) Constructions of dams:	NIL	-
	(viii)Filling up of low lying area:	NIL	-
	(ix) Filling of mine voids:	NIL	-
	(x) Use in overburden dumps:	NIL	-
	(xi) Agriculture	NIL	-
	(xii) Construction of shoreline protection structures in coastal districts:	NIL	-
	(xiii) Export of ash to other countries:	NIL	-
	(xiv) Others (Please specify)	NIL	-

	(c) Quantity of bottom ash utilised (MTPA)	NIL	-
	(i) Fly ash-based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels):	NIL	-
	(ii) Cement manufacturing:	NIL	-
	(iii) Ready mix concrete:	NIL	-
	(iv) Ash and Geo -polymer based construction material:	NIL	-
	(v) Manufacturing of sintered or cold bonded ash aggregate:	NIL	-
	(vi) Construction of roads, road and fly over embankment:	NIL	-
	(vii) Constructions of dams:	NIL	-
	(viii) Filling up of low lying area:	NIL	-
	(ix) Filling of mine voids:	NIL	-
	(x) Use in overburden dumps:	NIL	-
	(xi) Agriculture	NIL	-
	(xii) Construction of shoreline protection structures in coastal districts:	NIL	-
	(xiii) Export of ash to other countries:	NIL	-

	(xiv) Others (Please specify), if recommended by the Committee and added in notification as per para A (3)	NIL	-
	Total quantity of current ash unutilized (MTPA) during reporting period:	Stage: II – 0.00 Stage: III – 16,66,986 Station: II + III – 16,66,986	Verified
16	Percentage utilization of current ash generated during reporting period (per cent):	Stage: II – 100% Stage: III – 46.16% Station: II + III – 53.45%	Verified
17	Details of disposal of ash in ash ponds		
	(a)Total quantity of ash disposed in ash pond(s) (Metric Tons) as on 31st March (excluding reporting period):	3,34,72,469.58 (The balance quantity of ash in Koradi and Khasala ash pond as on 31st March 2023)	The data reported is as per the compliance fly ash audit report conducted by VNIT, Nagpur. Clause No 5/Sr. No. 20 (Summary) Report No.: MVM-01/CEC no. 505
	(b) Quantity of ash disposed in ash pond(s) during reporting period (Metric Tons):	Stage: II – 4,85,334 Stage: III – 28,74,292 Station: II + III – 33,59,627	Verified
	(c)Total quantity of water consumption for slurry discharge into ash ponds during reporting period (m^3):	Stage: II – 32,08,854 m^3 Stage: III – 95,43,513 m^3 Station: II + III – 1,27,52,367m^3	Verified
	(d)Total number of ash ponds:	02 Stage: II (Koradi) Stage: III (Khasala)	Verified
	(i) Active:	02 Stage: II (Koradi) Stage: III (Khasala)	Verified

	(ii)Exhausted (yet to be reclaimed):	0	Verified
	(iii)Reclaimed:	0	-
	(e) total area under ash ponds (ha):	Stage: II (Koradi) – 103.20 Stage: III (Khasala)– 314.00 Station: II + III – 417.20	Verified
18 (a)	Individual ash pond Details		
	Ash pond – 1,2 etc (please provide below mentioned details separately, if number of ash ponds is more than one) (a) Status: Under construction or Active Exhausted or Reclaimed	Koradi Ash Pond Active	Verified
	(b) Date of start of ash disposal in ash pond (DD/MM/YYYY or MMYYYY):	03-06-1974	
	(c) Date of stoppage of ash disposal in ash pond after completing its capacity (DD/MM/YYYY or MM/YYYY) (Not applicable for active ash ponds)	-	-
	(c) area (hectares):	103.2	Verified
	(d) dyke height (m):	Starter bund level – 305.0 m 1st raising – 305.0 to 308.0 m 2nd raising – 308.0 to 311.0 m 3rd raising – 311.0 to 314.0 m 4th raising – 314.0 to 318.0 m 5th raising – 318.0 to 321.0 m 6th raising – 321.0 to 325.0 m 7th raising – 325.0 to 328.0 m Height of dyke = 23.0 m	Verified Refer ANNEXURE 11 Page 1of 1
	(d) volume (m^3)	26.6 Mm^3	
	(e) quantity of ash disposed as on 31st March (Metric Tons):	4,85,335	Verified

	(f) available volume in percentage (percent and quantity of ash can be further disposed (Metric Tons):	4.12 Mm^3	Verified Refer ANNEXURE 10 Page 1 of 1 During the visit Khasala ash bund has exhausted its capacity. The exact date when the ash bund has exhausted its capacity was not available during the audit. Slurry discharge line of 3 × 660 MW station is diverted to Koradi ash bund. Therefore, the expected life of Koradi ash bund is reduced to 1.5 years from 9.67 years.
	(g) expected life of ash pond (number of years and months):	9.67 years (when discharge is only from 1 × 210 MW) 1.5 years (when discharge is from 1 × 210 MW and 3 × 660 MW)	
	(e) Co-ordinates (Lat and Long:) (please specify minimum 4 coordinates)	a. 21.245694 N, 79.109219 E b. 21.243734 N, 79.105807 E c. 21.244409 N, 79.109852 E d. 21.242914 N, 79.110533 E	-
	(f) type of lining carried in ash pond: HDPE lining or LDPE lining or clay lining or No lining	No lining was found	Verified
	(g) mode of disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether HCSD or MCSD or LCSD)	Wet slurry disposal system	-
	(h) Ratio of ash: water in slurry mix (1:_):	30: 70 (30% ash and 70% water)	
	(i) Ash water recycling system (AWRS) installed and functioning: Yes or No	Yes	Verified
	(j) Quantity of wastewater from ash pond discharged into land or water body	NIL	Verified No wastewater was disposed into land or water body during the time of inspection.

	(m^3):		
	(k) Last date when the dyke stability study was conducted and name of the organization who conducted the study:	On 04/10/2023 the dyke stability test was conducted by Visvesvaraya National Institute of technology, Nagpur having letter no. CT-3613 dated 04-10-2023.	Verified Refer ANNEXURE 12 Page 1 of 2
	(l) Last date when the audit was conducted and name of the organisation who conducted the audit:	The audit was conducted by Visvesvaraya National Institute of Technology, Nagpur on 17th and 20th November 2023 and report was submitted on 30th November 2023.	Verified
(b)	Individual ash pond Details		
	Ash pond – 1,2 etc (please provide below mentioned details separately, if number of ash ponds is more than one) (a) Status: Under construction or Active Exhausted or Reclaimed	Khasala ash bund Status: Active during FY 2023-2024 Exhausted during the visit on 21st October 2024	-
	(b)Date of start of ash disposal in ash pond (DD/MM/YYYY or MMYYYY):	2000	The furnished document does not mention the start month of ash disposal.
	(c) Date of stoppage of ash disposal in ash pond after completing its capacity (DD/MM/YYYY or MM/YYYY) (Not applicable for active ash ponds)	No data received during the audit	-
	(c) area (hectares):	314	Verified

(d) dyke height (m):	Starter bund level = 305.2 m 1st raising – 305.2 to 308.5 m 2nd raising – 308.5 to 312 m Height – 10.8 m	Verified Refer Figure 5 of Section 6.4
(d) volume (m3)	28.28 Mm^3	
(e) quantity of ash disposed as on 31st March 2023 (Metric Tons):	28,74,292	Verified
(f) available volume in percentage (per cent and quantity of ash can be further disposed (Metric Tons):	-	-
(g) expected life of ash pond (number of years and months):	-	-
(e) Co-ordinates (Lat and Long:) (please specify minimum 4 coordinates)	a. 21.211686 N, 79.121024 E b. 21.214802 N, 79.114378 E c. 21.219848 N, 79.107726 E d. 21.222573 N, 79.103960 E	-
(f) type of lining carried in ash pond: HDPE lining or LDPE lining or clay lining or No lining	No lining found	Verified
(g) mode of disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether HCSD or MCSD or LCSD)	Wet slurry disposal system 30:70 – bottom ash disposal 35:65 – Fly ash disposal	-
(h) Ratio of ash: water in slurry mix (1:_):	-	-
(i) Ash water recycling system (AWRS) installed and functioning: Yes or No	Yes	-
(j) Quantity of wastewater from ash pond discharged into land or	-	-

	water body (m^3):		
	(k) Last date when the dyke stability study was conducted and name of the organisation who conducted the study:	On 8/12/2023 the dyke stability test was conducted by Visvesvaraya National Institute of Technology, Nagpur having letter no. CT3638/CEC464.	Verified Refer ANNEXURE 12 Page 2 of 2
	(l)Last date when the audit was conducted and name of the organisation who conducted the audit:	The audit was conducted by Visvesvaraya National Institute of Technology, Nagpur on 17th and 20th November 2023 and report was submitted on 30th November 2023.	Verified
19	Quantity of legacy ash utilized (MTPA): Avenue wise break up (separately for fly ash and bottom ash:	Koradi ash Bund: 6,17,306 Khasala ash bund: NIL	
	i. Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels):	-	KTPS, Koradi discharge the unutilized fly ash and bottom ash of the current financial year in Koradi and Khasala ash bund, which also contains legacy ash. Avenue wise breakup is available for utilization of ash from ash bunds. The utilization of ash from bunds includes current generated ash as well as legacy ash, therefore it is difficult to provide avenue wise breakup of the legacy ash.
	ii. Cement manufacturing:	-	
	iii. Ready mix concrete:	-	
	iv. Ash and Geo-polymer based construction material:	-	
	v. Manufacturing of sintered or cold bonded ash aggregate:	-	-
	vi. Construction of roads, road and flyover embankment:	-	
	vii. Construction of dams	-	-

	viii. Filling up of low-lying area:		-		-
	ix. Filling of mine voids:		-		-
	x. Use in overburden dumps:		-		-
	xi. Agriculture:		-		-
	xii. Construction of shoreline protection structures in coastal districts;		-		-
	xiii: Export of ash to other countries:		-		-
	xiv. Others (please specify) if recommended by the committee and added in notification as per para A (3)		-		-
20.	Summary:				
	Details	Quantity generated (MTP)	Quantity utilised (MTP) and (per cent)	Balance quantity (MTP)	
	Current ash during reporting period	35,81,397	19,14,411	16,66,986	
	Legacy ash	3,34,72,469.58	6,17,812	3,28,54,657.58	
	Total	3,70,53,866.58	25,32,223	3,45,21,643.58	
21.	Any other information: Soft copy of the annual compliance report, and shape files of power plant and ash ponds may be e- mailed to:- moefcccoalash@gov.in				

22.	Signature of Authorized Signatory	The report is signed by the CPCB Authorized Auditors and Concerned Authorities of the Institute as per Institutes (VNIT) norms.	

Note: The remarks of the auditing team, VNIT are based on the documents provided by KTPS and field visits.

Dr. Swapnil P. Wanjari
Assistant Professor, CED VNIT Nagpur

Dr. Mangesh V. Madurwar
Associate Professor, CED VNIT Nagpur

06/12/2024
Head, CED

6.12.24
Dean R&C

6. Scope Wise Methodology and Observations

6.1 Scope 1: Fly Ash Generation

Statement of Scope Verification of ash generation data pertaining to the financial year based on inspection of records of coal receipt/consumption and average ash content in coal, and comparison of this data with the information provided by the power plant in the annual implementation report/ prescribed Annexure.

Methodology for verification of fly ash generation data.

1. A part to whole technique was adopted to verify the coal consumption and ash generation data based on the data/ documents/ receipts provided by Koradi Thermal Power Plant.

Procedure

1. Bunkered coal proximate analysis reports are provided to ascertain the coal consumption and average ash content.
2. The officials of KTPS Koradi provided a monthly progress report of KTPS ash utilization which mentions the ash generated at 1 × 210 and 3 × 660 MW.
3. The report also mentions the consumption of coal during that particular month for 1 × 210 and 3 × 660 MW exclusively.
4. The coal consumption and ash generation data was verified with the bunkered coal and proximate analysis report provided in the excel datasheets.
5. Quantity of fly ash and bottom ash generation from total ash is evaluated based on letter no. CE/CEHSU/Ash Uti. /549 dated 25 Jun 2014.

Observations

1. Quantity of total coal consumed as per annual implementation report was 96,80,928 MT which was found correct during the audit.
2. The proximate analysis of bunkered coal was carried out by MAHABAL ENVIRO ENGINEERS PVT. LTD. At KTPS. The NABL certification for the said firm is valid till 28/06/2025. The NABL certification and scope of accreditation (proximate analysis of coal) is attached in the ANNEXURE 1 and ANNEXURE 2 respectively.
3. The quantification of ash into fly ash and bottom ash was carried out according MAHAGENCO notification. The Notification is attached in ANNEXURE 3.

4. As per the information provided by KTPS, 3 × 660 MW unit has three dedicated intermediate and three remote silos each of capacity 1125 MT which constitute to a total capacity of 6750 MT. The detail of the silos are attached in ANNEXURE 4.

Non-Conformity

1. The Unit-6 (1 × 210 MW) was commissioned in 1982 with lean phase (wet ash) disposal system, there was no provision of silos.

6.2 Scope 2: Ash Utilization

Statement of Scope Verification of fly ash and bottom ash utilization data pertaining to the financial year based on inspection of records of ash supplied to the user agencies covered under permitted uses/avenues, and comparison of this data with the information provided by the power plant in the annual implementation report / prescribed Annexure.

Method for verification of fly ash utilization

1. For verification of fly ash utilization at KTPS a part to whole data verification technique was adopted.
2. Using this technique, data for random months was assessed and verified with the acknowledgements/ receipts/ gate passes/ weigh bridge reports provided by the KTPS officials.

Procedure

1. The daily fly ash evacuation record for any random will be called. The data provided for this month will be thoroughly verified with the gate passes provided for that particular month.
2. The data which will be verified is the gate pass no. and the stated amount of ash on the gate pass.
3. The same procedure was adopted for verifying the utilization of legacy ash.

Observations

1. The data pertaining to dry fly ash evacuation from silos installed at KTPS was metered.
2. The daily ash evacuation record for the month of March 2024 was received. The data sheet showed the date, name of the fly ash evacuating agency, vehicle no., name of driver, in time, out time, receipt no. and amount of ash carried in the bulkers. Sample copy of data sheet provided by KTPS is attached in the ANNEXURE 5.
3. Gate passes mentioning the quantity of dry fly ash were evidenced. The evidenced

images of gate passes are shown in ANNEXURE 6.

4. Weigh bridge was used to meter the amount of fly ash evacuated by the ash lifting agencies. The weigh bridge calibration certificates in ANNEXURE 7 are attached for reference.
5. All the entries made in the data sheet for the month of March 2024 were found correct as per the gate passes. The total ash evacuated for March 2024 was verified with the monthly progress report of KTPS ash utilization and was found correct. The monthly progress report of KTPS ash utilization for the month of March 2024 is attached in ANNEXURE 8.
6. The total dry fly ash utilization from silos for the financial year 2023 – 2024 reported in the annual implementation report by KTPS was found correct as per the records provided.
7. The reported dry fly ash evacuated from 3 × 660 MW unit in annual implementation report filled by KTPS for brick [15 b (i)] and cement [15 b (ii)] manufacturing agencies at KTPS was 60,335 MT and 1,61,435 MT respectively which were incorrectly reported. The actual dry fly ash evacuated by brick and cement manufacturing agencies at KTPS was 23,952 MT and 1,97,818 MT respectively.
8. The utilization of legacy ash from ash bunds were not metered.
9. The monthly progress report of KTPS ash utilization submitted to The Chief Engineer (E&S), MSPGCL also mentions the quantity of legacy ash lifted from Koradi and Khasala ash bunds exclusively. Monthly progress report of all the months in the financial year 2023 – 2024 were verified.
10. Since there is no provision silo in 1 × 210 MW unit, therefore total generated ash (fly ash + bottom ash) is directly pumped into the Koradi ash bunds which ultimately becomes a part of legacy ash. The dry fly ash generated at 3 × 660 MW unit cannot be utilized 100% from the silos, therefore the ash is pumped into the ash bunds.

6.3 Scope 3 - Fly Ash Disposal

Statement of Scope Verification of net ash disposal into ash ponds data pertaining to the financial year (i.e., difference of ash generation and ash utilization, as above), and comparison of this data with the information provided by the power plant in the annual implementation report / prescribed Annexure.

Method of verification for quantum and system of net ash disposal into ash bunds at KTPS.

1 After the satisfactory verification of ash generation and utilization data, the difference

between the ash generation and utilization quantity yielded the quantity of net fly ash disposed into the ash dykes.

2. The auditing team visited KTPS for ground verification of ash disposal system.

Observations

1. In 1 × 210 MW (Unit 6) there was no provision for silo, therefore, the fly ash and bottom ash generated throughout the financial year 2023 – 2024, were mixed with water to form a slurry and discharged through pipes to the Koradi ash bund. Figure 2 shows the dropping point location ash slurry discharge into Koradi ash bund.

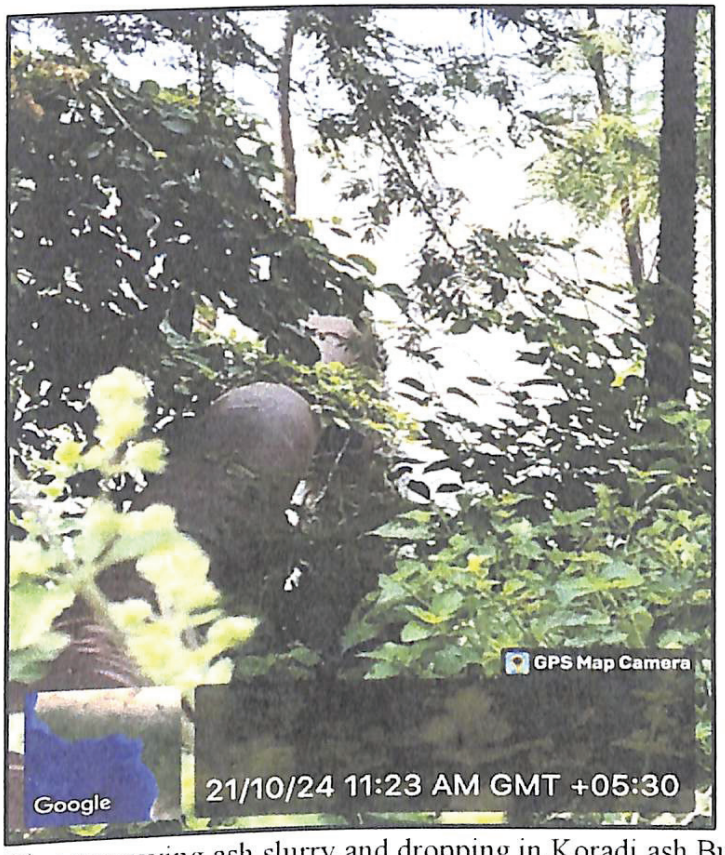


Figure 2: Pipe conveying ash slurry and dropping in Koradi ash Bund

2. The cumulative discharge of bottom ash slurry for Unit 8, Unit 9 and Unit 10 was carried out through centrifugal pumps.
3. The un-evacuated dry fly ash slurry was disposed to the ash bunds through reciprocating pumps for Unit 8, Unit 9 and Unit 10. The dry fly ash slurry pumps could be seen form Figure 3.
4. In the financial year 2023 – 2024, 19,45,473 MT of dry fly from 3 × 660 MW unit (Unit 8 + Unit 9 + Unit 10) was dumped into the ash bunds.

Mangl

Figure 3: Dry fly ash slurry discharge pumps

5. As per the officials, Khasala ash bund has exhausted its capacity, therefore five ash slurry pipe line emerging from 3 × 660 MW unit were diverted from Khasala ash bund to Koradi ash bund. Figure 4 shows the glimpse of Khasala ash bund.

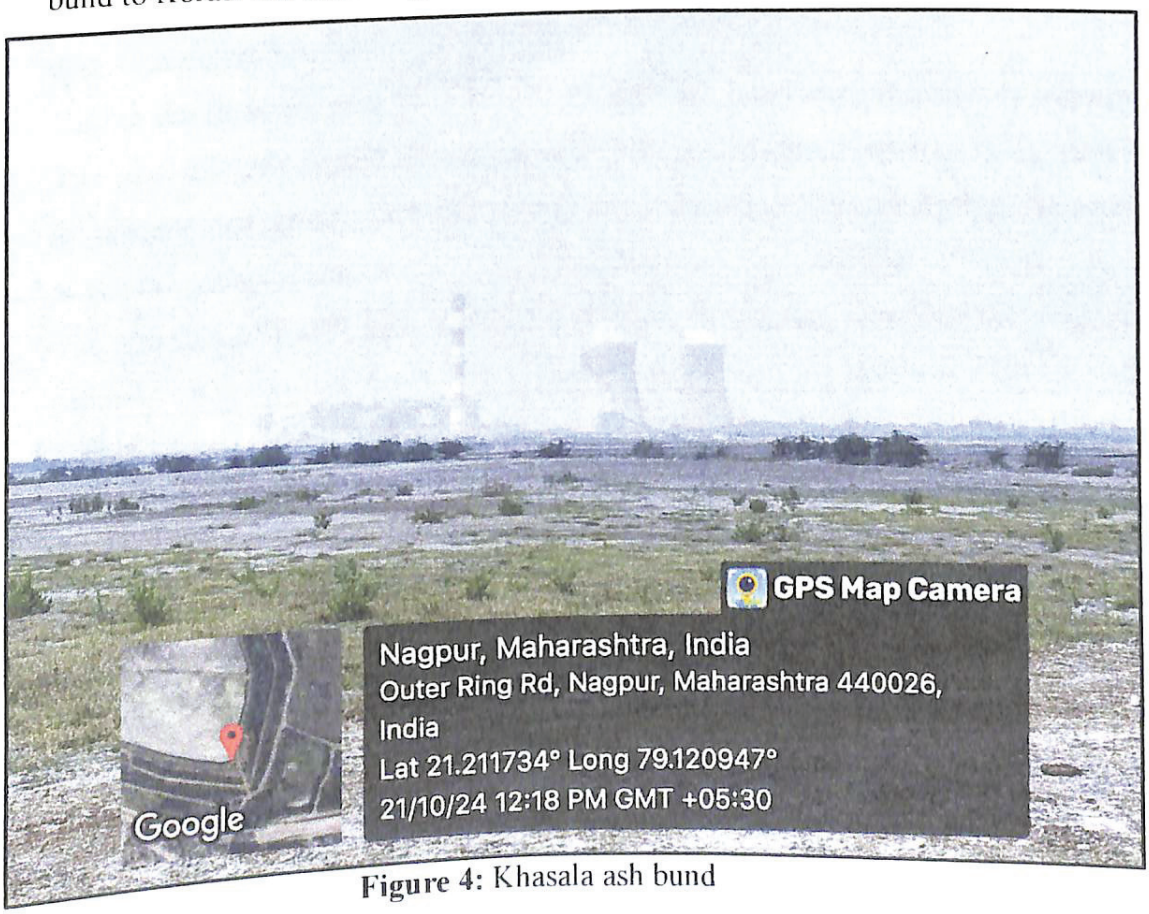


Figure 4: Khasala ash bund

6. The total bottom ash and fly ash dumped in Koradi ash bund in the financial year 2023 – 2024 from 3 × 660 MW unit is 9,28,818.5 MT and 19,45,473.1 MT respectively.

6.4 Scope 4 - Fly Ash Storage

Statement of Scope Assessment of total ash storage in operational and un-operational ash ponds and available storage capacity for further disposal at the end of financial year based on details and drawings of ash ponds provided by the power plant and ground verification of the information provided, and comparison of the storage and available storage capacity with the information provided by the power plant in the annual implementation report/prescribed Annexure.

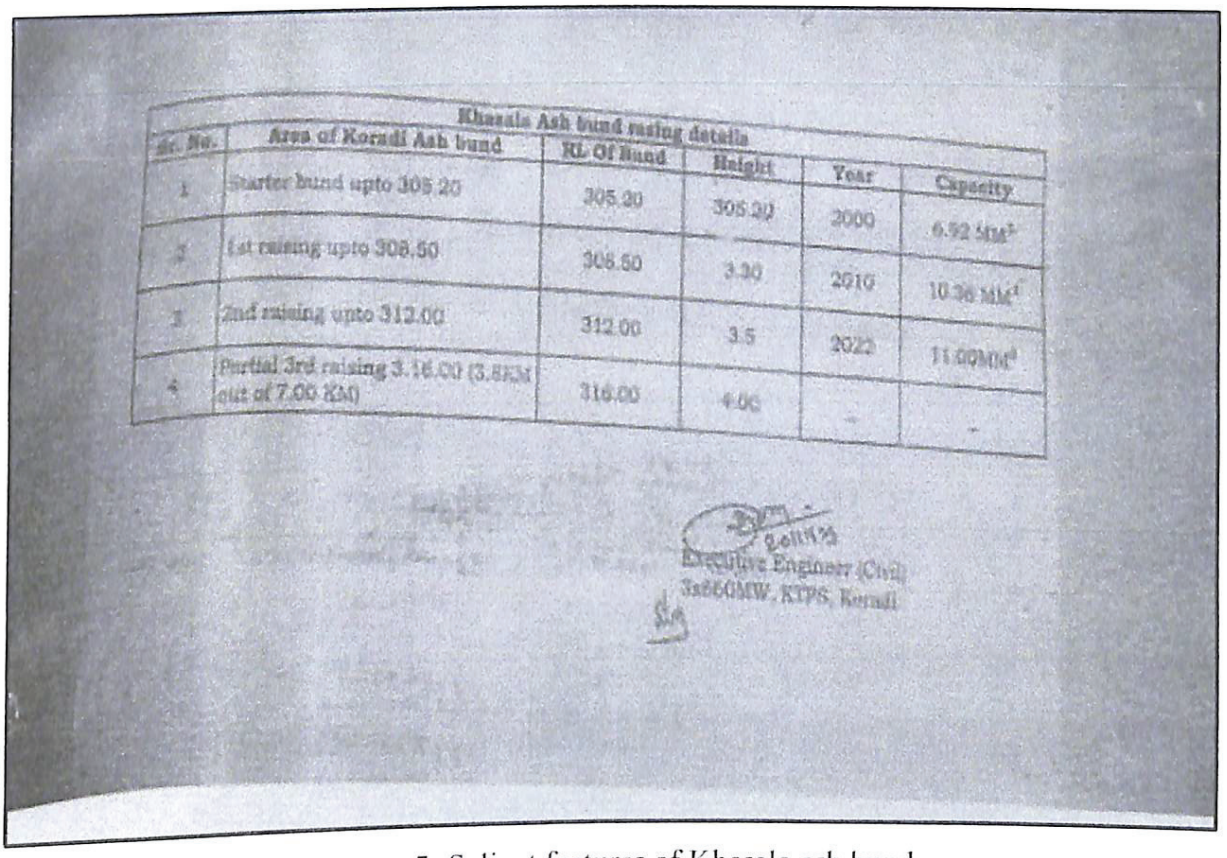
Method for assessment of net ash storage

1. For finding the total ash storage in ash dykes, the map of the ash disposal area was verified.
2. Field visit was conducted to observe the ash disposal area.

Observations

1. The map of Koradi and Khasala ash bund were provided by the officials. The document that mentioned the area of both the ash bund. ANNEXURE 9 shows the map of Koradi and Khasala ash bunds.
2. During the financial year 2023 – 2024 Khasala ash bund had exhausted its capacity. The available ash deposition volume with Khasala ash bund reported in the annual implementation report by KTPS (4.74%), is based on the ash evacuated from the bunds as per the officials of KTPS.
3. The officials of KTPS had provided a tentative calculation regarding the available capacity of Koradi ash bund. The document states that, the available capacity with Koradi ash bund is 4.12 Mm^3, which would serve KTPS (1 × 210 + 3 × 660 MW) for approximately about 1.5 years. The tentative calculation sheet provided by KTPS officials is displayed in ANNEXURE 10.
4. The annual implementation report filled by KTPS states the total dyke height of Koradi ash bund as 19.2 m, but as per the document provided by KTPS the height is 23.0 m also the total stated volume of Koradi ash bund is 26.6 Mm^3. All the salient features of Koradi ash bund can be seen from ANNEXURE 11.
5. Figure 5 shows the salient features of Khasala bund.
6. No lining work was found in the Koradi and Khasala ash bund.
7. The dyke stability test for Koradi and Khasala ash bund was carried out Visvesvaraya

National Institute of Technology, Nagpur. The cover letter of both the reports are displayed in ANNEXURE 12.



Khasala Ash bund raising details

Sr. No.	Area of Koradi Ash bund	RL Of Bund	Height	Year	Capacity
1	Starter bund upto 305.20	305.20	305.20	2000	6.92 Mm³
2	1st raising upto 308.50	308.50	3.30	2010	10.36 Mm³
3	2nd raising upto 312.00	312.00	3.5	2022	11.60Mm³
4	Partial 3rd raising 3.16.00 (3.8Km out of 7.00 Km)	316.00	4.00	-	-

Executive Engineer (Civil)
3x660MW, KTPS, Koradi

Figure 5: Salient features of Khasala ash bund

6.5 Scope 5 – Ash Water Re-cirulation (Recovery) System

Statement of Scope Assessment of ash slurry disposal and ash water re-circulation system used during the financial year, in respect ratio of water in the ash disposed to ash ponds, water used for ash slurry disposal to ash ponds, ash water recycled through AWRS, and ash water discharged into environment, based on inspection of records provided by the power plant and ground verification, including the condition of surrounding environment in respect of ash released or breached, and comparison of the ground situation with the information provided by the power plant in the annual implementation report / prescribed Annexure.

Methodology for ash slurry disposal and inspection of AWRS

1. Assessment of random months records prepared on daily basis for verification of ash: water ratio in slurry discharge into ash disposal area.
2. Inspection of AWRS

Procedure

1. For verification of total water used inside the ash slurry the annual datasheet prepared on a monthly basis was furnished by KTPS.

2. These datasheets were exclusively provided for 1 × 210 MW unit and for 3 × 660 MW unit, a mail document mentioning the slurry discharge was furnished.

Observations

1. The reported value of water consumption for ash slurry in the annual implementation report was found correct for 1 × 210 and 3 × 660 MW units. The annual water consumption reported on a monthly basis for slurry discharge at 1 × 210 MW unit can be found in ANNEXURE 13, whereas for 3 × 660 MW units the annual water consumption for slurry is displayed in ANNEXURE 14.
2. During the visit to AWRS pump house, the pumps were found operational with proper working of pressure gauges which can be observed form Figure 6.

Figure 6: Ash water recovery pump house

3. A proper log book was also maintained at the pump house station which mentions the water discharge at every 1 00 hour interval. The image for the log book can be

seen in ANNEXURE 15.

4. During the visit, no overflow of the recovered water was seen flowing into the environment.

7. Action Plan of MAHAGENCO TPS Koradi for Increasing Fly Ash Utilization

MAHARASHTRA STATE POWER GENERATION CO. LTD.
(Govt. of Maharashtra undertaking)
KORADI THERMAL POWER STATION, KORADI
O/o Chief Engineer (O&M), K.T.P.S.,Koradi, Dist. Nagpur, PIN – 441111
(ISO 9001:2015, ISO 14001:2015, ISO 45001: 2018 & ISO 50001:2018)
Email - cegenkoradi@mahagenco.in CIN: U40100MH2005SGC153648

"Annexure"

Action Plan to achieve maximum fly ash utilization

Short Term Action plan for ash utilization:

- M/s. Eklavya Enterprises is deputed at Khasara ash bund & M/s Sai Engineering works is deputed for Koradi ash bund for regular pond ash lifting. This ash is used for bricks manufacturing and road embankment
- LOA is issued to M/s Ambuja Cement with ref. no. CE/E&S/Rail Transport/LOA Koradi/82 Dtd. 16.02.2024 for target of the Dry fly ash lifting quantity 10 Lac MT/year on Rs.100 per MT handling charges. **Bank guarantee submitted by M/s. Ambuja Cement.**

  As per LOA, vendor has to lift and transport pond ash of quantity equal to 10 % of allotted /committed annual dry fly ash quantity i.e. 1 Lac MT/year compulsorily other than allotted /committed dry fly ash quantity without financial assistance.
- M/s. Ultrafine Mineral (RDC Concrete Unit), visited at site and DPR submitted & same is in process.

  Approval is given to collect ash from ESP#10 last field of Koradi TPS into steel silo which is to be installed by the M/s Ultrafine Mineral.

  Implementation of the said proposal to increase the day to day ash utilization from 1000 to around 20,000 MT per month.
- Koradi TPS has identified stone quarries - Pachgaon, Umri (Jungli-Khurd) area. NOC received from Pachgaon. **As per process followed by NTPS two proposal for work of Excavation, collection, Loading & Transportation of Pond Ash @ 2 Lakh MT from Khasara Ash Bund and unloading at Pachgaon, Salai Menda and Navegaon crusher Mines sent to HO for approval awaited.**
- Promotion for ash utilization is being regularly carried out by advertisement in various newspapers and encouraging prospective vendors.

Long Term Action plan for ash utilization:

To achieve 100 % Legacy ash utilization, as per MOEF&CC notification, following long term measures are being taken-

- Railway Platform no.1 is ready for transportation of dry fly ash beside Railway siding line of Railway chord cabin for loading of dry fly ash in Railway wagon at 3x660MW. The size of platform is 20x180 mtrs.

MAHARASHTRA STATE POWER GENERATION CO. LTD.
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KORADI THERMAL POWER STATION, KORADI
O/o Chief Engineer (O&M), K.T.P.S.,Koradi, Dist. Nagpur, PIN – 441111
(ISO 9001:2015, ISO 14001:2015, ISO 45001: 2018 & ISO 50001:2018)
Email – cegenkoradi@mahagenco.in CIN: U40100MH2005SGC153648

- Railway Platform no.2 is ready for loading & transportation of pond ash beside Railway Shunting neck track in between Koradi/Khasara Ash Bund. The size of platform is 20x650 mtrs.
- FSR, DPR & project management consultancy and construction of proposed BG railway siding & allied work for utilization of Dry Fly ash at 3x660MW, Koradi TPS. FSR is approved by Railway & DPR preparation is under process by M/s. RITES. Railway approval is awaited. After getting approval the said Railway track work will be start through remote silo site and it will be very helpful to maximize the dry fly ash utilization.
- MSRDC is demanded the pond ash for construction of Super Communication Expressway i.e. i) Nagpur to Gondia ii) Swarkheda to Gadegaon & iii) Seldoh to Rajura. The total requirement of pond ash is @ 3-4 Crores MT. Their requirement for lifting & transportation cost pass through to their destination. **Meeting with MSRDC was conducted on dtd 29.03.2024 regarding above said work and their EPC contract project taken time upto 6-8 months.**

Disclaimer: The compliance ash audit report is prepared based on the documents/ reports/ drawings/ certificates/ correspondences etc. furnished by KTPS.

Dr. Swapnil P. Wanjari
Assistant Professor, CED VNIT Nagpur

Dr. Mangesh V. Madurwar
Associate Professor, CED VNIT Nagpur

Head, CED

6.12.24
Dean R&C

National Accreditation Board for Testing and Calibration Laboratories

NABL

CERTIFICATE OF ACCREDITATION

MAHABAL ENVIRO ENGINEERS PVT. LTD.

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2017

"General Requirements for the Competence of Testing & Calibration Laboratories"

for its facilities at

PLOT NOS. 13,14,17,18, GRAMPANCHAYAT BOKHARA, CHHINDAWARA ROAD, KORADI, NAGPUR, MAHARASHTRA, INDIA

in the field of

TESTING

Certificate Number: TC-7487

Issue Date: 29/06/2023 Valid Until: 28/06/2025

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.

(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Name of Legal Identity : MAHABAL ENVIRO ENGINEERS PRIVATE LIMITED

Signed for and on behalf of NABL

N. Venkateswaran
Chief Executive Officer

National Accreditation Board for Testing and Calibration Laboratories

NABL

SCOPE OF ACCREDITATION

Laboratory Name :	MAHABAL ENVIRO ENGINEERS PVT. LTD., PLOT NOS. 13,14,17,18, GRAMPANCHAYAT BOKHARA, CHHINDAWARA ROAD, KORADI, NAGPUR, MAHARASHTRA, INDIA		
Accreditation Standard	ISO/IEC 17025:2017		
Certificate Number	TC-7487	**Page No**	38 of 68
Validity	29/06/2023 to 28/06/2025	**Last Amended on**	25/07/2023

S.No	Discipline / Group	Materials or Products tested	Component, parameter or characteristic tested / Specific Test Performed / Tests or type of tests performed	Test Method Specificatio against which tests are performed and / or the techniques / equipment used
559	CHEMICAL- RESIDUES IN WATER	Drinking Water/Ground Water /Surface Water /Industrial Water /Irrigation Water / Construction Water / Water for Swimming pool	Zinc	IS 3025 (Part 2)
560	CHEMICAL- SOLID FUELS	Coal	Ash	ASTM D-3174
561	CHEMICAL- SOLID FUELS	Coal	Ash	IS 1350 (Part I)
562	CHEMICAL- SOLID FUELS	Coal	Ash Fusibility (Deformation Temperature)	ASTM D1857/D1857M
563	CHEMICAL- SOLID FUELS	Coal	Ash Fusibility (Fluid Temperature)	ASTM D1857/D1857M
564	CHEMICAL- SOLID FUELS	Coal	Ash Fusibility (Hemispherical Temperature)	ASTM D1857/D1857M
565	CHEMICAL- SOLID FUELS	Coal	Ash Fusibility (Softening Temperature)	ASTM D1857/D1857M
566	CHEMICAL- SOLID FUELS	Coal	Carbon	ASTM D 5373
567	CHEMICAL- SOLID FUELS	Coal	Fineness (1.18 mm)	ASTM D 197
568	CHEMICAL- SOLID FUELS	Coal	Fineness (2.36 mm)	ASTM D197
569	CHEMICAL- SOLID FUELS	Coal	Fineness (600 micron)	ASTM D 197
570	CHEMICAL- SOLID FUELS	Coal	Fineness (75 Micron)	ASTM D 197
571	CHEMICAL- SOLID FUELS	Coal	Fixed Carbon	ASTM D 3172
572	CHEMICAL- SOLID FUELS	Coal	Fixed Carbon	IS 1350 (Part I)
573	CHEMICAL- SOLID FUELS	Coal	Gross Calorific Value	ASTM D5865/D5865M
574	CHEMICAL- SOLID FUELS	Coal	Gross Calorific Value	IS 1350 (Part II)
575	CHEMICAL- SOLID FUELS	Coal	Hardgrove Grindibility Index (HGI)	ASTM D409/D409M
576	CHEMICAL- SOLID FUELS	Coal	Hydrogen	ASTM D 5373
577	CHEMICAL- SOLID FUELS	Coal	Mercury	IS 16721 (Part 1)
578	CHEMICAL- SOLID FUELS	Coal	Moisture (Inherent)	IS 1350 (Part I)
579	CHEMICAL- SOLID FUELS	Coal	Moisture (Inherent/Residual)	ASTM D3173/D3173-17a
580	CHEMICAL- SOLID FUELS	Coal	Moisture Equilibrated at 40oC and 60% RH	IS 1350 (Part 1)
581	CHEMICAL- SOLID FUELS	Coal	Nitrogen	ASTM D 5373
582	CHEMICAL- SOLID FUELS	Coal	Nitrogen	IS 1350 (Part IV) Sec 2
583	CHEMICAL- SOLID FUELS	Coal	Oxygen	ASTM D 3176

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SCOPE OF ACCREDITATION

Laboratory Name :	MAHABAL ENVIRO ENGINEERS PVT. LTD., PLOT NOS. 13,14,17,18, GRAMPANCHAYAT BOKHARA, CHHINDAWARA ROAD, KORADI, NAGPUR, MAHARASHTRA, INDIA		
Accreditation Standard	ISO/IEC 17025:2017		
Certificate Number	TC-7487	**Page No**	39 of 68
Validity	29/06/2023 to 28/06/2025	**Last Amended on**	25/07/2023

S.No	Discipline / Group	Materials or Products tested	Component, parameter or characteristic tested / Specific Test Performed / Tests or type of tests performed	Test Method Specification against which tests are performed and / or the techniques / equipment used
584	CHEMICAL- SOLID FUELS	Coal	Proximate Analysis by Thermo-gravimetric analyzer (TGA) Ash %	ASTM D7582
585	CHEMICAL- SOLID FUELS	Coal	Proximate Analysis by Thermo-gravimetric analyzer (TGA) Fixed Carbon	ASTM D7582
586	CHEMICAL- SOLID FUELS	Coal	Proximate Analysis by Thermo-gravimetric analyzer (TGA) Moisture	ASTM D7582
587	CHEMICAL- SOLID FUELS	Coal	Proximate Analysis by Thermo-gravimetric analyzer (TGA) Volatile Matter	ASTM D7582
588	CHEMICAL- SOLID FUELS	Coal	Total Moisture	ASTM D3302/D3302M
589	CHEMICAL- SOLID FUELS	Coal	Total Moisture	IS 1350 (Part 1)
590	CHEMICAL- SOLID FUELS	Coal	Total Sulphur	ASTM D 4239
591	CHEMICAL- SOLID FUELS	Coal	Total Sulphur	IS 1350 (Part III)
592	CHEMICAL- SOLID FUELS	Coal	Volatile matter	ASTM D3175
593	CHEMICAL- SOLID FUELS	Coal	Volatile Matter	IS 1350 (Part I)
594	CHEMICAL- SOLID FUELS	Coke	Ash	ASTM D3174
595	CHEMICAL- SOLID FUELS	Coke	Ash	IS 1350 (Part I)
596	CHEMICAL- SOLID FUELS	Coke	Ash Fusibility Deformation Temperature	ASTM D1857/D1857M
597	CHEMICAL- SOLID FUELS	Coke	Ash Fusibility Fluid Temperature	ASTM D1857/D1857M
598	CHEMICAL- SOLID FUELS	Coke	Ash Fusibility Hemispherical Temperature	ASTM D1857/D1857M
599	CHEMICAL- SOLID FUELS	Coke	Ash Fusibility Softening Temperature	ASTM D1857/D1857M
600	CHEMICAL- SOLID FUELS	Coke	Carbon	ASTM D 5373
601	CHEMICAL- SOLID FUELS	Coke	Fineness (1.18 mm)	ASTM D197
602	CHEMICAL- SOLID FUELS	Coke	Fineness (2.36 mm)	ASTM D197
603	CHEMICAL- SOLID FUELS	Coke	Fineness (600 micron)	ASTM D197
604	CHEMICAL- SOLID FUELS	Coke	Fineness (75 micron)	ASTM D197
605	CHEMICAL- SOLID FUELS	Coke	Fixed Carbon	ASTM D 3172
606	CHEMICAL- SOLID FUELS	Coke	Fixed Carbon	IS 1350 (Part I)

MAHA

MAHARASHTRA STATE POWER GENERATION CO. LTD.

CIN: U40100MH2005SGC153648

Ph 022-26584225
FAX 91-022-26477273
Email: ceghseu@mahagenco.in

Ref No CE/CEHSU/Ash Uti / 549 Date - 25 JUN 2014
No-6738.

To.

Chief Engineer (O & M)
MAHAGENCO.
Bhusawal/Chandrapur/Khaperkheda/ Koradi/Nasik/
Paras/Parli TPS

Sub: -Regarding Calculation Method for Generation of Fly Ash at TPS

Ref: - CE/CEHSU/Ash Uti./493. Dt.9/6/2014

With ref. to above, the method for calculation of fly ash at all TPS of Mahagaenco has been approved by Competent Authority. Approved copy of the same is enclosed herewith for immediate implementation.

This is for your information and further necessary action please.

Encl. As above

Chief Engineer (CEHSU)

Copy s.w.to.

02 JUL 2014

1) Managing Director
2) Director (O)
3) Executive Director (O&M)

IPR No:– 2100004905

Ref.No. CE/CEHSU/Ash Uti/493 Date 9 Dec 2014

APPROVAL NOTE:-

Sub: -Regarding Calculation Method for Generation of Fly Ash at TPS

At Corporate office various review meetings were held for improvement of ash utilisation at Mahagenco's TPS. The problems faced at TPS level in respect of Ash utilisation were discussed.

Officers handling the ash utilisation at respective TPS communicated that in absence of any weighing arrangement for ash disposal, it is utmost necessary to review the ash generation and utilisation calculations followed so far. The calculation sheets of CSTPS, KPKD reported with this method are enclosed herewith.

Presently Fly ash is calculated as 80% of total ash generation.

The following factors affect the fly ash generation data i.e. the actual fly ash generated is less than calculated. Therefore, it is necessary to give due consideration to the following factors.

- Coal Mill Reject quantity not considered 1%
- Coal Factor reconciliation effect 0.2%
- Ash collected in Economiser + Air Heater+ Chimney 10 %

Consideration of coal mill reject:

When 100 units of coal is sent to coal mill 1% is going out as coal mill reject and coal factor reconciliation effect is of the order of 0.2%. Therefore, the net coal available for generation is 98.8 units.

Further, when the ash is formed from 98.8 units of burnt coal which is 34%. Out of this ash the 20% bottom ash is collected and sent to ash bund in the form of ash slurry.

Consideration of ash lost in economiser, air heater and chimney:

Out of the total ash generated 10% of ash is collected in economiser, air heater manually or through the system and sent to ash bund. Therefore this 10 % of ash is not available for collection in ESP.

In short it can be said that 70% of ash is available for collection in ESP (with 99% efficiency) as dry fly ash for disposal and 30% of ash goes in the form of ash slurry to ash bund.

The following points provide the new set of calculations which will provide the accurate ash data.

a) Coal actually available for generation & Ash content in coal:

As per MoEF guidelines the ash content in the coal used for generation of electricity should not exceed 34%. On this basis generation of ash needs to be calculated.

Coal used for generation	=	100- (1+0.2)
	=	98.8 units
Total Ash generated	=	98.8 * 0.34
	=	33.592 %

b) Ash generated:

Total Ash generated	=	33.592 %
c) Bottom ash generated (20% of total ash)	=	33.592 * 0.2
	=	6.71 %
d) Ash losses(10% of total ash)	=	33.592*0.1
	=	3.36 %
e) Fly Ash generated (70 % of total ash)	=	33.592*0.7
	=	23.51 %
f) Fly Ash available for sale through open tender for 80% quota		
	=	23.51 * 0.8
	=	18.80% of coal Consumed
	=	56% of total ash
g) Fly Ash available for 20% quota as per MoEF notification		
	=	23.51 * 0.2
	=	4.70 % of coal Consumed
	=	14 % of total ash

Proposal:

It is proposed to consider the available ash for utilisation as below

a) Fly Ash available for sale under 80% quota
=18.80 % of coal consumed
= 56 % of total ash generated

b) Fly Ash available for distribution under 20% quota
- 4.70% of coal consumed
= 14% of total ash produced.

Hence, following is to be considered while finalising the total ash utilisation from respective power station.

1) Total coal quantity	= 100% - -----MT
2) Coal consumed	= 98.8% - ---MT
3) Total Ash generation	= 33.592 %
4) Total bottom ash to ash bund	= 30% (20+10) = 10.07%
5) Total Fly Ash	= 23.51%
6) 80% fly ash for sale	=18.8%
7) 20% dry fly ash for distribution	=4.7 %

In view of this it is proposed to adopt above method for calculation of fly ash at all TPS of Mahagaenco.

It is requested to approve the calculations proposed as above for approval same will be circulated to all thermal power stations for implementation.

Submitted for approval please.

9/6/14
Chief Engineer (CEHS)

Executive Director (O&M)

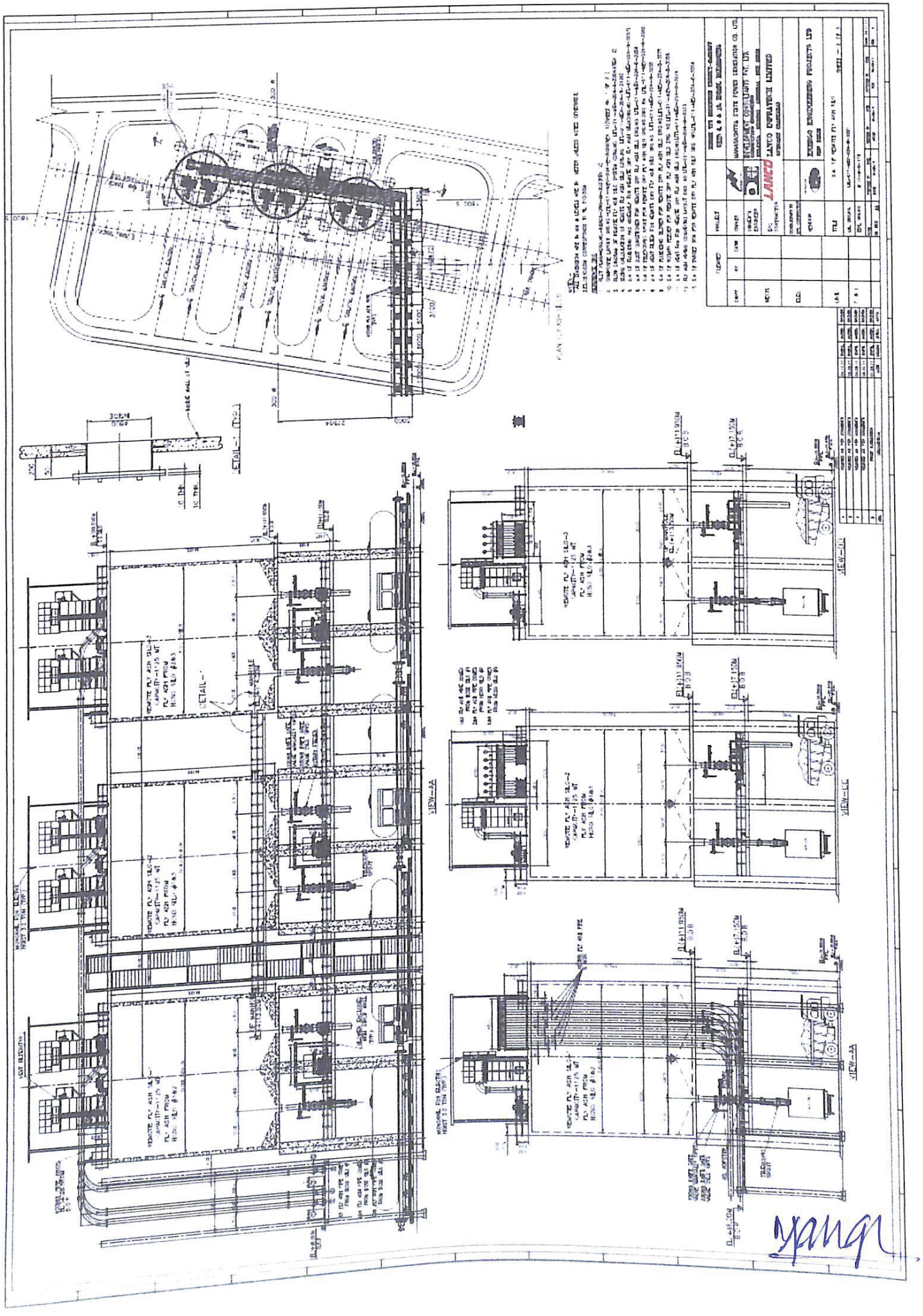
Director (O)

Managing Director

[Type text]

MVM – 03/ CEC – 1132

ANNEXURE 4 (Page 1 of 1)



DRY FLY ASH LIFTING STATEMENT(M/S TRP)

										(Kg)
44	03.03.2024	TRP	DNR	MH-34-BG-9507	SUJIT	23:40	1:00	IS-1	B16/771	35000
45	03.03.2024	TRP	DNR	MH-34-BG-7751	BHAGWAT	0:20	1:20	IS-1	B16/772	35000
46	03.03.2024	TRP	DNR	MH-34-BG-7733	PRASHANT	1:10	1:50	IS-1	B16/773	40000
47	03.03.2024	TRP	DNR	MH-BH-BG-7262	ANIL	1:10	2:20	IS-1	B16/775	40000
48	03.03.2024	TRP	DNR	MH-34-BG-7768	YUSUF	1:15	2:30	R-1	B16/776	40000
49	03.03.2024	TRP	DNR	MH-34-BG-4777	DAYAT	0:20	2:50	R-1	B16/777	35000
50	03.03.2024	TRP	TRP	MH-44-9898	RAVI	5:05	6:30	R-1	B16/783	35000
51	03.03.2024	TRP	TRP	MH-22-AA-0148	SATISH	4:45	6:40	R-1	B16/784	33000
52	03.03.2024	TRP	DNR	MH-34-BG-8767	SHATRUGHAN	6:10	6:55	R-1	B16/785	40000
53	03.03.2024	TRP	TRP	MH-36-F-0184	MAYUR	5:30	7:00	DC-R1	B16/786	20000
54	03.03.2024	TRP	TRP	MH-36-F-0184	RAM	11:00	11:55	DC-R1	B16/795	20000
55	03.03.2024	TRP	TRP	MH-44-9898	RAVI	11:15	12:00	R-1	B16/796	40000
56	03.03.2024	TRP	TRP	MH-22-AA-0148	SATISH	12:00	12:20	R-1	B16/797	32000
57	03.03.2024	TRP	DNR	MH-34-BG-5757	RAJENDRA	12:55	13:30	R-1	B16/798	45000
58	03.03.2024	TRP	DNR	MH-34-BG-5777	NIRAJ	13:00	13:40	R-1	B16/799	45000
59	03.03.2024	TRP	DNR	MH-34-BG-7185	SUJIT	12:50	13:55	R-1	B16/800	45000
60	03.03.2024	TRP	TRP	MH-36-F-0184	RAM	13:50	14:30	DC-R1	B17/802	20000
61	03.03.2024	TRP	DNR	MH-34-BG-7787	DINESH	14:50	15:15	R-1	B17/803	40000
62	03.03.2024	TRP	DNR	MH-34-BG-7766	ANIL	15:00	15:55	R-1	B17/805	45000
63	03.03.2024	TRP	DNR	MH-34-BG-8577	PREMCHAND	16:45	18:00	R-1	B17/808	43600
64	03.03.2024	TRP	TRP	MH-22-AA-0148	SATISH	21:50	22:30	R-1	B17/814	28200
65	03.03.2024	TRP	DNR	MH-34-BG-5737	VIKAS	22:30	23:00	R-1	B17/816	44000
66	03.03.2024	TRP	DNR	MH-34-BH-5077	RAMPUKAR	22:57	23:20	R-1	B17/817	40000
67	03.03.2024	TRP	DNR	MH-34-BH-5477	BINAY	22:55	23:40	R-1	B17/818	40000

24/10/24

Executive Engineer
Ash Utilisation
KTPS, Koradi

ANNEXURE 5 (Page 2 of 4)

DRY FLY ASH LIFTING STATEMENT(M/S TRP)										
501	17.03.2024	TRP	DNR	MH-34-BH-4677	SACHIN	23:00	0:20	R-1	B33/1628	40000
502	17.03.2024	TRP	DNR	MH-34-BG-8877	AJIT	22:00	0:30	R-1	B33/1629	40000
503	17.03.2024	TRP	DNR	MH-34-BG-7775	ISHAK	22:05	0:50	R-1	B33/1630	40000
504	17.03.2024	TRP	DNR	MH-34-BG-7250	SANTOSH	22:49	1:00	R-1	B33/1631	40000
505	17.03.2024	TRP	DNR	MH-34-BG-7090	KASHI	22:15	1:05	R-1	B33/1632	40000
506	17.03.2024	TRP	TRP	MH-34 BG-7177	SUNIL	23:55	2:15	R-1	B33/1636	40000
507	17.03.2024	TRP	TRP	MH-49-AT-3256	MANOJ	0:13	2:20	DC-R1	B33/1637	19000
508	17.03.2024	TRP	DNR	MH-36-F-0184	MAYUR	0:15	2:25	DC-R1	B33/1638	20000
509	17.03.2024	TRP	DNR	MH-34-BG-7072	AMOL	23:52	2:40	R-1	B33/1639	40000
510	17.03.2024	TRP	DNR	MH-34-BG-95727	SURAJ	0:25	3:00	R-1	B33/1640	40000
511	17.03.2024	TRP	DNR	MH-34-BG-7751	SURAJ	0:25	3:15	R-1	B33/1642	40000
512	17.03.2024	TRP	DNR	MH-31-BG-7187	DINESH	1:10	4:00	R-1	B33/1643	40000
513	17.03.2024	TRP	DNR	MH-34-BG-5477	DHANANJAY	1:00	4:15	R-1	B33/1644	40000
515	17.03.2024	TRP	DNR	MH-34-BG-7261	HANUMAN	2:30	4:55	R-1	B33/1647	40000
516	17.03.2024	TRP	DNR	MH-34-BG-7184	SHRIKANT	2:35	5:00	R-1	B33/1648	40000
517	17.03.2024	TRP	DNR	MH-34-BH-4877	PRADIP	2:33	5:05	R-1	B33/1649	40000
518	17.03.2024	TRP	DNR	MH-34-BG-5727	SUDHIR	1:10	5:15	R-1	B33/1650	40000
519	17.03.2024	TRP	DNR	MH-34-BG-8077	RAMNAGINA	1:45	5:50	R-1	B34/1651	40000
520	17.03.2024	TRP	DNR	MH-34-BH-5477	BINAY	1:30	6:00	R-1	B34/1652	40000
521	17.03.2024	TRP	TRP	MH-49-AT-3256	MANOJ	5:00	6:30	DC-R1	B34/1654	19000
522	17.03.2024	TRP	TRP	MH-36-F-0184	MAYUR	5:00	6:35	DC-R1	B34/1655	19000
523	17.03.2024	TRP	DNR	MH-34-BG-4777	IDAYAT	1:38	7:00	R-1	B34/1656	40000
524	17.03.2024	TRP	TRP	MH-22-AA-0148	SATISH	1:45	7:10	IS-1	B34/1658	30000
525	17.03.2024	TRP	DNR	MH-34-BG-5707	SUNIL	2:00	7:35	R-1	B34/1660	40000
526	17.03.2024	TRP	TRP	MH-44-9898	RAVI	7:02	7:55	IS-1	B34/1664	35000
527	17.03.2024	TRP	DNR	MH-34-BG-9507	SUJIT	6:10	9:30	IS-1	B34/1665	40000
528	17.03.2024	TRP	DNR	MH-34-BG-3577	CHIKET	7:00	9:40	R-1	B34/1668	42000
529	17.03.2024	TRP	DNR	MH-34-BG-7787	DINESH	6:20	9:55	IS-1	B34/1671	40000
530	17.03.2024	TRP	DNR	MH-34-BG-7757	DILIP	3:20	10:25	R-1	B34/1672	40000
531	17.03.2024	TRP	DNR	MH-34-BG-7766	ANIL	7:15	10:35	R-1	B34/1674	40000
532	17.03.2024	TRP	DNR	MH-34-BG-1477	UDAYABHAN	9:00	10:35	IS-1	B34/1675	45000
533	17.03.2024	TRP	TRP	MH-36-F-0184	RAM	10:40	11:05	DC-R1	B34/1676	20000
534	17.03.2024	TRP	DNR	MH-34-BG-5757	RAJENDRA	12:40	13:40	R-1	B34/1677	45000
535	17.03.2024	TRP	DNR	MH-34-BG-4747	SURESH	13:00	13:50	R-1	B34/1678	45000
536	17.03.2024	TRP	DNR	MH-34-BG-8767	SHATRUGHAN	13:35	14:20	IS-1	B34/1679	45000
537	17.03.2024	TRP	TRP	MH-22-AA-0148	SATISH	13:20	14:50	IS-1	B34/1680	30000
538	17.03.2024	TRP	DNR	MH-34-BG-3377	NARESH	14:30	15:00	R-1	B34/1681	45000
539	17.03.2024	TRP	DNR	MH-34-BG-8577	PREMCHAND	14:15	15:00	IS-1	B34/1682	45000
540	17.03.2024	TRP	DNR	MH-34-AB-4077	IRFAN	14:20	15:40	IS-1	B34/1683	45000
541	17.03.2024	TRP	DNR	MH-34-AB-1577	RANGLAL	14:25	15:45	IS-1	B34/1684	45000
542	17.03.2024	TRP	DNR	MH-34-BG-7768	YUSUF	16:10	17:10	R-1	B34/1685	40600
543	17.03.2024	TRP	DNR	MH-34-BG-7262	ANIL	16:15	17:20	R-1	B34/1686	44500
544	17.03.2024	TRP	DNR	MH-34-BG-7733	PRASHANT	16:35	17:45	R-1	B34/1688	40600
545	17.03.2024	TRP	DNR	MH-34-AB-4677	BALWANT	16:55	18:10	R-1	B34/1690	40700
546	17.03.2024	TRP	TRP	MH-49-AT-3256	MAROTI	19:55	21:28	DC-R1	B34/1693	18000
547	17.03.2024	TRP	TRP	MH-22-AA-0148	SATISH	20:50	22:00	R-1	B34/1695	29500
548	17.03.2024	TRP	DNR	MH-34-BG-9575	SUFIYAN	22:20	22:50	R-1	B34/1696	40700
549	17.03.2024	TRP	DNR	MH-34-BG-7734	SONU	22:25	23:00	R-1	B34/1697	40400

Executive Engineer
Ash Utilisation
[illegible]

MVM – 03/ CEC – 1132

ANNEXURE 5 (Page 3 of 4)

DRY FLY ASH LIFTING STATEMENT(M/S TRP)										
831	25.03.2024	TRP	DNR	MH-34-BG-7775	ISHAK	21:30	0:02	R-1	B44/2163	40000
832	25.03.2024	TRP	DNR	MH-34-BG-9597	SUFIYAN	21:03	0:05	R-1	B44/2164	30000
833	25.03.2024	TRP	DNR	MH-34-BH-5477	BINAY	23:03	0:10	R-1	B44/2165	40000
834	25.03.2024	TRP	DNR	MH-34-BG-5477	DHANANJAY	22:17	0:15	R-1	B44/2166	40000

Executive Engineer
Ash Utilisation
KTPS, Koradi

ANNEXURE 5 (Page 4 of 4)

DRY FLY ASH LIFTING STATEMENT(M/S TRP)

1032	31.03.2024	TRP	DNR	MH-34-BG-7185	SUJIT	23:00	0:55	R-1	B49/2449	44700
1033	31.03.2024	TRP	DNR	MH-34-BH-4677	SACHIN	0:15	0:59	R-1	B49/2450	45000
1034	31.03.2024	TRP	DNR	MH-34-BH-5477	VINAY	0:20	1:35	R-1	B50/2451	45500
1035	31.03.2024	TRP	DNR	MH-34-BG-9727	HARISHCHANDRA	0:30	1:45	R-1	B50/2453	45600
1036	31.03.2024	TRP	DNR	MH-34-BG-3577	TAKIT	0:35	1:50	R-1	B50/2454	45600
1037	31.03.2024	TRP	DNR	MH-34-AB-4077	IRFAN	1:10	2:30	R-1	B50/2456	45000
1038	31.03.2024	TRP	DNR	MH-34-BH-4877	PRADIP	1:15	2:35	R-1	B50/2457	45100
1039	31.03.2024	TRP	TRP	MH-22-AA-0148	SATISH	1:35	3:20	R-1	B50/2460	29200
1040	31.03.2024	TRP	DNR	MH-34-BG-7072	AMOL	1:40	3:30	R-1	B50/2461	43500
1041	31.03.2024	TRP	DNR	MH-34-BG-5707	SUNIL	1:45	3:40	R-1	B50/2462	45500
1042	31.03.2024	TRP	DNR	MH-34-BG-7250	SANTOSH	2:35	4:35	R-1	B50/2465	45400
1043	31.03.2024	TRP	DNR	MH-34-BG-7733	PRASHANT	3:15	4:45	R-1	B50/2466	44600
1044	31.03.2024	TRP	DNR	MH-34-BG-7768	YUSUF	3:59	4:55	R-1	B50/2467	40300
1045	31.03.2024	TRP	DNR	MH-34-BG-6577	RAJESH	4:00	4:59	R-1	B50/2468	45100
1046	31.03.2024	TRP	DNR	MH-34-BG-0877	PREMSHANKAR	4:10	5:15	R-1	B50/2469	45000
1047	31.03.2024	TRP	DNR	MH-34-BG-7734	SONU	4:15	5:20	R-1	B50/2470	40500
1048	31.03.2024	TRP	DNR	MH-34-BG-7766	ANIL	6:15	6:40	R-1	B50/2474	40700
1049	31.03.2024	TRP	DNR	MH-34-BG-7757	DILIP	6:20	6:45	R-1	B50/2475	40900
1050	31.03.2024	TRP	DNR	MH-34-BG-8077	RAMPAL	6:25	7:00	R-1	B50/2476	43200
1051	31.03.2024	TRP	DNR	MH-34-BG-9527	UDAYKUMAR	7:00	7:35	R-1	B50/2477	40000
1052	31.03.2024	TRP	DNR	MH-34-BG-6877	SONU	7:30	9:30	R-1	B50/2478	45000
1053	31.03.2024	TRP	TRP	MH-44-9898	RAVI	9:30	9:55	R-1	B50/2479	40000
1054	31.03.2024	TRP	DNR	MH-34-BG-7262	ANIL	12:35	13:25	R-1	B50/2483	45000
1055	31.03.2024	TRP	DNR	MH-34-BG-7261	HANUMAN	12:35	13:30	R-1	B50/2484	45000
1056	31.03.2024	TRP	DNR	MH-34-BG-4777	IDAYAT	12:50	13:40	R-1	B50/2485	45000
1057	31.03.2024	TRP	DNR	MH-34-BG-7787	DINESH	12:55	13:45	R-1	B50/2486	40000
1058	31.03.2024	TRP	DNR	MH-34-BG-8767	SHATRUGHAN	12:45	13:50	R-1	B50/2487	45000
1059	31.03.2024	TRP	DNR	MH-34-BG-7790	RAMRATAN	12:20	14:15	R-1	B50/2489	40000
1060	31.03.2024	TRP	DNR	MH-34-BG-7739	MUKESH	13:40	14:20	R-1	B50/2490	40000
1061	31.03.2024	TRP	DNR	MH-34-BG-6777	RAAJU	13:40	14:25	R-1	B50/2491	45000
1062	31.03.2024	TRP	DNR	MH-34-BG-5757	RAJENDRA	12:40	14:25	R-1	B50/2492	45000
1063	31.03.2024	TRP	DNR	MH-34-BG-7177	SUNIL	13:40	14:40	R-1	B50/2494	45000
1064	31.03.2024	TRP	TRP	MH-22-AA-0148	SATISH	13:50	15:10	R-1	B50/2495	30000
1065	31.03.2024	TRP	DNR	MH-34-BG-4747	SURESH	15:54	17:00	R-1	B50/2496	40000
1066	31.03.2024	TRP	DNR	MH-34-BG-7187	DINESH	16:00	17:10	R-1	B50/2497	40000
1067	31.03.2024	TRP	DNR	MH-34-BG-8477	ASHWAJIT	16:16	17:50	R-1	B50/2499	40000
1068	31.03.2024	TRP	DNR	MH-34-BH-5077	RAMPUKAR	16:30	18:00	R-1	B50/2500	40000
1069	31.03.2024	TRP	DNR	MH-34-BG-9507	SUJIT	16:33	18:15	R-1	B51/2501	40000
1070	31.03.2024	TRP	DNR	MH-34-BG-5877	ISTEKHAR	15:56	18:30	R-1	B51/2503	40000
1071	31.03.2024	TRP	DNR	MH-34-BH-4677	SACHIN	22:20	22:40	R-1	B51/2505	40000
1072	31.03.2024	TRP	DNR	MH-34-BG-4757	SURENDRA	22:05	22:50	R-1	B51/2506	40000
1073	31.03.2024	TRP	DNR	MH-34-BG-7184	RUPSINGH	20:57	22:55	R-1	B51/2507	40000
1074	31.03.2024	TRP	DNR	MH-34-BG-7090	KASHI	22:14	23:00	R-1	B51/2508	40000
1075	31.03.2024	TRP	DNR	MH-34-BG-7751	BHAGWAT	22:54	23:30	R-1	B51/2510	40000

Executive Engineer
Ash Utilisation
KTPS, Koradi

ANNEXURE 6 (Page 1 of 1)

MAHARASHTRA STATE POWER GENERATION CO. LTD
THERMAL POWER STATION, KORADI
GATE PASS FOR FLY ASH DISPOSAL
(SECTION COPY)
GATE PASS

Book No. A 33 G.P. No. 1635

1) Name of Ash Lifting Agency: M/s. S.S. Transport
2) Name of Transporter: S.S. Transport
3) Vehicle / Bulker No.: MH-34-BG-8734
4) Supervisor's / Driver Name: Dudh nath
5) M. R. No.: Date:
6) Silo in time: 23:50 Date: 16/3/24 Silo No.: R-1
7) Weight Bridge Slip No.:
8) Tare Weight: 15000
9) Gross Weight: 45000 Net Weight: 30000
10) Silo out Time 02:05 Date: 17/03/2024
11) Premises In Time: Date:
12) Premises Out Time: Date:

Signature with Stamp | Agency | Issuing Authority

Signature & STAMP of Issuer Section

MAHARASHTRA STATE POWER GENERATION CO. LTD
THERMAL POWER STATION, KORADI
GATE PASS FOR FLY ASH DISPOSAL
(SECTION COPY)
GATE PASS

Book No. A 33 G.P. No. 1634

1) Name of Ash Lifting Agency: M/s. S.S Transport
2) Name of Transporter: S.S-Transport
3) Vehicle / Bulker No.: MH-40-BG-8731
4) Supervisor's / Driver Name: Ram Kishan
5) M. R. No.: Date:
6) Silo in time: 23:45 Date: 16/3/24 Silo No.: R-1
7) Weight Bridge Slip No.:
8) Tare Weight: 15000
9) Gross Weight: 45000 Net Weight: 30000
10) Silo out Time 01:50 Date: 17/03/2024
11) Premises In Time: Date:
12) Premises Out Time: Date:

Signature with Stamp | Agency | Issuing Authority

Signature & STAMP of Issuer Section

MAHARASHTRA STATE POWER GENERATION CO. LTD
THERMAL POWER STATION, KORADI
GATE PASS FOR FLY ASH DISPOSAL
(SECTION COPY)
GATE PASS

Book No. A 33 G.P. No. 1633

1) Name of Ash Lifting Agency: M/s. S.S. Transport
2) Name of Transporter: S.S. Transport
3) Vehicle / Bulker No.: MH-34-BG-7466
4) Supervisor's / Driver Name: Pawan
5) M. R. No.: Date:
6) Silo in time: 23:40 Date: 16/3/24 Silo No.: R-1
7) Weight Bridge Slip No.:
8) Tare Weight: 15000
9) Gross Weight: 45000 Net Weight: 30000
10) Silo out Time: 01:35 Date: 17/03/2024
11) Premises In Time: Date:
12) Premises Out Time: Date:

Signature with Stamp | Agency | Issuing Authority

Signature & STAMP of Issuer Section

MAHARASHTRA STATE POWER GENERATION CO. LTD
THERMAL POWER STATION, KORADI
GATE PASS FOR FLY ASH DISPOSAL
(SECTION COPY)
GATE PASS

Book No. A 11 G.P. No. 2163

1) Name of Ash Lifting Agency: M/S, TRP
2) Name of Transporter: DNR
3) Vehicle / Bulker No.: MH-34-BG-7775
4) Supervisor's / Driver Name: Ishak Khan
5) M. R. No.: Date:
6) Silo in time: 21:30 Date: 24/3/24 Silo No.: R-1
7) Weight Bridge Slip No.:
8) Tare Weight: 15000
9) Gross Weight: 55000 Net Weight: 40000
10) Silo out Time: 00:2 Date: 25/03/2024
11) Premises In Time: Date:
12) Premises Out Time: Date:

Signature with Stamp | Agency | Issuing Authority

Signature & STAMP of Issuer Section

Mangl

जी.आर.एन.क्र / GRN No. : MH[illegible]

Receipt No : 243257907
दिनांक/Date 30-04-2024
वैध मापनशास्त्र अधिकारी (मुद्रांक करणारे)
Legal Metrology Officer
Umesh Gour
ओळख क्र. / Identification No
MH-425

महाराष्ट्र शासन
अन्न, नागरी पुरवठा व ग्राहक संरक्षण विभाग

Government of Maharashtra
Food, Civil Supply and Consumer Protection Department Legal Metrology

LCR NO : CLM31551421
अ.क्र / Sr.No: 9120243257845
दिनांक/Date: 30/04/2024
ठिकाण/Place (Trader Premises)

पडताळणी प्रमाणपत्र / CERTIFICATE OF VERIFICATION

वैध मापनशास्त्र अधिनियम, 2009 व महाराष्ट्र वैध मापनशास्त्र (अंमलबजावणी)
नियम, 2011 अनुसूची-नऊ [नियम 14(3) पहा]
See Rule 14(3) Schedule IX
The Legal Metrology Act, 2009 & The Maharashtra Legal Metrology (Enforcement)

मी, याद्वारे असे प्रमाणित करतो की, आज रोजी श्री/मे Chief Engineer (Gen. O & M),MSPGCL, व्यवसाय - Thermal Power Station, ठिकाण - Koradi Thermal Power Station,Koradi. यांची खाली नमूद केलेली वजन वा माप यांची पडताळणी व मुद्रांकन केले

I hereby certify that I have this day verified and stamped the under mentioned weights,measures,etc., belonging to Shri/M/s Chief Engineer (Gen. O & M),MSPGCL, Trade - Thermal Power Station, Locality - Koradi Thermal Power Station,Koradi.

नग/ Quantity	वजन वा माप, प्रकार, क्षमता, वर्ग, बनावट(उत्पादक), मशीन क्रमांक, इत्यादीचा तपशील /Denomination, Capacity, Class, Make, Machine no., and type of Weight or Measure etc.	पडताळणी शुल्क रु/ Verification Fee Rs.	इतर खर्च (वाहतूक, प्रवास भत्ता, दैनिक भत्ता, समायोजन इत्यादी)/Cartage, Conveyance adjusting
1	NAWI-Electronics Scale: (1) Max.Capacity:60000kg, Make:CENTRAL INDIA SCALE, Model No:LWB/60, Class III, Minimum Capacity:200kg, EValue:10kg , D-Value:, Sr.No:01604212 / 1 (Rs-4000) Fees as per Rule 15 (3) of the Maharashtra Legal Metrology (Enf.) Rule, 2011 [1 Quarter Jumped Fee :]	4000 2000	500
	एकूण बेरीज/Grand Total ₹	6500.00	

₹ एकूण रक्कम शब्दात (अक्षरी)/(in words): Rupees Six Thousand Five Hundred only

दुरुस्तक /Repaired By Weigh Tech/440402
पुढील पडताळणीची तारीख Next Verification Due On / Before : 29-04-2025

टीप :- 1) [illegible]
2) [illegible]
3) [illegible] LCR [illegible]
4) [illegible]

Inspector of Legal Metrology, KAMTHI-1

Digitally signed By UMESH CHHOTELALJI GOUR, Date: 30/04/2024

GRN No. : MH011434580202324B

ReceiptNo : 233257538

Date 08-12-2023

वैध मापनशास्त्र अधिकारी / Legal Metrology Officer

[illegible] Gour

Identification No [illegible]26

महाराष्ट्र शासन
अन्न, नागरी पुरवठा व ग्राहक संरक्षण विभाग
वैध मापनशास्त्र यंत्रणा

Government of Maharashtra
Food, Civil Supply and Consumer Protection
Department Legal Metrology Organisation

LCR NO : CLM31551421
अ.क्र./ Sr.No: 9120233257476
दिनांक/Date: 08/12/2023
ठिकाण/Place : (Trader Premises)

पडताळणी प्रमाणपत्र / CERTIFICATE OF VERIFICATION

वैध मापनशास्त्र अधिनियम, 2009 व महाराष्ट्र वैध मापनशास्त्र (अंमलबजावणी) नियम, 2011

अनुसूची-नऊ [नियम 14(3) पहा]

See Rule 14(3) Schedule IX

The Legal Metology Act, 2009 & The Maharashtra Legal Metrology (Enforcement) Rules, 2011

[illegible] प्रमाणित करतो की, आज रोजी श्री/मे. Chief Engineer (Gen. O & M),MSPGCL, व्यवसाय - Thermal Power Station, ठिकाण - Koradi Thermal Power Station,Koradi. यांची खाली [illegible] केलेली वजने वा माप यांची पडताळणी व मुद्रांकन केले

[illegible] certify that I have this day verified and stamped the under mentioned weights,measures,etc., belonging to Shri/M/s Chief Engineer (Gen. O & M),MSPGCL, Trade - Thermal Power Station, Locality - Koradi Thermal Power Station,Koradi

नग/ Quantity	वजन वा माप, प्रकार, श्रेणी, क्षमता, वर्ग, बनावट(उत्पादक), मशीन क्रमांक, इत्यादींचा तपशील /Denomination, Capacity, Class, Make, Machine no., and type of Weight or Measure etc.	पडताळणी शुल्क रु/ Verification Fee Rs.	इतर आकार (हाताळणी, प्रवास भत्ता, दैनिक भत्ता, समायोजन इत्यादी)/Carriage, Conveyance adjusting charges etc. in Rs.
1	NAWI-Electronics Scale: (1) Max.Capacity:150000kg, Make:Avery India, Model No 528-ET (WAGON TIPPLER), Class III, Minimum Capacity:1000kg, EValue:50kg , D-Value:, Sr.No:15WB00135 / 1 (Rs-4000)	4000	500
	एकूण बेरीज/Grand Total ₹	4500.00	

Last VC No, Date: 9120223256482, 03/12/2022

Division Name: Inspector of Legal Metrology, KAMTHI-1

₹ एकूण रक्कम (अक्षरी)(In words): Rupees Four Thousand Five Hundred only

दुरुस्तक /Repaired By Weigh Tech/421023

पुढील पडताळणीची तारीख/ Next Verification Due On / Before : 07-12-2024

टीप :- 1) [illegible]
2) [illegible]
3) [illegible] LCR [illegible]
4) [illegible]

Inspector of Legal Metrology, KAMTHI-1

Digitally signed By UMESH CHHOTELALJI GOUR, Date: 08/12/2023

MVM – 03/ CEC – 1132

ANNEXURE 8 (Page 1 of 8)

MAHARASHTRA STATE POWER GENERATION CO. LTD.
(Govt. of Maharashtra undertaking)
KORADI THERMAL POWER STATION, KORADI
O/o Chief Engineer (O&M), K.T.P.S.,Koradi, Dist. Nagpur, PIN – 441111
(ISO 9001:2015, ISO 14001:2015, ISO 45001: 2018 & ISO 50001:2018)
Email – cegenkoradi@mahagenco.in CIN: U40100MH2005SGC153648

Ref. No. KTPS/210 & 660/AU/ No 0 1 2 0 7 Date: 0 8 APR 2024

To,

The Chief Engineer (E&S),
MSPGCL,
H.D.I.L. Bldg, 4th Floor, Prof.A.K.Marg,
Bandra (E), Mumbai – 400051

Sub: Monthly Progress Report of KTPS Ash Utilization for the Month of March -2024, regarding.

Ref: 1.H.O. Letter No. CGM/CEHSU/Ash Uti/040 dtd 19/04/2008.
2.H.O. E-mail Dtd. 03.07.2013 at 12:12 pm

With reference to above subject matter, please find enclosed the monthly progress report of KTPS ash utilization from the period 01/03/2024 to 31/03/2024 respectively.

Encl: As above (Page 1-7).

Chief Engineer (O&M),
Koradi TPS, Koradi

Annual

Annexure - B

Monthly Coal Analysis Report

Name of TPS: KTPS, Koradi

Period From: 01.03.2024 to 31.03.2024 M/Bch

Sr. No.	Coal Agency	Quantity of Coal		Ash % on receipt basis	Ash Generation based on receipt basis (MT)	Ash Utilisation (MT)	% Ash Utilisation
		Received (MT)	Consumption (MT)				
1	MCL (Rail)	0.00					
	MCL (RCR)	0.00	210 MW	40.17%	210 MW	Koradi Ash Bund*	327.08%
2	SECL	0.00	94,987		38,156	124,803	
	SECL(Rail)	0.00	660 MW	37.82%	660 MW	Khasara Ash Bund	25.57%
	SECL(Rail washed)	252,982.32			280,868	71,828	
	SECL RCR	0.00				Dry Fly Ash	31.22%
3	SCCL	78,571.52				69721	
4	WCL	0.00					
	Rail (Wash)	370,798.13	742,645			Khasara ash Bund +Dry fly ash	50.40%
	Rail (RAW)	0.00					
	Road washed	161,922.38					
	Road (RAW)	53,270.55					
5	IMPORTED (Rail)	7,777.10					
6	MCL (Washed Rail)	103,778.16	Total Coal Consumption in MT				
	Total	1029100.16	837,632	38.09	319,025	266,352	83.49%

** Ash % Calculation - As fired basis of bunker Coal & data given by WTP & Quantity of coal recieved in MT by CHP section. Tentative Coal consumption in MT given by POG section. Unit # 6 , 210 MW is operational and Ash Utilisation is greater than Ash generation. **Hence Ash utilisation % is > 100% .**

*** Ash lifted from Koradi Ash Bund is dumped from approx. last 25-30years.**

*** Ash utilisation from Koradi ash bund is 327.08%.**

*** Ash utilisation from Khasara ash bund is 25.57 %.**

ANNEXURE 8 (Page 3 of 8)

Koradi Thermal Power Station, Koradi

Monthly Utilization of Fly Ash during financial year 2023-24 (March -2024)

Month	Ash Gen. in Month	Ash Utilised from Ash Bund – Purpose: Road / Overbridge	Agri	Brick & Others	Ash Dyke	filling MAHAGENCO (?)	filling low lying area	Total (A)	Ash Utilised from Silo & Hopper: M/s NCC Limited	M/s Bhagya Bricks	M/s Technology Resources (?)	M/s Royal Uniform Roofing pvt. ltd.	M/s Gaurav Bricks	M/s Iryland Enterprises	M/s ANS TRADERS	M/s National Bricks Co.	M/s HCCPL	M/s S.S. Transport	Total (B)	Total Ash Utilised during Month (A+B)	% Ash Utilisation	Dry Fly Ash Utilisation (%)	Total Ash Utilisation (%)
Apr-23	249540	54183	0	166238	0	0	0	220115	0	0	2831	0	0	371	0	0	6720	1308	10880	231195	92.65	4.21%	92.65%
May-23	316536	47020	0	163784	0	0	0	210804	0	0	2119	0	0	97	0	0	5876	1233	9467	220271	69.59	4.27%	69.59%
Jun-23	297056	11020	0	142234	0	0	0	163294	0	0	7123	0	0	0	0	0	7194	1253	11539	174833	58.85	5.65%	58.85%
Jul-23	250499	0	0	17200	0	0	0	17200	0	0	681	0	0	0	0	0	1939	306	2925	20125	8.03	1.67%	8.03%
Aug-23	232069	0	0	68770	0	0	0	68770	0	0	0	0	0	0	0	0	0	0	0	68770	29.63	0.00%	29.63%
Sep-23	228106	0	0	42860	0	0	0	42860	0	0	1306	0	0	0	0	0	4053	856	6210	49079	21.12	3.80%	21.12%
Oct-23	344211	22773	0	174057	0	0	0	196832	0	0	1823	0	0	0	0	0	6404	2372	10323	207548	60.50	4.45%	60.50%
Nov-23	340126	35685	0	170004	0	0	0	204089	0	0	1470	0	0	20	0	0	3269	1950	8889	212978	62.62	1.73%	62.62%
Dec-23	309084	59680	0	268345	0	0	0	328025	0	0	8252	0	0	0	0	0	4298	2088	14668	342693	110.86	4.77%	110.86%
Jan-24	327486	138120	0	247217	0	0	0	385333	0	0	31604	0	0	0	0	0	10993	3478	35577	422914	121.97	15.43%	121.97%
Feb-24	346616	130542	0	145758	0	0	0	276300	0	0	22340	0	0	0	0	0	11099	5708	39152	315452	91.00	16.14%	91.00%
Mar-24	319023	71483	0	125146	0	0	0	196637	0	0	42403	0	0	0	0	0	18721	16520	69721	266358	83.40	31.27%	83.40%
Total	3581397	550475	0	1559982	0	0	0	2310457	0	0	110197	0	0	288	0	0	74309	36976	221770	2532227	70.71	8.95%	70.71%

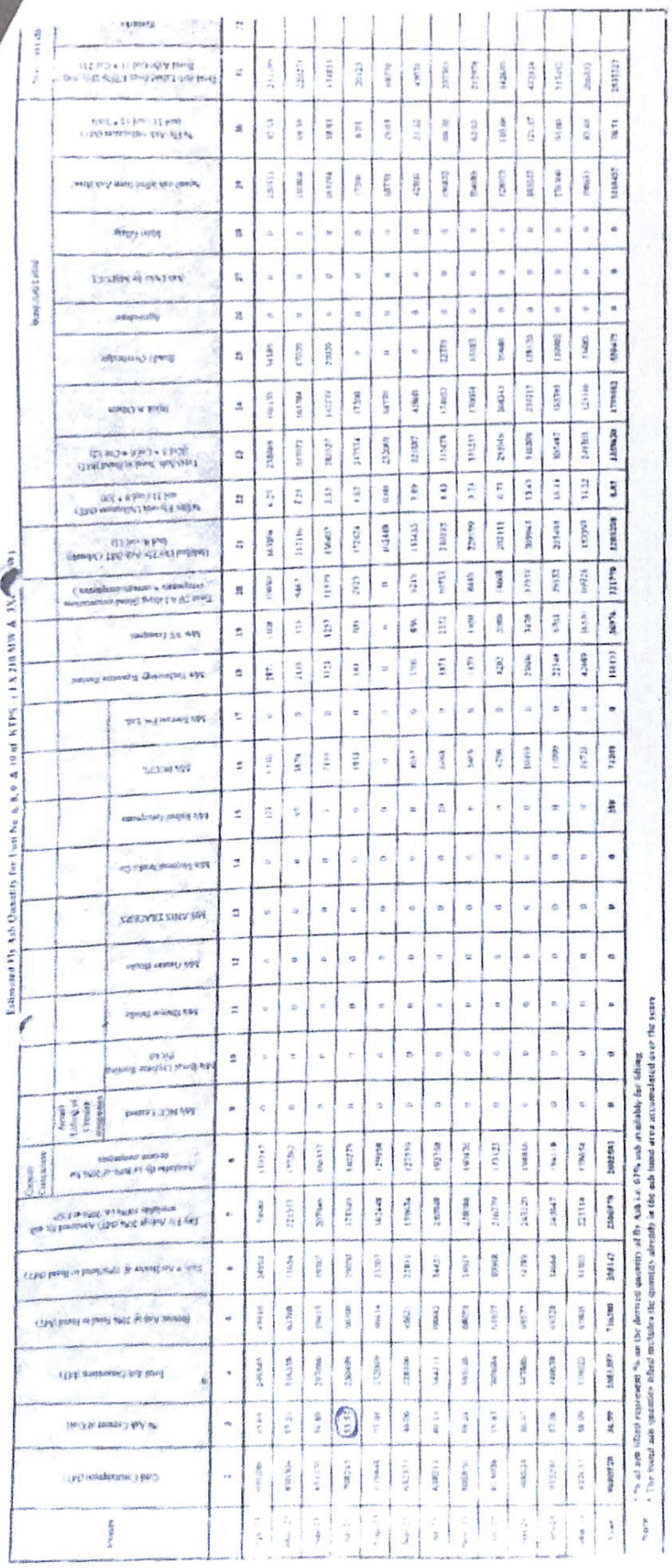
March-24 697662.00

Fly Ash lifting Statement

Qty. in MT

SR. NO.	ASH USERS	Permt. Period		Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	TOTAL
A.	WET FLY ASH BY BRICK MANUFACTURERS															
1	M/s Eaklavya Construction Company	Apr-23	Mar-24	85820	91265	124845	17200	68770	35685	0	0	0	0	0	0	423585
2	M/s Sai Engineering & Works	Apr-23	Mar-24	80310	72519	17429	0	0	0	41021	48384	111992	164467	81976	87193	705291
3	M/s Eaklavya Enterprises	Apr-23	Mar-24	0	0	0	0	0	7175	133036	122220	156353	92750	83419	35953	631106
	Total			166130	163784	142274	17200	68770	42860	174057	170604	268545	257217	165395	123146	1759982
B.	WET FLY ASH UTILIZED BY ROAD CONSTRUCTION COMP.															0
3	M/s Eaklavya Enterprises	Apr-23	Mar-24	0	0	0	0	0	0	0	0	2745	40935	73960	35875	0
4	M/s Sai Engineering & Works	Apr-23	Mar-24	54185	47020	21020	0	0	0	22775	33485	56735	88085	36945	37610	397860
	Total			54185	47020	21020	0	0	0	22775	33485	59480	128120	110905	73485	550475
C.	DRY FLY ASH BY SSI															
1	M/s Irshad Enterprises	Apr-23	Mar-24	171	97	0	0	0	0	20	0	0	0	0	0	0
2	M/s Royal Uniforce Roofing pvt ltd	Apr-23	Mar-24	0	0	0	0	0	0	0	0	0	0	0	0	0
3	M/s Gaurav Bricks	Apr-23	Mar-24	0	0	0	0	0	0	0	0	0	0	0	0	0
4	M/s Bhoyar Bricks	Apr-23	Mar-24	0	0	0	0	0	0	0	0	0	0	0	0	0
5	M/s National bricks co	Apr-23	Mar-24	0	0	0	0	0	0	0	0	0	0	0	0	0
6	M/s Anis Traders	Apr-23	Mar-24	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total			171	97	0	0	0	0	20	0	0	0	0	0	288
D.	DRY FLY ASH BY Road Construction COMP.															
1	M/s NCC Limited	Apr-23	Mar-24	0	0	0	0	0	0	0	0	0	0	0	0	0
	Dry Fly Ash Utilised By Road Construction Comp.			0	0	0	0	0	0	0	0	0	0	0	0	0
E	Dry fly ash utilisation for bricks manufacturing			0	0	0	0	0	0	0	0	0	0	0	0	0
1	M/s Technology Resource Partner	Apr-23	Mar-24	2871	2159	3123	681	0	1306	1873	1470	8282 (3275)	23604	3834	3188	52391
F	Dry Fly Ash utilised by Cement COMP.															
1	M/s Orient cement ltd	Apr-23	Mar-24	0	0	0	0	0	0	0	0	0	0	0	0	0
2	M/s RCCPL	Apr-23	Mar-24	6730	5878	7159	1935	0	4057	6468	5469	4298	10495	11099	10721	74309
3	M/s. S.S.Transport.	Apr-23	Mar-24	1108	1333	1237	309	0	856	2372	1950	2088	3478	5705	16520	36976
4	M/s Technology Resource Partner	Apr-23	Mar-24									5007		18514	39292	57806
	SUMMARY OF ASH UTILIZATION															
A.	Ash utilised for Brick Manufacturing	Apr-23	Mar-24	166130	163784	142274	17200	68770	42860	174057	170604	268545	257217	165395	123146	1759982
B.	Ash utilised for Road Construction & Bridge	Apr-23	Mar-24	54185	47020	21020	0	0	0	22775	33485	59480	128120	110905	73485	550475
C.	Ash utilised for SSI	Apr-23	Mar-24	171	97	0	0	0	0	20	0	0	0	0	0	288
D.	Dry Fly Ash utilised by Cement COMP.	Apr-23	Mar-24	6730	5878	7159	1935	0	4057	6468	5469	11393	10495	33318	66533	161435
E.	Dry Fly Ash utilised by Road Construction COMP.	Apr-23	Mar-24	0	0	0	0	0	0	0	0	0	0	0	0	0
F.	Ash Utilized for filling MAHAGENCO Road	Apr-23	Mar-24	0	0	0	0	0	0	0	0	0	0	0	0	0
G.	Ash Utilized for filling low lying area	Apr-23	Mar-24	0	0	0	0	0	0	0	0	0	0	0	0	0
H	Ash Utilized for Ash Dyke	Apr-23	Mar-24	0	0	0	0	0	0	0	0	0	0	0	0	0
I	Dry fly ash utilised for bricks manufacturing	Apr-23	Mar-24	3979	3492	4380	990	0	2162	4245	3420	3275	27082	3834	3188	60047
J	Ash Utilized for Agriculture Purpose	Apr-23	Mar-24	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total fly ash utilised in the month			231195	238271	174833	20125	68770	49079	307566	212978	342693	422914	315461	266352	2532227

ANNEXURE 8 (Page 5 of 8)



PROGRESSIVE ASH GENERATION & UTILIZATION AT KORADI TPS (210MW+3x660MW) - MONTHLY BASIS FOR THE YEAR 2023-24

MONTH	Coal Consumption (MT)	Ash (%)	Total Ash Generated (MT)	Total Bottom Ash generated (MT)	Total Dry Fly Ash Generated (MT)	Dry Fly Ash Utilization (MT)				Wet Ash Utilization (From Ash Bund) (MT)								Total Ash Utilization (MT)	Dry Fly Ash Utilization (%)	Total Ash Utilization (%)
						Fly Ash Qty. lifted by 80% offtakers (Road construction Companies & Others)	Fly Ash Qty. lifted by 80% offtakers (low lying area in Govt. Gharkul Yojana))	Fly Ash Qty. lifted by 20% offtakers / (55%)	Total Dry Fly Ash Utilization	Agriculture/ Fertiliser	Bricks/ Blocks	Building/ Cement Products	Road Construction	Ash Dyke Raising/ Embankment	Land Fill / Mine Fill	Asbestos	Total Wet Ash Utilization			
a	b	c	d=bxc	e	f	g	h	i	j=g+h+i	k	l	m	n	o	p	q	r= k+l+m+n+o+p+q	s= j+r	t= (j/f)x100	u= (s/d)x100
APR	699286	35.09	249849	74865	174684	10709	0	171	10880	0	166130	0	54185	0	0	0	220315	231195	6.23%	92.65%
MAY	850304	37.23	316538	94461	221577	9370	0	97	9467	0	163784	0	47020	0	0	0	210804	220271	4.27%	69.59%
JUN	851470	34.89	297066	89120	207946	11539	0	0	11539	0	142274	0	21020	0	0	0	163294	174833	5.55%	58.85%
JUL	708243	35.37	250499	75150	175349	2925	0	0	2925	0	17700	0	0	0	0	0	17700	20625	1.67%	8.03%
AUG	619448	37.46	232069	69621	162448	0	0	0	0	0	68770	0	0	0	0	0	68770	68770	0.00%	29.64%
SEP	632571	36.06	228106	68432	159674	6219	0	0	6219	0	42850	0	0	0	0	0	42860	49079	3.89%	21.52%
OCT	858211	40.11	344211	103263	240948	10714	0	20	10733	0	174057	0	22775	0	0	0	196832	207565	4.45%	60.30%
NOV	866850	39.24	340176	102038	238088	8889	0	0	8889	0	170604	0	33485	0	5	0	204089	212978	3.73%	62.62%
DEC	873098	35.47	309684	92905	216779	14668	0	0	14668	0	268545	0	59480	0	0	0	328025	342693	6.77%	110.66%
JAN	948624	36.67	347886	104366	243520	37577	0	0	37577	0	257217	0	128120	0	0	0	385337	422914	15.43%	121.57%
FEB	935291	37.06	346658	103991	242667	39152	0	0	39152	0	165395	0	110905	0	0	0	276300	315452	16.14%	91.00%
MAR	837632	38.09	319035	95708	223328	69721	0	0	69721	0	123146	0	73485	0	0	0	196631	266352	31.22%	83.49%
TOTAL	9080928	36.99%	3581397	1074419	2506978	221482	0	288	221770	0	1759982	0	550475	0	0	0	2310457	2532227	8.85%	70.71%
Category vise Ash Utilisaion →						8.18%	0.00%	0.01%	8.85%	0.00%	49.14%	0.00%	15.37%	0.00%	0.00%	0.00%	64.51%	70.71%		70.71%

*Note Bottom ash generated is also inclusive of Ash from Air heater & Economiser hoppers

ANNEXURE 8 (Page 7 of 8)

(Name of the Power Utility: MSPGCL)

Name of Thermal Power Plant: (2100 MW)

Details of ash utilization during the Month of March- 2024

Sr. No	Name of Ash Disposal Area	Ash disposal area in Hectare	Design Life of Ash disposal area	Pond Ash Availability in MMT (up to 31.03.2024)	Ash Generated in MT during the March- 2024		Ash Utilized in MT during March- 2024			Pond Ash Availability in MT (up to 31.03.2024)
					ESP Fly Ash	Bottom Ash	Dry ESP Fly Ash	Bottom Ash	Pond Ash	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	Koradi Ash Bund	101.2	35	12.30	223317	95707	-	-	124803	12302698
2	Khasara Ash Bund	314	35	21.42			-	-	71828	21421441
					319025		69721			

ASH UTILIZATION DETAILS

Sr. No.	Area of Utilization	For the Month (March- 2024) Ash utilized in MT			Cumulative for Year (FY 23-24) Ash Utilized in MT		
		Dry ESP Fly Ash	Bottom Ash	Pond Ash	Dry ESP Fly Ash	Bottom Ash	Pond Ash
1	Bricks/Blocks/Tiles industries	0	0	0			
1A	Dry ESP Fly Ash issued to Bricks/Blocks/Tiles industries (Outside)	3188	0	0	60335		
1B	Pond Ash issued to Bricks/Blocks/Tiles industries (Outside)	0	0	123146	0		1759982
1C	Fly Ash issued for Bricks/Blocks/Tiles in Own Plant	0	0	0	0		
	a) Dry ESP Fly Ash issued		0	0	0		
	b) Pond ash issued	0	0	0	0		
	Sub-Total			0	0		
	Total fly ash issued to Bricks/Block/Tile industries (1A+1B+1C)	3188	0	123146	60335		1759982
2	Cement industries						
2A	Dry ESP Fly Ash issued to Cement industries						
	a) Cement	66533	0	0	161435		
	b) RMC	0	0	0			
	c) Asbestos	0	0	0			
	Sub Total	66533	0	0	161435		
2B	Pond Ash issued to Cement industries	0	0	0			
	Total Fly Ash issued to Cement industries (2A+2B)	66533	0	0	161435		
3	Roads, Fly over /Rail Embankment						
3A	Dry ESP Fly Ash issued for Road construction (Outside)	0	0	73485	0		
3B	Pond Ash issued for Road construction (Outside)	0	0	0	0		550475
	Total Fly Ash issued for Road Construction (3A+3B)	0	0	73485	0		550475
4	Total Fly Ash issued for Part replacement of cement in concrete	0	0	0			
5	Total Fly ash supplied to Hydro power sector	0	0	0			
6	Total Fly ash used for Ash Dyke raising	0	0	0			0
7	Landfill/Reclaimation of low lying area		0				
	a) Power Utility Own Land	0	0	0			0
	b)Outside Land	0	0	0			
	Total Fly Ash used for Landfill/Reclaimation of low lying area	0	0	0			
8	Mine filling						
	a) Open cast mine	0	0	0			
	b) U.G.Mine	0	0	0			
	Total Fly Ash used for Mine filling	0	0	0			
9	Agriculture / waste land development						
9A	Dry ESP Fly Ash issued for Agriculture / waste land development	0	0	0			
9B	Pond Ash issued for Agriculture / waste land development	0	0	0			
	Total Fly Ash issued to Agriculture/ waste land development (9A+9B)	0	0	0			
10	Others						
	a) CLSM	0	0	0			
	b) Cenospheres	0	0	0			
	c) Bottom ash cover	0	0	0			
	d) Any other	0	0	0			
	Total Fly Ash issued for other purpose	0	0	0			
	Grand Total	69721	0	196631	221770	0	2532227

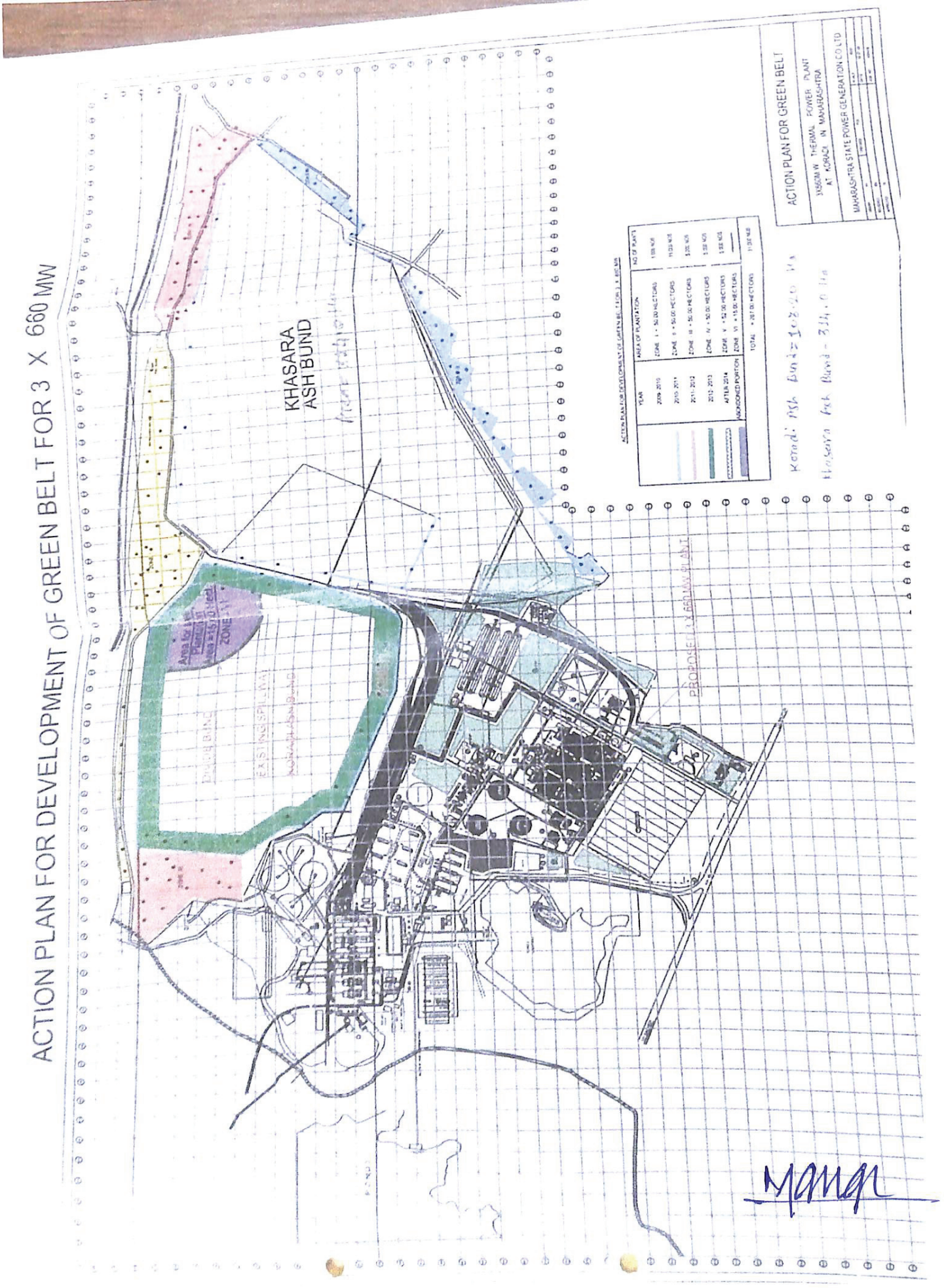
Bottom ash -collected from the bottom of furnace
Dry ESP Fly Ash - Collected from ESP and stored in Silo
Pond Ash - Fly ash and bottom ash Stored in Pond
CLSM - Controlled Low strength Material

ANNEXURE 8 (Page 8 of 8)

LEGACY ASH UTILIZATION FOR THE MONTH OF March - 2024

MONTH	Legacy ash available upto 29.02.2024 (MT)	Legacy ash Utilization (From Ash Bund) (MT)									Legacy ash Utilization (%) (MT)	Balance Legacy ash (MT)
		Agriculture/ Fertilizer	Bricks/ Blocks	Building/Cement Products	Road Construction	Ash Dyke Raising/ Embankmt	Land Fill / Mine Fill	Asbestos	Legacy ash Utilization (MT)			
		a	b	c	d	e	f	g	h = a+b+c+d+e+f+g			
Mar-24	KORADI ASH BUND =12388345 MT	0	87193	0	37610	0	0	0	124803		327.08	12302698
	KHASARA ASH BUND = 21282122 MT	0	35953	0	35875	0	0	0	71828		25.57	21421441
	Total (Koradi Ash Bund + Khasara Ash Bund) in MT = 33671467 MT	0	123146	0	73485	0	0	0	196631		61.64	33724139

ANNEXURE 9 (Page 1 of 1)



ANNEXURE 10 (Page 1 of 1)

Details of Koradi Ash Bund

Date : 18.03.2024

1)	The Koradi ash bund were established in	1975
2)	The total area of bund @	103.20 Hectors.
3)	Total length of the bund wall @	5.0 Km
4)	Total Raising of the bund	6 No.
5)	Total Capacity of Koradi Ash Bund	26.48 MM^3
6)	As on date Ash deposited in Koradi Ash Bund	22.36 MM^3
7)	The initial bund level of Koradi ash bund	305.80 MSL
8)	Final raising level of Koradi ash bund	325.00 MSL
9)	Waste weir FRL (Sixth raising)	322.75 MSL
10)	No. of Drain well	1.0 No.
11)	Ash generation Per year 210MW (2022-23)	494894 MT
12)	Ash generation Per year 3 x 660 MW (2022-23)	2774162 MT
13)	Total ash generation at Koradi TPS (2022-23)	**3269056 MT**
14)	Dry fly ash Utilisation (2022-23)	103744 MT
15)	Ash generated which required to be deposition in pond	3165312 MT

Considering Density of Legacy Ash= 1200Kg/m^3 i.e. 2637760 Cum i.e. 2.64MM^3

16) Tentative balance capacity of Koradi ash bund as on 18.03.2024 ---- 4.12 MM^3

17) Available period for dropping at present (3x660MW+210MW)- 4.12/2.64 =1.5Year

Following work is very essential in view of 3x660 MW plant generated ash to be deposited in Koradi ash bund.

Short Term

1) Dropping point of ash disposal pipeline is to be in planned manner for uniform deposition of Ash in Koradi Ash Bund.
2) Provide syphon arrangement to drain out the excess water.

Long Term

1) In Koradi ash bund there is only one drain well, hence, additional 4 no. drain well recommended to drain out the surplus water.

Note:- (1) Considering the available depth @ 4m at Koradi Ash bund

The tentative balance capacity = $\frac{103 \times 10,000 \times 4}{1000 \times 1000}$ = 4.12 MM^3

SALIENT FEATURES OF KORADI ASH BUND.

Ash generated from Koradi Thermal Power Station is about 1.707 MM³/Year [illegible] in the form of slurry is disposed off to Koradi and Khasara ash bund through 8 [illegible] Nos. of 300 mm dia. and 1 (One) No. of 150 mm dia. ash disposal pipelines [illegible] Nos. of [illegible] A.H.P. Lines, 3 (Three) Nos. (150 mm dia. – 1 No. and [illegible]), out of these 9 (Nine) Nos. [illegible] disposed off in Koradi ash bund and the balance [illegible] mm dia. – 2 Nos.) of pipelines are disposed off in Khasara ash bund.

The ash level in Koradi ash bund has reached upto F.R.L. i.e. 322.75 ML. In some portion of the bund, the ash level has reached beyond F.R.L. The Chief General Manager (O&M) Koradi vide letter No. KTPS/CGM/O&M/SE/[illegible] Dt. [illegible] has requested to raised the Koradi ash bund by 3.00 Mtrs. i.e. from 325.00 ML to 328.00 ML.

The salient features of the Koradi ash bund are as below :-

This ash bund was constructed in the year 1975 having capacity 2.52 MM³ and [illegible] 305.00 ML spread over area of 105.00 Hectors. The bund was put into operation since February-1975. Subsequent raising of this bund were taken up upto 325.00 ML. The construction stages of this bund is described as below :-

RAISING / BUND LEVEL.	CAPACITY.	DATE OF COMPLETION.
305.00 to 308.00 ML	2.52 MM³	Feb. 1983
308.00 to 311.00 ML.	3.08 MM³	April 1988
311.00 to 314.00 ML.	2.50 MM³	June 1991
314.00 to 318.00 ML.	6.20 MM³	Oct. 1994
318.00 to 321.00 ML.	4.35 MM³	June 1999
321.00 to 325.00 ML.	4.80 MM³	Dec. 2006
325.00 to 328.00 ML.	3.15 MM³	Proposed work. completed [illegible]

The present capacity available with this bund is about [illegible] MM³ upto 325.00 ML. The total area of Koradi ash bund is 105.00 Hectors. The total length of the main peripheral bund is 3540.00 Rmt and the length of divide bund is [illegible] Rmt.

In light of above, the proposal is submitted herewith for approval of the Company Board.

Submitted please.

General Manager (Civil),
[illegible] MW, Civil Construction [illegible]
MSPGCL, KORADI.

VNIT, NAGPUR

CT -3613

VISVESVARAYA NATIONAL INSTITUTE OF TECHNOLOGY

(Formerly V.R.C.E.) NAGPUR – 440 010)

विश्वेश्वरय्या राष्ट्रीय प्रोध्योगिकी संस्थान ,

नागपुर (भारत)

Gram : VISRENCOL, NAGPUR
Tel : Director: 2235733
Registrar: 2226240
PBX : 2223710, 2222828 (O)
Ext 1371
Fax : 0712-2223230/2223969

DEPARTMENT OF CIVIL ENGINEERING

Ref: CT -3613

Date: 04/10/2023

To

The Chief Engineer
KTPS Koradi

Subject: Stability study of Koradi Ash Bund at KTPS Koradi

Ref: PO dated on KTPS /4500128659 dated on 13/09/2023

Sir,

With reference to above cited subject, please find the attached report for your kind perusal.

Thank You

Sincerely

Dr. S. P. Wanjari 4/10/23

Dr. Y. B. Katpatal 4.10.23

Dr. A. H. Padade 4/10/23

(Co-ordinotors)

CT -3638/CEC 464

VISVESVARAYA NATIONAL INSTITUTE OF TECHNOLOGY,
(Formerly V.R.C.E.) – 440 010)
विश्वेश्वरय्या राष्ट्रीय प्रोध्योगिकी संस्थान .
नागपुर (भारत),

Gram : VISRENCOL,
Tel : Director 2235733
Registrar 2226240
PBX : 2223710, 2222828 (O)
Ext. 1371
Fax : 0712-2223230/2223969

DEPARTMENT OF CIVIL ENGINEERING

Ref: CT3638/CEC 464

Date: 08/12/2023

To

The Chief Engineer(O&M),
Koradi Thermal Power Station
Maharashtra.

Subject: Structural Stability Examination study of Khasala Ash Bund at 3x660 MW KTPS, Koradi.

Your PO Number: KTPS/4500129069 Dated: 11-10-2023

Sir,

With reference to above cited subject, please find the attached report for your kind perusal.

Thank You

Sincerely

8/12/23 8.12.23 8/12/23

Dr. S. P. Wanjari Dr. Y. B. Katpatal Dr. A. H. Padade

(Co-ordinotors)

MAHARASHTRA STATE POWER GENERATION CO. LTD.
(Govt. of Maharashtra Undertaking)
KORADI THERMAL POWER STATION, KORADI
O/o Chief Engineer (O & M) K. T.P.S. Koradi, Dist. Nagpur PIN - 441111
(ISO 9001: 2015, ISO 14001:2015, ISO 45001:2018 & ISO 50001:2018)
Email- cegenkoradi@mahagenco.in CIN U40100MH2005SGC153648

No KTPS/CE(O&M)/WTP/ENV/FAU/ Date:22.06.2024

To,
Executive Engineer
(FAU-II)
Koradi TPS (210MW).

Sub: Water Consumption for slurry discharge data for the F Y 2023-2024.

Ref: Email Received from FAU section Dtd. 14.06.2024.

****

The following information has been given as per the requirement of FAU section for the submission of Annual Fly Ash Report 2023-24 to the CPCB.

Sr. No.	Details	Koradi TPS (210MW)
17. (c)	Total quantity of water consumption for slurry discharge into ash ponds during reporting period (m3)	3208854 m^3
17. (m)	Quantity of wastewater from ash pond discharged into land or water body (m3):	Nil

For kind information.

Executive Chemist
Koradi TPS (210MW)

Water consumption for Ash handling & AWR Koradi recovery

Koradi TPS (210 MW) for F.Y.2023-24

Sr. No.	Month / Yr	Water Consumption for Slurry Discharge (M3)				Waste Water Monthly (M3)
		ETP Recovery	AWR Koradi	Raw / Fresh water cons. For Ash	Total	
1	Apr-23	21760	167065	0	188825	Nil
2	May-23	148800	171845	0	320645	Nil
3	Jun-23	159680	164995	0	324675	Nil
4	Jul-23	142720	173288	0	316008	Nil
5	Aug-23	135040	163845	0	298885	Nil
6	Sep-23	125120	153294	0	278414	Nil
7	Oct-23	85440	264619	0	350059	Nil
8	Nov-23	144000	103366	0	247366	Nil
9	Dec-23	6080	160007	0	166087	Nil
10	Jan-24	46080	181711	0	227791	Nil
11	Feb-24	114880	121015	0	235895	Nil
12	Mar-24	120960	133244	0	254204	Nil
	Total	**1250560**	**1958294**	**0**	**3208854**	**0**

Executive Chemist
Koradi TPS (210MW)

ANNEXURE 14 (Page 1 of 1)

Outlook

Re: Requirement of data pertaining to Environment cell for further submission of CPCB Reports.

From chemicaldivision660ktps <chemicaldivision660ktps@mahagenco.in>
Date Fri 6/21/2024 9:05 AM
To flyashktps <flyashktps@mahagenco.in>

Sir,
Please find required data as below-

1. Total quantity of water consumption for slurry discharge into ash ponds during reporting period i.e FY 2023-24 is - 9543513 m3
2. Quantity of wastewater from ash pond discharged into land or water body (m3):- Nil (Total AWR recovery from the ash pond reused for ash disposal for FY 2023-24-5040291 m3)

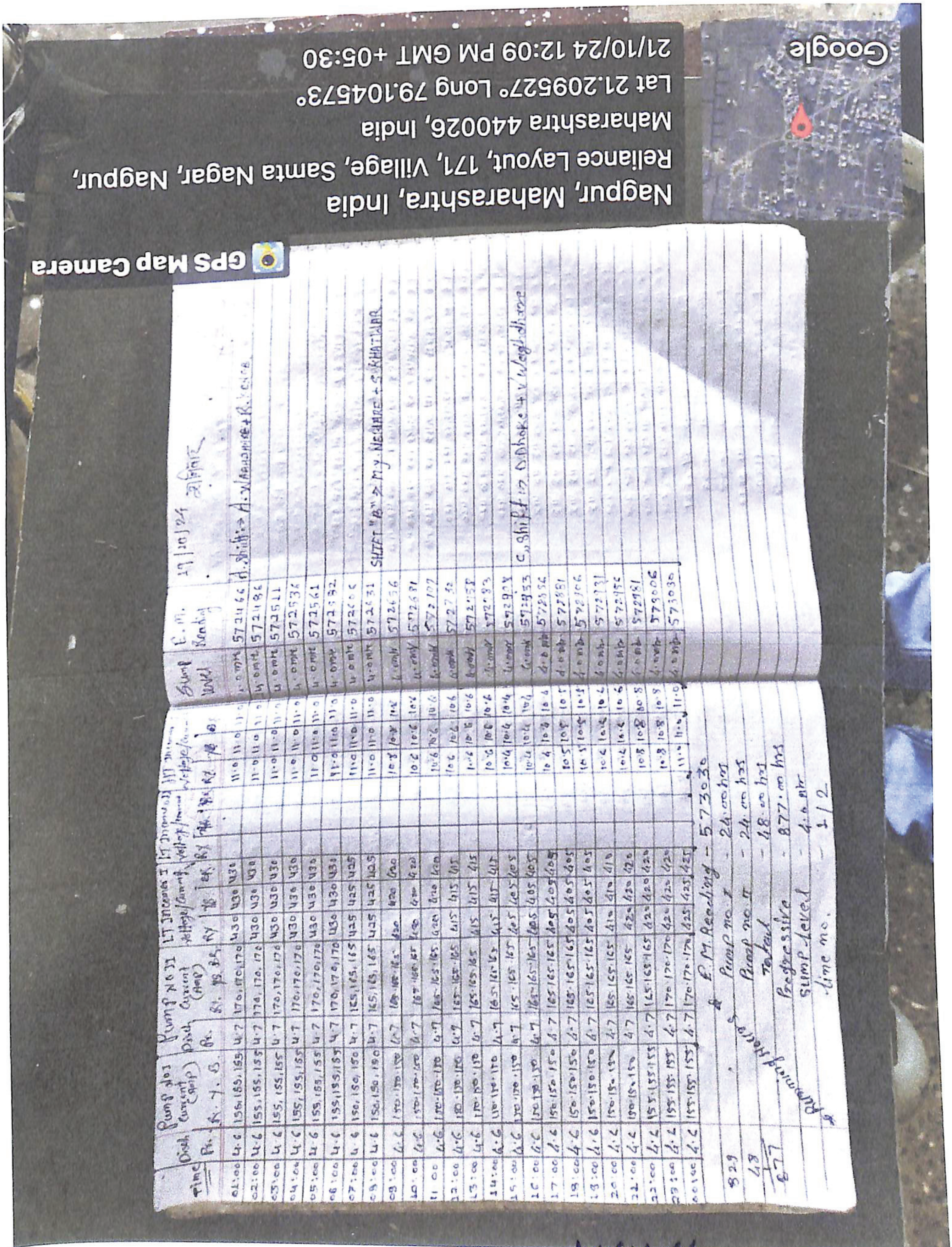
Regards
Executive Chemist
Koradi, TPS, 3X 660 MW

From: flyashktps <flyashktps@mahagenco.in>
Sent: Monday, June 17, 2024 9:39 AM
To: chemicaldivision660ktps <chemicaldivision660ktps@mahagenco.in>; wtp210ktps <wtp210ktps@mahagenco.in>
Subject: Requirement of data pertaining to Environment cell for further submission of CPCB Reports.

Dear Sir,
Please find attached herewith Highlighted excel sheet in which CPCB Annual Ash Report FY 2023-24 to be submitted. Kindly arrange to send the (Highlighted data For FY 2023-24) required data at the earliest please as follows :

1) Total quantity of water consumption for slurry discharge into ash ponds during reporting period (m3)
2) Quantity of wastewater from ash pond discharged into land or water body (m3):

Regards,
PRAVIN N.MADAVI
Executive Engineer(Ash Utilization)
3X660MW (O&M)
KORADI THERMAL POWER STATION,KORADI-441111
Mobile No. 8411957872


Google
Nagpur, Maharashtra, India
Reliance Layout, 171, Village, Samta Nagar, Nagpur, Maharashtra 440026, India
Lat 21.209527° Long 79.104573°
21/10/24 12:09 PM GMT +05:30
GPS Map Camera

T.C

1914

Ax. B

MAHAGENCO

DOCKET SHEET

Sub:- Providing services for Quantitative Risk Assessment and Management Plan of Khasala ash bund at 3x660 MW & Koradi ash bund 210MW at KTPS, MSPGCL, Koradi. **Approval for utilization of services of Government Institutes (VNIT, Nagpur).**	**No. CE (C)- III/**KTPS/229 **Date:-** 03 FEB 2025 **MAHAGENCO/ Civil III /** **Doc.No.:** **PR.No.:**

Ref:-

Date	To Whom Sent	Remarks

T.C

1915

N-1

No.-CE(C)-III/KTPS/229 Date: 03 FEB 2025

OFFICE NOTE:-

Sub: Providing services for Quantitative Risk Assessment and Management Plan of Khasala ash bund at 3x660 MW & Koradi ash bund 210MW at KTPS, MSPGCL, Koradi.

- **Approval for utilization of services of Government Institutes (VNIT, Nagpur).**

Ref: 1. KTPS/3x660MW/CIVIL/0060 dt. 17.01.2025. C1-C5
2. IA-L-11011/112/2021-IA-I dt. 26.11.2024. C9
3. CE-181/GTE-1573 dt. 23.12.2024. C11-19

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I. Preamble:

- The personal hearing for the 2x660 MW project titled "Coal-Based Power Unit of M/s. Maharashtra State Power Generation Company Limited (MSPGCL) located at Koradi, Nagpur was held on 19.03.2024 under the Chairmanship of Dr. Sujit Kumar Bajpayee, Joint Secretary, MOEF&CC at Indira Paryawaran Bhawan, New Delhi.

- The compliance of the personal hearing Dt. 19.03.2024 and MoM communication dt. 24.04.2024 submitted by P&P section, MSPGCL, Mumbai, is reviewed by the MoEF and the Hon'ble Joint Director/Scientist D, GOI, MoEF has further informed to submit the following: C9

1. Quantitative Risk Assessment (QRA) Management Plan, intended to address potential future accidents at the plant, Khasala & Koradi ash bund.
2. Action Taken Report (ATR) in response to the observations and conclusions outlined in the dyke stability assessment report Dt. 25.07.2023 and 04.10.2023 concerning the Khasala Ash Pond and Koradi Ash Pond.

N-3

- In this regard, vide email dt. 10.12.2024 the Office of Chief Engineer (O&M), KTPS has requested VNIT, Nagpur regarding QRA and ATR study of Khasala & Koradi Ash Bund. The VNIT, Nagpur vide offer letter cited under ref (5) above has submitted their offer of **Rs. 15,00,000/- (Excl GST) and Rs. 17,70,000/- (incl. GST)** each for Khasala & Koradi Ash Bund.

C 11-19

II. Time Limit:

- The time limit for completion of the QRA & MP of Ash Bund/dyke by VNIT, Nagpur will be 60 days from the date of receipt of 100% advance payment.

III. Scope of Work:

1. **Geotechnical Investigation for Foundation Soil Quality:** A limited geotechnical investigation will be made to assess the foundation soil of embankments and dykes. This includes soil sampling, laboratory tests for strength and permeability, and in-situ tests like SPT to ensure soil suitability and stability for supporting ash pond structures. Spatial Variability of sample sourcing and multiple randomized testing are mandatory for QRA.
2. **Seepage Analysis:** Seepage behavior through embankments, ponds, and dykes will be assessed. Advanced seepage modeling will identify potential leakage risks/breaching incidents and help design effective drainage systems to mitigate water infiltration.
3. **Design Analysis of Embankments, Ponds, and Dykes:** Comprehensive design analyses will be performed to evaluate the structural integrity of embankments, ponds, and dykes. This will include load distribution, slope stability, and settlement behavior to ensure safety and durability standards compliance.
4. **Quantitative Risk Analysis (QRA) and Curative Management Plan:** A QRA will quantify the probability of risks associated with potential failures. Curative proactive measures to be implemented shall be

prescribed to enhance safety. Preventive strategies will be suggested for embankments, ponds, and dykes showing vulnerabilities.

5. **Environmental Aspects and Precautionary Measures:** Environmental impacts of ash disposal will be evaluated, with recommendations for sustainable management practices. Measures to control dust, leachate, and groundwater contamination will be recommended to ensure environmental compliance in the surrounding area.

IV. Estimated Cost:

The estimated cost of above proposed work as per quotation submitted by the VNIT, Nagpur is as under:

SN	Name of work	Amount (Rs.)
1.	Providing services for Quantitative Risk Assessment and Management Plan of Khasala ash bund at 3x660 MW KTPS	**15,00,000/-**
2.	Providing services for Quantitative Risk Assessment and Management Plan of Koradi Ash Bund, 210 MW KTPS	**15,00,000/-**
	Total	**30,00,000/-**
	GST (18%)	**5,40,000/-**
	Total (incl. GST)	**35,40,000/-**

V. Competent Authority:

- As per DoP Section –I, Chapter-2, Clause No.9.3, Page No.55, the Executive Director in consultation with Chief General Manager (Finance) is empowered for awarding consultancy services upto Rs.10.00 Cr. for utilizations of the services of Government Institute/Undertaking on single quotation basis.
- In this case the estimated consultancy amount is **Rs. 30.00 lakhs (Excl. GST) and Rs. 35.40 lakhs (With GST).**
- However, as per Hon'ble CMD vide, Circular of No. 541 dated 24.02.2016 directed that "approval of the CMD shall be obtained while appointment/selection/awarding works for consultancy irrespective of work order value" Hence, the proposal is submitted for approval of Hon'ble Chairman & Managing Director.

N-7

VI. Proposal:

In view of above, as proposed & recommended by the Chief Engineer (O&M), Koradi the Hon. Chairman & Managing Director in consultation with Director (Operations) & Director (Fin) is requested to accord approval for;

i) To accord administrative approval for availing the consultancy services of VNIT, Nagpur on single enquiry basis for following works with estimated cost as below;

SN	Name of work	Amount (Rs.)
1.	Providing services for Quantitative Risk Assessment and Management Plan of Khasala ash bund at 3x660MW, Koradi.	**15,00,000/-**
2.	Providing services for Quantitative Risk Assessment and Management Plan of Koradi Ash Bund, 210MW, Koradi.	**15,00,000/-**
	Total	**30,00,000/-**
	GST (18%)	**5,40,000/-**
	Total (incl. GST)	**35,40,000/-**

ii) To authorize the Chief Engineer (O&M), KTPS, Koradi to place work order to VNIT, Nagpur after approval.

Submitted for approval please.

Sr. Manager (F&A)

Chief Engineer (C)-III

महाजनको वित्त विभाग
प्रस्ताव क्र.: Civ/III-152
दिनांक: 03.02.25

Chief General Manager (Finance)

Executive Director (O&M)-II

Director (Operations)

Director (Finance)

Hon. Chairman & Managing Director

T.C

Gmail **Proof of Service** raghunath mahabal <adv.rbmahabal@gmail.com>

Re: Copy of Rejoinder to Moef on behalf of the applicant in OA No. 62 of 2021 Krishi Vigyan Arogya Sanstha & Ors. Versus Maharashtra State Power Generation Co. Ltd. & Ors.

1 message

Raghunath Mahabal <mahabal60@gmail.com> 17 March 2025 at 19:06
To: National Green Tribunal Pune <ngt-pune@gov.in>
Cc: Rahul Garg <rahul.garg@mgklegal.com>, Aniruddha Kulkarni <aniruddha1488@gmail.com>, itishaawasthi@proton.me, "Litigation ." <litigation@dclawchambers.com>
Bcc: adv.rbmahabal@gmail.com

To: Hon'ble Registrar NGT WZ Pune

Sir

The matter is listed tomorrow at Sr.No.9

The service of Rejoinder to MoEFCC R-2 was received from Applicant today 6 hr ago.

I am enclosing the Audit Report received from VNIT Nagpur, as and by way of advance circulation.

A copy of the same is also sent to other Respondents and Applicants.

It will also be filed through the NGT website.

Regards

--- ADVOCATE FOR RESPONDENT NO. 1 ---

R. B. Mahabal रघुनाथ भालचंद्र महाबळ **+91-7400116222** mahabal60@gmail.com
Advocate - National Green Tribunal
BE (Mech.), ME (Industrial Management) VJTI Mumbai, LL.M., FIE, Chartered Engineer, Arbitrator IIE
CHINCHWAD: A Building, Flat Nos. 1, 2, 3, 4, Kakade Angan, Tanaji Nagar, Chinchwad gaon, Pune - 411033. https://maps.app.goo.gl/ePx4MyTW5fm6xrt7A
MUMBAI: Flat Nos. A-101, 201, 202, 203, B-201, 202, 203, B-302, Chandravijay, Phule Road, Mulund EAST, Mumbai - 400081. https://maps.app.goo.gl/ruAoCMCDJLAHYXbL9
PUNE: A-101, Sadhu Darshan, Sadhu Vaswani Chowk, Pune - 411001. https://maps.app.goo.gl/QUHH41Jjdu4PVfT88
NAGPUR: Plot Nos. 15, 16, 17, 18, Grampanchyat Bokhara भोकरा, कोराडी, Nagpur-441111, Maharashtra. https://maps.app.goo.gl/fDuPrcGCktpnhgD79

On Mon, 17 Mar 2025 at 12:56, Litigation . <litigation@dclawchambers.com> wrote:

> Dear Sir,
>
> Please find attached- Copy of Rejoinder to Moef on behalf of the applicant in OA No. 62 of 2021 Krishi Vigyan Arogya Sanstha & Ors. Versus Maharashtra State Power Generation Co. Ltd. & Ors.
>
> Thanks & Regards
> Counsel for the Applicant

2 attachments

2025002-03 WO 229 Koradi 3 x 660 MW VNIT.pdf
1880K

Compliance Audit Report for Ash Disposal 2023-24 VNIT Nagpur.pdf
17852K