BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI
ORIGINAL APPLICATION No. 970/2024

In the matter of:

Bajrang Agarwal — Applicant

Versus

State of Chhattisgarh — Respondent(s)

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BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH, NEW DELHI

ORIGINAL APPLICATION NO. 970 OF 2024 (PB)

IN THE MATTER OF:

Bajrang Agrawal — Applicant

Versus

State of Chhattisgarh — Respondent

REPORT OF THE JOINT COMMITTEE CONSTITUTED IN COMPLIANCE WITH THE ORDER DATED 26.9.2024 IN THE O.A. NO. 970 OF 2024 IN THE MATTER OF BAJRANG AGRAWAL VERSUS STATE OF CHHATTISGARH BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL, PRINCIPAL BENCH, NEW DELHI.

Date: 20.11.2024

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Glossary

APCD	Air Pollution Control Device
AAQ	Ambient Air Quality
C&D	Construction and Demolition
CECB	Chhattisgarh Environment Conservation Board
COD	Chemical Oxygen Demand
CPCB	Central Pollution Control Board
CSR	Corporate Social Responsibility
CTO	Consent To Operate
DFO	District Forest Officer
EC	Environmental Clearance
Ha	Hectare
MoEF&CC	Ministry of Environment, Forest and Climate Change
MSW	Municipal Solid Waste
MT	Metric Ton
NAAQM	National Ambient Air Quality Monitoring
RO	Regional Officer
SECL	South Eastern Coalfield Limited
SoP	Standard Operating Procedure
SPM	Suspended Particulate Matter
TDS	Total Dissolved Solids
ToR	Term of Reference

Report of the Joint Committee constituted in compliance with the Order dated 26.9.2024 in the O.A. No. 970 of 2024 in the matter of Bajrang Agrawal Versus State of Chhattisgarh before the Hon'ble National Green Tribunal, Principal Bench, New Delhi.

1. Background:

The Hon'ble National Green Tribunal, Principal Bench, New Delhi took cognizance of the present case based on the letter petition dated 02.12.2023 of Shri. Bajrang Agrawal, Raigarh, Chhattisgarh and the same has been registered as O.A. No.970 of 2024. The important allegations made therein the letter petition referred therein the O.A. is furnished below:

- The coal based medium and large industries operating in Raigarh area of Chhattisgarh not disposing the fly ash in scientific manner and dumped in agriculture field, forest area etc. and thereby causing damage to the environment.
- The industries are not made any provision for green belt development and 33% of the total land area of the project have not been developed as green belt under Environmental Clearance conditions.
- The Ambient Air quality of the Raigarh and its nearby area getting deteriorated and thus causing disease to the local people.
- The ponds, lakes and River in the vicinity of 20 km getting polluted due to unscientific disposal of fly ash.
- The State Pollution Control Board and local administration are not acting on grievances.

In the above matter, Hon'ble NGT, Principal Bench, New Delhi vide its Order dated 26.09.2024 constituted a Joint Committee comprising of (i) Integrated Regional Office of MoEF&CC, Raipur, (ii) Central Pollution Control Board, (iii) Chhattisgarh State Pollution Control Board and (iv) District Magistrate, Raigarh with the direction of the Committee to submit factual report within one month. Further, in the above said Order dated 26.09.2024, Hon'ble NGT appointed the Central Pollution Control Board as nodal agency for coordination and compliance. Copy of the order dated 26.09.2024 of Hon'ble NGT is enclosed as **Annexure-01.**

2. Constitution of Joint Committee:

In compliance to the Order dated 26.09.2024 of Hon'ble NGT, New Delhi and based on the nominations received from the organizations concerned, a Joint Committee has been constituted vide letter dated 18.10.2024 of CPCB comprising of the following members:

(i). Dr. M. Thalamadai Karuppiah, Scientist-E, MoEF&CC, Sub-Office, Raipur.

(ii). Sh. P. Jagan, Regional Director, Central Pollution Control Board, Regional Directorate, Bhopal.

(iii). Sh. Ankur Sahu, Regional Officer, Chhattisgarh Environment Conservation Board, Raigarh.

(iv). Sh. Shashikant Kurre, Deputy Collector, Raigarh (representative of District Magistrate, Raigarh).

A copy of the Committee constitution letter is enclosed as **Annexure-02**.

3. Terms of reference (ToR) to the Joint Committee:

The Terms of the Reference (ToR) of the Joint Committee referred therein the Order dated 26.09.2024 of Hon'ble NGT in the above matter inter-alia include the following:

(i). The Committee shall inspect relevant site, collect relevant information and find out whether conditions of consent and EC are being complied with by industries in respect of disposal of fly ash.

(ii). Whether conditions of consent and EC are being complied with by industries in respect of development of green belt /plantation.

4. Brief about Raigarh area:

Raigarh District of Chhattisgarh is an industrial hub for steel and power manufacturing units. There are 34 Sponge Iron & Power manufacturing units, and 7 Thermal Power plants located in the Raigarh area under the Jurisdiction of CECB, Raigarh Office. Besides of that Rolling mills, Coal washeries, Rice mills, Metal recovery plant, Tyre pyrolysis unit etc. also existing and mainly using coal and biomass as fuel in these industries. In Raigarh district only one industrial area, i.e. Punjipatra industrial park exists wherein ferro-alloy and allied industries are located. The major industrial units are in Taraimal, Girwani village, Tamnar,

Gharghoda areas. Except M/s Jindal Steel & Power Ltd. all other major industries are located outside the Raigarh city. The Joint Committee observed that majority of industrial units were located 12 to 60 km away from the Raigarh city in a scattered manner except M/s Jindal Steel and Power Ltd. which is a large scale unit located within Raigarh city. The units located in Tamnar and Gharghora blocks and their fly ash generation details made available as per fly ash utilisation during the year 2022-23 is enclosed as **Annexure-03**.

5. Preliminary meeting of the Joint Committee:

In consultation with the members of the Joint Committee, a preliminary meeting of the Committee was convened on 21.10.2024 at 11.00 A.M. at Raigarh. In the said meeting all the members of the Joint Committee and the Applicant in the O.A. were present and discussed the facts and issues involved in the matter, ToR to the Committee and further course of action proposed in this matter. In the said preliminary meeting the Committee has given an opportunity to the Applicant to submit his views and also requested the applicant physically show the places / allegations levelled in the letter petition especially regarding the alleged fly ash disposal and greenbelt development. List of participants in the inspection/meeting is enclosed as **Annexure-04**. Despite giving an opportunity as part of Natural Justice, the Applicant has neither provided any documental evidence to the Committee in support of his allegations nor physically shown the places where the unscientific disposal of fly ash and inadequate greenbelt has been made in contravention to the conditions of the CTO/EC. Instead, the Applicant misused the opportunity offered by the Joint Committee, by publishing the discussions held with him in the digital media i.e. before the commencement of the site inspection of the Committee on the alleged units and when the matter is pending before the Hon'ble Tribunal, which is in contravention to the precedence of the Hon'ble NGT.

In continuation to the preliminary meeting, subsequent site inspection of the Joint Committee was held in two phases (21.10.2024 to 22.10.2024 and 07/11/2024 to 11/11/2024) to verify the factual status on the allegations raised by the Applicant and collect the information from the alleged industries and other authorities concerned and also to carryout Ambient Air Quality monitoring and collection of surface water samples. Accordingly, the Joint Committee visited all the industries mentioned in the letter petition and other coal-based Thermal Power Plants located in the Raigarh area which are generating fly ash from their process. Further, effort has been made to assess the present status of the surface water quality and ambient air quality of the Raigarh area during the visit of the Committee. Meanwhile, Hon'ble NGT vide Order dated 04.11.2024 allowed three weeks additional time to

the Committee for filing the report.

6. Observation of the Joint Committee on the ToR to the Committee:

Based on the deliberations held during the meeting of the Joint Committee, subsequent site inspections of the industries under question, sampling and analysis of ambient air quality/surface water and documents made available to the Committee, the following observations are made on the ToR:

(i). Whether conditions of Consent and EC are being complied with by industries in respect of disposal of fly ash:

(a). During the preliminary meeting, the Committee has given an opportunity to the Applicant to submit supporting documents/information, if any, regarding the allegations made in respect of fly ash disposal. Despite giving an opportunity, during the site visit the Applicant neither made available any supporting document nor shown any illegal dumps of fly ash as he claimed in his letter petition. As directed by Hon'ble Tribunal the Joint Committee collected the relevant information regarding ash generation and its disposal from the industries to ascertain the compliance of fly ash disposal as per the stipulated conditions of the Consent and EC of the project concerned.

(b). It has been observed that three industries (M/s Shiva Shakti Steel Pvt. Ltd, M/s Maa Shakambari Steel and M/s Maa Mangla Ispat) mentioned in letter petition neither having power plants nor generating any fly ash.

(c). The industries M/s Nalwa Steel and Power Ltd. and M/s Mahaveer Energy Pvt. Ltd. are not complied with the Fly Ash Notification and the condition stipulated.

(d). The remaining industries referred in the O.A. are complying with the Fly Ash Notification, in accordance with the amendment dated 30.12.2022 in the Ash utilisation Notification, 2021.

(e). It has been observed that CECB has already developed a monitoring mechanism for regulating the illegal disposal of fly ash and provided toll free WhatsApp number specifically for fly ash related complaints redressal. Based on the documents made available by the CECB, it has been observed that 81 number of complaints have been registered, which inter-alia include 18 industries, wherein so far collected Rs 2,13,56,732/- as environmental compensation against the committed violation in respect of transportation and disposal of fly ash. The details of Environmental Compensation recovered from the industries are enclosed herewith as **Annexure-05**. The CECB issued SoP vide office order dated 26.06.2024 regarding properly covering of transportation vehicles carrying raw materials and solid waste generated from the industrial units. Copy of the office order is enclosed as **Annexure-06.**

(f). During the visit, the Committee observed that two industries namely M/s Nalwa Steel & Power and M/s Mahaveer Energy Pvt. Ltd. disposing fly ash within/adjoining their industrial premises. M/s Nalwa Steel & Power disposing the ash without obtaining any approval from CECB. M/s Mahaveer Energy Pvt. Ltd. obtained permission from CECB vide letter dated 19.01.2023 for disposal of 3000 MT of fly ash in low laying area. But, it has been observed that the unit disposing the ash even after the expiry of permission. The CECB initiated action against both the units and issued Showcause Notice (No. 1757 dated 11.11.2024 and No. 1759 dated 11.11.2024) for imposing environmental compensation towards committed non-compliance.

(g). It has also been observed that most of the units were installed its own fly ash bricks manufacturing plant and also supplying the fly ash to the nearby brick manufacturing units for further utilization. However, the installed bricks manufacturing plant of M/s Adani Power Ltd. is not in operational during the visit.

(h). During the visit, the Applicant verbally informed about two locations of illegal fly ash dumping sites and the Committee visited both the locations. In one of the said locations not found any illegal dumping of fly ash. In another location as informed by the Regional Officer of CECB Raigarh, appropriate action has already been taken by the CECB by imposing and recovering Environmental Compensation from the unit concerned. The District Collector Raigarh has constituted District Level Fly Ash Management Committee for granting permissions regarding utilization of fly ash in low lying area and non-coal mine voids, which is found to be functional. The copy of the said Committee constitution order is enclosed as **Annexure-07.**

(i). The Committee requested the input from the Chhattisgarh State Forest Department regarding alleged illegal disposal of fly ash, if any, in the forest land. In this regard State Forest Department vide letter No.4067 dated 11.11.2024 informed that no such occurrence has been noticed in the forest area after verification of all forest block of Raigarh jurisdiction. The copy of letter received from DFO, Raigarh is enclosed as **Annexure-08.** The Committee also requested input / comments from the State Agriculture Department. In this regard, the State Agriculture Department vide letter No. 4175 dated 13.11.2024, informed that very few area (46.50 Hectare) was affected due to fly ash disposal in 8 villages of 3 Development Blocks. However, particulars of affected locations have not been mentioned in the said letter and it appears that it is based on the visual observations of field officers, hence CECB and Chhattisgarh State Agriculture Department may jointly reverify the locations and take action accordingly. The copy of letter received from Deputy Director Office of Agriculture, Raigarh is enclosed as **Annexure-09.** Further, it was also sought information from the State Health Department regarding impact of fly ash on human health, if any. The State Health Department vide letter No. 14522 dated 30.10.2024 informed that no

such type of information is available with them. Copy of the reply received from Chhattisgarh State Health Department is enclosed as **Annexure-10.**

(j). As per Annual report of FY 2023-24, it has been observed that in Raigarh District out of 28 fly ash generating industries, 6 major thermal powers plants alone contributing 89.13% ash generation and rest 22 industries contributing only 10.87% of ash.

(k). The Committee observed that out of 16 units visited, the following 5 major thermal power plants are having ash ponds/dykes for ash storage purpose and the quantities of ash stored in it during the visit is furnished below:

S.No	**Name of unit**	**Ash Pond/Dyke location**	**Capacity of Ash Pond (in lakh m^3)**	**Quantity stored (as on 31st October, 2024)**
1	M/s NTPC Lara	Lara	56	45.55 lakh MT
2	M/s Adani power Ltd.	Bade Bhandar	84.51	23.55 lakh MT
3	M/s TRN energy private limited	Bengari	42	20.8 lakhs MT
4	M/s Jindal Power Ltd, Tamnar	Tamnar	185	161 lakh MT
5	M/s Sharda Energy Ltd. (Formerly M/s SKS Power)	Binjkot	9.1	4 lakh MT

In accordance with the Gazette Notification S.O.6169(E) dated 30.12.2022 of MoEF&CC an amendment in the Ash utilisation Notification, 2021 has been issued and the relevant amended portion is reproduced below:

(ii) in sub- paragraph (5),-

***(c)** after the second proviso, the following proviso shall be inserted, namely: "provided that ash stored in all ash ponds or dykes other than operational ash pond or dyke designated for temporary storage of ash as specified in sub-para (6) shall constitute the legacy ash and either to be reclaimed or stabilised or utilized."*

Based on the above amendment the industries are claiming that the existing fly ash in the active ash dyke/ash pond is not considered as legacy ash and ash disposal is being continued in the existing ash pond without complying with the Fly Ash Notification.

(l). As per Fly Ash Notification, the industries are disposing fly ash through ash dyke raising, filling in low lying area, supplying to the brick manufacturing units, road construction, cement plants etc. Legacy ash also stored in ash dykes for which action plan is required to be prepared and submitted to the CECB for approval and dispose accordingly. During the visit Committee verified the fly ash generation & its disposal and legacy ash storage in the following units and the details are furnished below.

S.No	Unit Name	Total fly ash generation in TPD*	% utilization as per fly ash Audit report**	Mode of Utilization of fly ash
1	M/s Jindal Power Ltd. Tamnar	21977	101 (As per Audit report 2023-24)	• 01 Brick plant having capacity of 3.50 lacs bricks/day. • Storing in 04 ash pond lagoons having area of 400 acres. • Ash disposed in de-coaled mining areas • Sending to cement plants
2	M/s NTPC Lara	10000	103.55 (As per Audit report 2023-24)	• Sending to NHAI for road construction. • 01 Brick plant having capacity of 60000 bricks/day. • Storing in 03 ash pond lagoons having area of 491 acres.
3	M/s Adani Power Ltd	3512	96.12 (As per Audit report 2022-23)	• 02 Brick plants having total capacity of 1.43 lacs bricks/day. • Filling in low lying area outside the plant premises. • Storing in 02 ash pond lagoons having area of 170 acres.
4	M/s Sharda Energy Ltd. Formerly known as M/s SKS Power	4000	115 (As per Audit report 2022-23)	• Sending to NHAI for road construction. • Filling in low lying area outside the plant premises.
5	M/s TRN Energy Pvt Ltd.	4000	61.21 (As per Audit report 2023-24)	• Sending to NHAI for road construction. • Filling in low lying area outside the plant premises.
6	M/s Jindal Steel & Power Ltd.	1160	100 (As per Audit report 2023-24)	• 01 Brick plant having capacity of 3.0 lacs bricks/day. • Filling in low lying area. • Using in own cement plant • Sending to nearby brick plant.
7	M/s MSP Steel & Power Ltd. (Coal & Char based Power Plant)	650	100 (As per Audit report 2023-24)	• In 02 numbers of Brick plants having capacity of 16000 nos. of bricks each per day • Filling in low lying area.
8	M/s Navadurga Fuels Pvt Ltd (Coal	177	100	• 01 Brick plant having capacity of 30000 bricks/day.

	& Char based Power Plant)		(As per Audit report 2021-22)	• Filling in low lying area.
9	M/s Nalwa Steel & Power Ltd (Coal & Char based Power Plant)	187	100 (As per Audit report 2022-23)	• Dumping inside the plant premises.
10	M/s Shree Shyam Ispat Ltd (Coal & Char based Power Plant)	140	100 (As per Audit report 2023-24)	• 01 Brick plant having capacity of 20000 bricks/day. • Filling in low lying area outside the plant premises.
11	M/s BS Sponge & Power Ltd (Coal & Char based Power Plant)	105	98.35 (As per Audit report 2021-22)	• 01 Brick plant having capacity of 10000 bricks/day. • Filling in low lying area outside the plant premises.
12	M/s Anjani Steel Ltd (Coal & Char based Power Plant)	75	100 (As per Audit report 2022-23)	• 01 Brick plant having capacity of 10000 bricks/day. • Also supplying to other brick plant units.
13	M/s Mahavir Energy & Coal beneficiation Ltd (Biomass based Power Plant)	60	100	• 01 Brick plant having capacity of 20000 bricks/day. • Filling in low lying area in the plant premises.
14	M/s Shiva Shakti steel Pvt Ltd	The unit does not have power plant, hence no fly ash generated.		
15	M/s Maa Shakambari steel	The unit does not have power plant, hence no fly ash generated.		
16	M/s Maa Mangla Ispat	The unit does not have power plant, hence no fly ash generated.		

*The present fly ash generation details provided by the units to the committee during the visit.

The latest fly ash audit reports available with the units and provided to committee at the time of visit is enclosed as **Annexure-11.

(m). The Joint Committee had a deliberation with the Applicant and he has not provided any substantive evidence in support of his allegations. During the visit of the Committee, despite giving an opportunity, he has not shown any illegal dump sites rather he verbally informed two places (namely where previously illegal disposal of ash has done i.e. Near Navdurga fuels and near Tiwari Dhabha, Lakha Road). The Committee visited both the sites and fly ash dump were noticed in the private land adjacent to the M/s Navdurga fuel Pvt. Ltd. in this regard CECB has already taken action against M/s Navdurga fuel Pvt. Ltd. and already recovered the environmental compensation. No fly ash disposal was observed near Tiwari Dhabha and only char waste stored which is being used for low laying area filling for its commercial establishment.

(n). No fly ash dump was observed in agricultural field, however at few places

near Lakha village, Girwani village char waste disposed on the road side for levelling work which may create air pollution during heavy winds. The local persons informed that generally needy individuals voluntarily put the char on their own land for levelling purpose to construct the house or commercial establishment.

(o). During the visit, the committee collected the information related to Consent status, ash generation, fly ash audit, green belt verification, land area etc. The compiled information is enclosed as **Annexure-12**. The locations of the industries visited by the Committee is shown in a google image:

(ii). Whether conditions of consent and EC are being complied with by industries in respect of development of green belt / plantation:

(a). The Applicant alleged that the industries are not made any provision for green belt and 33% of land have not been developed as green belt and it is violation of Environmental Clearance condition. In this regard during the preliminary meeting, the Joint Committee has given an opportunity to the applicant to provide supporting documents/information if any, regarding the allegations made in respect of non-compliance referred therein the letter petition regrading 33% green belt development by the industries. However, the applicant failed to furnish any documents in support of his claim.

(b). The Central Pollution Control Board in the year March, 2000 has published a Guidelines for Developing Greenbelts [Probes/75/1999-2000]. The Committee perused the said guidelines issued by the Central Pollution Control Board and observed that in the said guidelines the percentage of area, number of

plants/density of plantation and time line for compliance have not been explicitly mentioned. However, it appears that based on the National Forest Policy, 1988, condition in the majority of the ECs have been stipulated that 33% area of the project needs to be developed green belt with density of 2500 plants per hectare comprising of native species. Further, observed from the said guidelines that it mainly explains about the type of plants /species and its sustainability in presence of various pollutants.

(c). Instances have also been noticed that regulatory authorities stipulated a condition permitting the green belt development outside the industry premises in few cases.

(d). CECB vide letter dated 07.12.2021 & 22.03.2024 issued the instructions to the Regional Offices that the auditing & evaluation of green belt development may be considered by the third party, who has been authorised by the Chhattisgarh State Forest Department. The Committee observed that all the visited units have conducted 3rd party verification of their green belt development. Accordingly, the above units are made available a copy of 3rd party verification reports in connection with their green belt development. Considering the limited manpower and time constraints, the regulatory authorities while carry out inspections considers the 3rd party audit report as supporting evidence, since the instructions are issued by the State Authority.

(e). Based on the 3rd party verification reports made available by the project authority, it has been observed that all the industries referred therein the O.A. are complying with the EC/Consent condition in respect of green belt development. However, based on the site inspection, the Committee observed that most of the industries have developed green belt as per the EC/Consent conditions.

(f). During the interaction with few project proponents informed that while planning the layout, it has been ensured that the existing trees are retained to maintain the 33% green belt land. It was also informed by some units that to complete the 33 percent green cover they have planted more trees either on his own land or land acquired from private person / Govt. Department in the nearby vicinity to fulfil the necessary requirement. The shrubs and herbs also planted on available land area.

(g). During the visit the Committee observed that almost all the industries have developed green belt as per the EC/Consent condition but not developed 3 tier plantations around the periphery of the industry.

(h). The unit wise green belt development details are furnished below:

S.No.	Unit name	Total area of Plant (in Acres)	Total green belt area (in Acres)	% of green belt	CTO condition for green belt	Type of plantation
1.	M/s Jindal Power Ltd. Tamnar	889	301	34	Extensive tree plantation in available open area in and out side of unit.	Bamboo, Neem, Gulmohar, Amla,Guava, Arkesia, Ashok, Mahuwa, Bija, Subabool etc.
2.	M/s NTPC Lara	1676.28	639.78	38	33%	Imli, Mango, bamboo, Neem, Karanj, Gulmohar, Arkesia, Sitapal
3.	M/s Adani Power Ltd.	487	195	40	Extensive tree plantation in available open area in and out side of unit.	Mango, Guava, bamboo, neem, Citrus, Ashok, Almond, Arkesia etc
4.	M/s Sharda Energy Ltd. (Formerly known as M/s SKS Power)	574	192	33	Extensive tree plantation in available open area in and out side of unit.	Mango, Neem, Karanj, Devdar, Amla,Guava, Askok etc.
5.	M/s TRN Energy Pvt. Ltd.	548	180	32.8	Extensive tree plantation in available open area in and out side of unit.	Mango, Neem, Karanj, Shisham etc.
6.	M/s Jindal Steel & Power Ltd.	1913	533	27.86	Extensive tree plantation in available open area in and out side of unit.	Bamboo, Neem, Gulmohar, Amla, Guava, Arkesia, Ashok, Mahuwa, Subabool, Shisham etc.
7.	M/s MSP Steel & Power Ltd.	126	41.58	33	33%	Neem, Gulmohar, Arkesia, Ashoka, Teak, Peltafarm
8.	M/s Navadurga Fuels Pvt. Ltd.	47	15.5	33	33%	Cassiasammia, peltaform, Karang, Gulmohar
9.	M/s Nalwa Steel & Power Ltd.	220	75	34	33%	Bamboo, Neem, Gulmohar, Arkesia, Lemon, Ashok, Mahuwa, Saal, Bija, Tendu, Subabool
10.	M/s Shree Shyam Ispat Pvt. Ltd.	70	24	34.2	Extensive tree plantation in available open area in and out side of unit.	Mango, Neem, Gulmohar, Peltafarm, Guava, Askok, Cassiasamia, mahuva
11.	M/s BS sponge Pvt. Ltd.	108.06	35.64	33	Extensive tree plantation in available open area in and out side of unit.	Sagwan, Teak, Ashoka, Mango, Amla, Tulsi, Curry leaves, Neem, gulmohar
12.	M/s Anjani Steel Ltd.	150	50	33	Extensive tree plantation in available open area in and outside of unit.	Mango, Bamboo, Neem, Karang, Gulmohar, Akesia
13.	M/s Mahavir Energy & Coal Beneficiation Ltd.	27 .15	11	39	33%	Gulmohar, Arkesiaalestonia, peltafarm, Sisam, Kaju,

						Ratan jot, Teak, Mango, Ashok, Neem
14.	M/s Shiva Shakti Steel Pvt. Ltd.	123	76	38	Extensive tree plantation in available open area in and outside of unit.	Mango, Moringa, Sagoon, Cassia Sammia, Royal Poinciana and other native trees
15.	M/s Maa Shakambari Steel	44	15	34	Extensive tree plantation in available open area in and outside of unit.	Mango, Bamboo, Neem, Karang, Gulmohar, Arkesia, Mahuva, Piple, Papaya, Tendu, Sitapal
16.	M/s Maa Mangla Ispat	48.6	16	33.33	33%	Imli, Mango, Bamboo, Neem, karang, gulmohar, arkesia, Mahuva, Piple, Papaya, Tendu, Sitapal

Green belt verification report of the units and plant lay out map indicating green cover is enclosed as **Annexure-13.**

7. Other observations:

(a). Monitoring of Ambient Air Quality:

(i). In order to assess the Ambient Air Quality of the Raigarh area of Chhattisgarh, during the visit Ambient Air Quality Monitoring for 24 hours was carried out at 8 locations in Raigarh area for the prominent air pollutant parameters viz. PM_{10}, $PM_{2.5}$, SO_2, NOx. The AAQ monitored locations are shown in a google image:

(ii). During the visit of the Joint Committee, it has been observed that due to existing poor road condition and heavy vehicular movement in the Raigarh city, high fugitive emission is being generated, which significantly

contributing to air pollution in the city. During the interaction with local residents, they informed to the Committee that the frequent movement of multi axel trucks for transportation of coal and iron ore is the major source of air pollution. It was also informed that during night time the coal and iron ore transportation vehicular movement increases.

(iii). The ambient air quality, monitoring stations were installed at up-wind and down wind directions and monitoring carried out for 24-hour basis in Raigarh city during 21- 22nd October, 2024 and 7th-8th November, 2024. Monitored data of Ambient Air quality is given below:

Sl. No.	Location	PM_{10} (µg/m3)	$PM_{2.5}$ (µg/m3)	SO_2 (µg/m3)	NO_x (µg/m3)
1	RO CECB Office	97	62	32	11
2	Bajarang Agrwal House, Gulmohar Colony	84	52	12	39
3	Banjhinpali	148	82	12	36
4	OP Jindal School, Raigarh	92	64	08	28
5	Apex Hospital,Chatamund Chowk	81	52	06	27
6	M/s JSPL model town Kerajhar	87	54	12	36
7	M/s MSP Colony, Village Junadih	90	59	09	34
8	Village Chakradharpur	76	49	08	34
NAAQ Standard (Ambient air quality monitoring carried out for 24 Hr basis)		100	60	80	80

On the basis of above monitored Ambient Air quality data, it has been observed that the average concentration of PM_{10} (24 Hr basis) was found to be in the range of 76µg/m^3 to 148 µg/m^3 and exceeding the limit at one location. The $PM_{2.5}$ was found to be in the range of 49µg/m^3 to 82 µg/m^3 and exceeding the limit at three locations. The concentration of primary gaseous pollutants i.e. NO_x and SO_2 were found to be within the limit at all the monitored locations. Movement of heavy vehicle for transportation of raw materials i.e. coal, iron ore etc., are the main source of ambient dust pollution in nearby area. Damaged and Kuccha Road (unpaved) also contributing to increase the dust level in the vicinity of the Raigarh area. High concentration of the dust pollutants in ambient air is found in evening time as compared to the day time due to slow dispersion of pollutants and heavy vehicle

movement in night time. The copy of analytical report of the ambient air quality is enclosed at **Annexure-14.**

(b). Monitoring of surface and river water Quality:

The applicant alleged that the water quality of local ponds and river in Raigarh getting deteriorated. To assess the present status of water quality 7 samples of surface water and 3 samples of river water has been collected and analysed in CPCB and CECB Laboratory. The details of the sampling locations are shown below:

Surface and River water sample collection details

S. No.	Location	Remarks
1	Kelo river upstream near Urdana village	Water is clear no human activity was observed.
2	Kelo river midstream near Chakrapath	Water is clear and Celebration of Chhath Puja being organised at bank of river.
3	Kelo river downstream near bade Attarmuda	Water is clear no human activity was observed.
4	Jaisingh Talab	Lot of algal growth observed. The flowers and puja samagri also disposed in it as old temple located at this site.
5	Ganesh Talab	Water is clear no human activity was observed, however due to stagnant condition smell observed.
6	BudhiMai Talab	Sewage from nearby area mixing into it and lot of MSW and C&D waste dumped at the periphery of the talab.

7	Kirodimal Nagar Talab	Human activity observed and solid waste and plastic pouches observed.
8	Bhagwanpur Talab	Bathing and celebration of Chhat puja was observed.
9	Vijyapur Talab	Lot of algal growth observed.
10	Manjhapara Talab	Algal growth, bathing, idol immersion was observed at this site.

Analysis result of water samples

S. No.	Parameters	Kelo River			Talab						
		Upstream	Mid-stream	Down stream	Jaisingh	Ganesh	Budhimai	Kirodimal	Bhagwanpur	Vijyapur	Manjhapara
1	pH	7.14	7.11	7.23	6.63	7.09	6.97	6.89	6.60	7.14	7.22
2	Total Solids	117	175	181	607	586	850	309	392	276	800
3	TDS	111	159	162	584	371	828	295	381	268	788
4	Suspended Solids	<10	16	19	23	15	22	14	11	14	12
5	COD	06	10	08	28	24	32	22	26	19	39
6	BOD	02	03	03	12	08	14	08	11	07	16
7	Chloride as Cl	42	46	48	176	106	220	76	81	69	168
8	Total Alkalinity	64	78	68	101	98	129	69	84	74	102
9	Total Hardness as $CaCo_3$	57	68	71	249	204	400	191	189	154	309
10	Ammoniacal Nitrogen	0.234	0.241	0.230	0.43	0.52	13.02	4.80	5.62	3.21	6.60
11	Nitrate as NO_3	<0.02	0.053	0.055	0.62	0.48	0.72	0.44	0.56	0.033	0.018
12	Nitrite Nitrogen	<0.30	0.012	0.016	0.049	0.32	0.44	0.02	0.038	0.31	0.54
13	Sulphate	16	29	26	67	58	176	72	81	74	112
14	Phosphate as PO_4--P	0.48	0.42	0.44	0.52	0.58	0.61	0.26	0.21	0.32	0.51
15	FC	17	63	84	>1600	>1600	>1600	170	350	210	920
16	TC	280	430	350	>1600	>1600	>1600	540	710	920	>1600

All the values in mg/l except pH. TC & FC values are per 100ml of sample.

As per the classification and Designated Best Use of inland water quality criteria the river water quality comes under B category and fit for outdoor bathing (Organised). As the Ammonia level was found high in the water samples of Kirodimal nagar Talab, Budhimai Talab, Bhagwanpura Talab, Vijaypur Talab and Manjhapura Talab so the water quality comes under D category and suitable for propagation of wildlife and fisheries. The copy of analytical results of water samples are enclosed as **Annexure-15.**

8. Recommendations:

1. Although the industries have submitted the 3rd party verification report of plantation, the Committee is of the view that the verification report should contain the minimum basic information inter-alia including total area of the Industry/Project, area covered under plantation, density of trees, types of species, survival rate, expenditure incurred, layout plan to the scale, duration of verification etc.

2. The compliance status of green belt development may be verified once in a year by State or Central Govt. approved agencies. The audited report should be uploaded on the website of the company as part of transparency in the monitoring mechanism.

3. Ash must be used for back-filling of mine voids, brick works and other construction works. Monitoring of the same should be done periodically and Coal Mining Companies should accept the fly ash from the nearby by Power Plants.

4. District fly ash disposal Committee and representative of SECL may prepare list of abandoned Coal mines/ non-coal mines / quarries for back filling of mine void purpose and the same may be used by the TPPs in a scientific manner by following the guidelines as applicable and with due permission from the regulatory authorities viz. CECB, DGMS etc.

5. Any complaint regarding illegal disposal of fly ash is received, the appropriate authorities shall take strict action in accordance with the rules including penal action on transporters may be taken. The State authority may instruct to all transporters for compliance of the SoP issued by State Government for transportation of any raw material and fly ash.

6. There is need to develop infrastructure and establishment of cement grinding units in Raigarh region or any new cement grinding units in Raigarh area. Initiation of road infrastructure projects such as ring road/ by-pass road shall facilitate both connectivity of the region as well as it will reduce fugitive emission within Raigarh City and also create avenues for utilization of fly ash/ fly ash-based products.

7. All the internal roads of Raigarh should be widened to the extent possible and ensured periodical maintenance and timely completion of repairing works.

8. CECB and Agriculture department may jointly verify the ash disposal in agriculture fields and may take action accordingly.

9. Project Authorities concerned shall effectively comply with regular submission of fly ash utilisation returns and Annual Fly Ash Management Audit report to the regulatory authorities concerned and the same may be uploaded on the website of the Company.

10. Legacy ash also stored in ash dykes for which action plan is required to be prepared and submitted to the CECB for approval and dispose accordingly.

11. The catchment and storage areas of ponds should be protected by Municipal Authorities concerned from any encroachment, since the observed variation on water availability and quality. Plantation and wooden barricading may be done all along the periphery of the ponds to protect from windblown trash deposition.

12. The CECB may randomly verify the functionality of the brick manufacturing plants and its significant quantity of fly ash utilization for brick and block manufacturing.

(Shashikant Kurre)
Deputy Collector,
Raigarh

(Ankur Sahu)
Regional Officer, CECB,
Raigarh

20/11/2024

(Pentani Jagan)
Regional Director,
CPCB, Bhopal

(Dr.M.ThalamadaiKaruppiah)
Scientist-E,MoEF&CC,
Sub-Office, Raipur

Photos of site visit of Hon'ble NGT OA 970/2024 Raigarh

Joint Committee meeting with the Applicant Sh. Bajrang Agrawal

Meeting of the Joint Committee Members

Joint Committee meeting with the Applicant Sh. Bajrang Agrawal

Joint Committee visit of M/s Shiv Shakti Steel, Raigarh

Green belt development inside M/s Shiv Shakti Steel, Raigarh

Green belt at M/s Mahavir Energy Raigarh

Joint Committee visit at M/s MSP Steel Raigarh

Coal washery in M/s Shiv Shakti Steel, Raigarh

Green belt development inside M/s Maa Mangala Steel, Raigarh

Green belt development inside M/s Maa Mangala Steel, Raigarh

Heavy vehicular movement, Raigarh

Heavy vehicular movement, Raigarh

Joint Committee visit of M/s NTPC, Lara, Raigarh

Green belt at M/s Shree Shyam steel Raigarh

Green belt development inside M/s NTPC, Lara, Raigarh

Ambient Air Quality Monitoring at office building of RO, CECB Raigarh

Ambient Air Quality Monitoring at H.No. 28, Gulmohar Colony, Raigargh (Sh. Bajrang Agrwal ji Ka Ghar, Applicant)

Ambient Air Quality Monitoring at Jindal School, Raigarh

Ambient Air Quality Monitoring at Banjhipali Area, Raigarh

Water sampling from Jai singh pond, Raigarh

Water sampling from Kelo River, Raigarh

Joint Committee Visit at M/s Adani Power ash pond

Fly ash Brick/tiles manufacturing at M/s Adani Power

Joint Committee visit at ash pond at M/s NTPC, Lara

Fly ash utilisation in Brick plant of M/s Mahaveer Energy Ltd.

Joint Committee visit at ash pond location of M/s Jindal Power Ltd

View of Green belt inside M/s Jindal Power Ltd

Green belt development inside M/s Anjani Steel, Raigarh

Water sample collection from Manjhapara Talab

Ambient Air Quality Monitoring at Model Town Colony

Fly ash disposal in plant area by M/s Nalwa Steel Ltd.

Fly ash disposal in low laying area by M/s Sharda Energy Ltd.

View of Thick Green belt in M/s B S Sponge Raigarh

Fly ash brick manufacturing plant at M/s B S Sponge Ltd Raigarh

Fly ash brick manufacturing plant at M/s JSPL, Raigarh.

MSW dumping at Budi mai Talab

Item No. 02 Court No. 2

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

Original Application No. 970/2024

Bajrang Agarwal Applicant

Versus

State of Chhattisgarh Respondent

Date of hearing: 26.09.2024

CORAM: HON'BLE MR. JUSTICE SUDHIR AGARWAL JUDICIAL MEMBER
HON'BLE DR. AFROZ AHMAD, EXPERT MEMBER

Applicant: Applicant in Person (through VC)

ORDER

1. Bajrang Agarwal, Adhyaksh, Raigarh Paryavaran Mitra, Office at Ram Niwas Talkies Chowk, Raigarh, Chhattisgarh has sent a letter vide e-mail dated 02.12.2023 complaining that large number of medium and large industries are operating in District Raigarh which are mostly coal based such as power plant, furnace industries, coal washeries, coal depo, rolling mills etc. These industries have not made any provision for green belt though under Environmental Clearance conditions, 33% land has to be developed as green belt nor plantation has been carried out. As per data disclosed by Environment Department, these industries are producing every year approximately 1 core 52 lakhs tons of fly ash which is not being properly disposed of in a scientific manner and dumped in agriculture field, forest area etc. and thereby causing damage to environment. In Raigarh city, every person within a radius of 20 kms is suffering on account of unscientific disposal of fly ash. Fly ash fall like rain on each and every house and inhabitants, living in the city.

2. Allegations made in letter petition in our view *prima facie* give rise to substantial question relating to environment arising due to implementation of Enactments mentioned in Schedule I of National Green Tribunal Act, 2010 (hereinafter referred to as '**NGT Act, 2010**'). However, before taking any further action in the matter, we find it appropriate to obtain a factual report for which we constitute a joint Committee comprising:

1. Integrated Regional Office, Ministry of Environment, Forest and Climate Change, Raipur;
2. Central Pollution Control Board (hereinafter referred to as '**CPCB**');
3. Chhattisgarh State Pollution Control Board (hereinafter referred to as '**CSPCB**') and;
4. District Magistrate, Raigarh.

3. CPCB shall be the nodal agency for coordination and compliance.

4. The aforesaid Committee shall inspect relevant site, collect relevant information and find out whether conditions of consent and EC are being complied with by industries particularly in respect of disposal of fly ash and development of green belt /plantation. The report shall be submitted within one month.

5. List on 04.11.2024.

Sudhir Agarwal, JM

Dr. Afroz Ahmad, EM

September 26, 2024
Original Application No. 970/2024
SN

क्षेत्रीय निदेशालय (मध्य), भोपाल

केन्द्रीय प्रदूषण नियंत्रण बोर्ड

(पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार)

Annexure-2

क्षे.नि.भो. / एन.जी.टी. ओए–970 / 2024 / 1363A

दिनांक: 18 अक्टूबर, 2024

एन.जी.टी. प्रकरण

प्रति,

उप–महानिदेशक वन (C) एकीकृत क्षेत्रीय कार्यालय, भू–तल, अरण्य भवन, नॉर्थ ब्लॉक, सैक्टर–19, नया रायपुर–492002 (छ.ग.)	कलेक्टर कार्यालय रायगढ़ छत्तीसगढ़–496001	सदस्य सचिव छ.ग. पर्यावरण संरक्षण मंडल पर्यावास भवन, सैक्टर–19, नया रायपुर–492002 (छ.ग.)

विषय: माननीय एनजीटी प्रिंसिपल बैंच, दिल्ली के प्र.क.–970 / 2024, माननीय एनजीटी द्वारा स्वतः संज्ञान में पारित आदेश दिनांक: 26 / 09 / 2024 के अनुपालनार्थ।

संदर्भ: इस कार्यालय का पत्र क्र.: क्षे.नि.भो. / एन.जी.टी. ओए–970 / 2024 / 1311 दिनांक: 13 / 10 / 2024

महोदय,

कृपया उपरोक्त संदर्भित पत्र का अवलोकन करने का कष्ट करें (सुलभ संदर्भ हेतु पत्र संलग्न) जिसके माध्यम से माननीय एनजीटी द्वारा प्र.क.–970 / 2024 में पारित आदेश के माध्यम से 04 सदस्यीय समिति के गठन हेतु निर्देश प्रदान किया गया था। उपरोक्त के परिपालन में सभी संबंधित विभागों से प्राप्त नामांकन के आधार पर निम्न समिति का गठन किया गया है तथा समिति द्वारा **दिनांक: 21 व 22 अक्टूबर, 2024 को स्थल निरीक्षण** किया जाना प्रस्तावित है।

क्र.	नाम व पदनाम	सम्पर्क विवरण
01	श्री पी. जगन, क्षेत्रीय निदेशक केन्द्रीय प्रदूषण नियंत्रण बोर्ड, भोपाल	ई–मेल: cpcb.bhopal@gov.in मो.नं. 9755559745
02	डॉ. एम.टी. करूपियाह, वैज्ञानिक–ई, पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, एकीकृत कार्यालय, रायपुर	ई–मेल: mtkaruppiah@gmail.com मो.नं. 9840390069
03	श्री अंकूर साहू, क्षेत्रीय अधिकारी, छ.ग.प.सं.मं., रायगढ़	ई–मेल: hocecb@gmail.com मो.नं. 9685095091
04	श्री शशिकांत कुर्रे, डिप्यूटी कलेक्टर, रायगढ़	–

उपरोक्त समिति द्वारा प्रश्नगत स्थल रायगढ़ क्षेत्र, छत्तीसगढ़ स्थित उद्योग व अन्य क्षेत्रों का संयुक्त निरीक्षण व स्थानीय विभागों से समन्वय कर जानकारी एकत्रिकरण कार्य माननीय एनजीटी द्वारा पारित आदेश के बिंदु कमांक–4 में दिये गये निर्देश के आधार पर किया जाना प्रस्तावित है तथा प्रतिवेदन दिनांक: 04 / 11 / 2024 तक प्रस्तुत किया जाना है। इस बाबत केन्द्रीय प्रदूषण नियंत्रण बोर्ड को नोडल एजेंसी नियुक्त किया गया है।

भवदीय,

(पी. जगन)
क्षेत्रीय निदेशक

संलग्नक: यथोपरि।

प्रतिलिपि:

1. श्री नजीमुद्दीन, वैज्ञा.–एफ एवं विभाग प्रमुख, IPC–II
2. डिविजनल हेड, विधि विभाग., के.प्र.नि.बो., दिल्ली

} की ओर कृपया सूचनार्थ।

क्षेत्रीय निदेशक

LiFE Lifestyle for Environment

Annexure-3

क्षेत्रीय कार्यालय
छ.ग. पर्यावरण संरक्षण मंडल

टी.व्ही.टॉवर रोड, जिला–रायगढ़ (छ.ग.)
Email – roraigarh.cecb@gmail.com

जावकक्र 725 /क्षे. का./प.सं.मं./2023 रायगढ़, दिनांक 15/06/23

प्रति,

सदस्य सचिव,
छ.ग. पर्यावरण संरक्षण मण्डल,
पर्यावास भवन, नार्थ ब्लॉक, सेक्टर–19
नवा रायपुर अटलनगर, रायपुर (छ.ग.)

विषय :– अप्रैल 2022 से मार्च 2023 तक फ्लाई ऐश यूटिलाईजेशन वार्षिक रिपोर्ट के संबंध में।
संदर्भ :– मंडल मुख्यालय का पत्रक्रमांक 786 दिनांक 09.05.2023

——00——

उपरोक्त विषयांतर्गत लेख है कि उद्योगों के ताप विद्युत संयंत्रों से जनित फ्लाई ऐश का यूटिलाईजेशन रिपोर्ट अप्रैल 2022 से मार्च 2023 तक की वार्षिक जानकारी संकलित कर प्रतिवेदन कृपया प्रेषित है।

संलग्न :– उपरोक्तानुसार।

क्षेत्रीय अधिकारी
छत्तीसगढ़ पर्यावरण संरक्षण मंडल,
रायगढ़ (छ.ग.)

D:\Nawal\Toppo Madam\All Letter 2022

FLY ASH UTILIZATION REPORT

Month April 2022- March 2023

SN	Name of Thermal power plant	Capacity (MW)	Fly ash generation in the month of (MT)	Supply to cement plant (MT)	Brick making plant (MT)	Land filling (MT)	Ash dyke raising construction (MT)	Agriculture (MT)	Mine filling (MT)	Road Making (MT)	Others (Specify)	Total utilization in (MT)	% Age utilization in (MT)
1	M/S Jindal Steel & Power Ltd. Patrapali, Raigarh	175.6	361381	31030	107408	222933	0	0	0	0	0	361371	100%
2	M/S Salasar Sponge & Power Ltd. Vill. Gerwani, Raigarh	75.5	28705	0	19190	9515	0	0	0	0	0	28705	100%
3	M/S Ind Synergy Ltd., vill- Kotmar, Siyarpali & Mahuapali, Dist- Raigarh	10	4215	0	812	2456	0	0	0	947	0	4215	100%
4	M/S Rukmani Power & Steel Ltd Vill. Kunkuri, Kharsia, Raigarh	10	9093.69	0	0	9093.69	0	0	0	0	0	9093.69	100%
5	M/S R.R. Energy Ltd. Vill. Garumaria, Raigarh	15	25518	0	12870.95	12647.05	0	0	0	0	0	25518	100%
6	M/S Nalwa Steel & Power Ltd., Tarairmal, Raigarh	16	74381	0	0	74381	0	0	0	0	0	74381	100%
7	M/S O.P. Jindal Thermal Power Plant, Tamnar, Raigarh	3400	6737231.6	87019.39	33907.50	203144.18	0	0	6344278.85	0	0	6668349.92	98.98%
8	M/S JSW Ispat (Special Product), Limited, (Monnet Ispat & Energy Ltd.) Vill. Naharpali, Raigarh	140	179853.4	14162.1	19444.8	146172.4	0	0	0	0	0	179779.3	100%
9	M/S MSP Sponge Iron Ltd. Vill. Manuapali, Raigarh	12	79692	0	67804	3800	0	0	1000	3474	3614 (Civil Work as Plinth filling & Road construction work.)	79692	100%
10	M/S Anjani Steels Ltd Vill. Ujalpur, Raigarh	06	26962.52	0	26962.52	0	0	0	0	0	0	26962.52	100%
11	M/S Singhal enterprises Pvt. Ltd Tarairmal , Raigarh	33	137891	0	75091	62800	0	0	0	0	0	137891	100%
12	M/S Jindal Steel & Power Limited , Dongamahua, Raigarh	576	891892	0	505.2	0	0	0	891386.8	0	0	891892	100%
13	M/S MSP Steel & Power Ltd. Jamgaon, Raigarh	48.5	227734	0	122206	50825	0	0	0	38691	16012 (Civil work)	227734	100%
14	M/S Mahaveer Energy & Coal Benification Ltd. Bhengari, Raigarh	12	14563.88	0	14563.88	0	0	0	0	0	0	14563.88	100%
15	M/S Sun Steel and Power Pvt. Ltd.(M/s Rameswaram Steel & Power Ltd.) Bade Gumda , Raigarh	08	0	0	0	0	0	0	0	0	0	0	0%
16	M/S Nav Durga Fuel Pvt.Ltd. Sarsipali, Ghaighoda Road, Raigarh	05	55230.47	0	35611.24	0	19619.23	0	0	0	0	55230.47	100%

17	M/S Raigarh Energy Generation Ltd (Korba west power com. Ltd.). Vill- Chhota Bhandar, Teh.- Pusaur, Raigarh	600	1181987.33	4751.02	0	1114686.8	131777	0	0	0	0	1251194.82	105.86%
18	M/S Maa Kali Alloys Pvt. Ltd. Vil.- Pali, Dist. - Raigarh	04	36250.8	0	36250.8	0	0	0	0	0	0	36250.8	100%
19	M/S Shri Shyam Ispat (India) Pvt. Ltd. Taraimal Dist. - Raigarh	12	44287	0	28170	16117	0	0	0	0	0	44287	100%
20	M/S Sky Alloys Pvt. Ltd. Tamtema Dist. Raigarh	12	47803	0	47803	0	0	0	0	0	0	47803	100%
21	M/S N.R. Ispat & Power Pvt. Ltd. Goumudi, Dist. Raigarh	04	30310.97	0	30310.97	0	0	0	0	0	0	30310.97	100%
22	M/S TRN Energy Pvt. Ltd. Vill-Bhengari ,Nawapara, Dist-Raigarh	600	730765	0	24530	109123.76	0	0	53235	29347	0	216235.76	29.59%
23	M/s S K S Power Generation (C.G.) Ltd Vill.-Binjkot/Darramuda, Raigarh	600	449319.90	44225.19	11364.03	287392.35	32000	0	180559.41	0	0	555540.98	123.64%
24	M/S Singhal Energy Pvt. Ltd. Taraimal , Raigarh	08	38643	0	23394	15249	0	0	0	0	0	38643	100%
25	M/s Lara Super Thermal Power project (NTPC Ltd.) Lara, Raigarh, Dist- Raigarh	1600	3604127	0	3208	255408	0	0	0	1111540	539 (Cencophere)	1370701	38.03%
26	M/s Raigarh Ispat & Power (P) Ltd., Vill.- Delari, Dist.- Raigarh	04	53960	0	49830	4120	0	0	0	0	0	53960	100%
27	M/s B.S. Sponge Pvt. Ltd., Vill.- Tarairmal, P.O.- Garwani, Dist.- Raigarh	04	35123	0	28081.6	7285.53	0	0	0	0	0	35367.13	100.70%
28	M/s Shree Rupanadham (P) Ltd., Vill.- Sarapali, Tehsil- Tamnar, Dist.- Raigarh	04	11323.34	0	2696.74	462.7	0	0	0	8163.90	0	11323.34	100%
Total		7947.60	15117834.9	181187.70	822016.23	2607592.46	183396.23	0	7470460.06	1192168.90	0	12476986.58	82.53%

Assistant Engineer

Attendance sheet

Annexure-04

Hon'ble NGT Case No. 970 of 2024 in the matter of Bajrang Agrawal Vs State of Chhattisgarh order dated

Date: 21.10.24

Location: Raigarh

S.No.	Name of official	Department	Sign
1	Dr. M.T. KARUPPIAH	MoEF&CC, Sub. Office, Raipur	[signature]
2.	P. Jagan	RD, CPCB, Bhopal	[signature]
3	R.L. Sidar	ASLR Landrecord.	[signature]
4	Anoop chaturvedi, CPCB	Sci- B	[signature]
5	Ankur Sahu	ROCECB, Raigarh	[signature]
6.	Abhinav Singh Chauhan	Asst. Engineer, ROCECB	[signature]
7	Bajrang agrawal	Petisioner	[signature]

Annexure-5

क्षेत्रीय कार्यालय, रायगढ़ (छ.ग.) के अंतर्गत फ्लाई ऐश के अनियंत्रित अपवहन एवं परिवहन किये जाने पर अधिरोपित पर्यावरणीय क्षतिपूर्ति की जानकारी

वर्ष 2022–23 से 31 अक्टूबर 2024 तक

क्र.	उद्योग का नाम व पता	पर्यावरणीय क्षतिपूर्ति अधिरोपित की जाने की तिथी	पर्यावरणीय क्षतिपूर्ति राशि जमा करने की जानकारी
1	मेसर्स एनटीपीसी लिमिटेड लारा सुपर थर्मल पॉवर प्रोजेक्ट, ग्राम–लारा, तहसील–पुसौर, जिला–रायगढ़ (छ.ग.)	6.3.2023	1,06,172.00
		17.03.2023	1,00,000.00
		3.5.2023	1,12,500.00
		16.05.2023	52,500.00
		19.05.2023	2,29,950.00
		13.06.2023	58,200.00
		21.06.2023	45,500.00
		7.7.2023	30,000.00
		10.7.2023	1,69,620.00
		31.08.2023	1,43,145.00
		17.10.2023	1,51,700.00
		21.12.2023	48,000.00
		29.11.2023	84,870.00
		8.2.2024	9,30,000.00
		14.03.2024	30,90,000.00
2	मेसर्स अदानी पॉवर लिमिटेड, ग्राम–छोटे मण्डार, तहसील–पुसौर, जिला–रायगढ़ (छ.ग.)	8.2.2024	9,30,000.00
		10.10.2023	28,590.00
3	मेसर्स जिंदल पॉवर लिमिटेड, तमनार, तहसील–तमनार, जिला–रायगढ़ (छ.ग.)	4.4.2024	9,63,195.00
4	मेसर्स जिंदल स्टील एण्ड पॉवर लिमिटेड, ग्राम–पतरापाली, जिला–रायगढ	5.9.2024	4,50,000.00
5	मेसर्स जे.एस.डब्ल्यू. स्टील लिमिटेड, ग्राम–नहरपाली, जिला–रायगढ़ (छ.ग.)	3.6.2022	6,00,000.00
		29.08.2022	30,000.00
		16.04.2024	
		20.03.2023	2,14,830.00
		10.5.2023	52,695.00
		26.05.2023	66,495.00
		5.6.2023	60,480.00
		6.6.2023	55,020.00
		14.07.2023	37,350.00
		26.07.2023	62,205.00
		8.9.2023	92,595.00
		8.2.2024	9,30,000.00
		29.05.2024	60,000.00
		12.6.2024	55,350.00
		18.06.2024	60,000.00
6	मेसर्स एम.एस.पी. स्टील्स एण्ड पॉवर लिमिटेड, ग्राम–जामगांव, जिला–रायगढ़ (छ.ग.)	21.12.2022	1,37,500.00
		22.03.2024	4,50,000.00

7	मेसर्स एस.के.एस. पॉवर जनरेशन कंपनी (छत्तीसगढ़), ग्राम– बिंजकोट, दर्रामुड़ा, तहसील–खरसिया, जिला–रायगढ़ (छ.ग)	16.09.2022	9,37,500.00
		24.03.2023	42,150.00
		10.5.2023	48,660.00
		15.05.2023	25,905.00
		16.05.2023	29,865.00
		24.05.2023	3,04,455.00
		6.6.2023	52,680.00
		14.07.2023	50,865.00
		19.07.2023	1,74,735.00
		27.02.2024	11,57,565.00
		4.3.2024	42,720.00
		22.05.2024	3,30,000.00
		22.05.2024	1,50,000.00
		22.05.2024	3,00,000.00
		12.6.2024	29,865.00
		18.07.2024	1,11,345.00
		16.08.2024	3,90,000.00
8	मेसर्स टी.आर.एन. इनर्जी प्राईवेट लिमिटेड, ग्राम–भेंगारी, तहसील– घरघोड़ा, जिला–रायगढ़ (छ.ग.)	8.12.2022	25,000.00
		7.3.2024	12,00,000.00
9	मेसर्स सिंघल इन्टरप्राईजेश (प्राईवेट) लिमिटेड, ग्राम–तराईमाल, जिला–रायगढ़ (छ.ग.)	8.7.2022	6,25,000.00
		12.9.2023	41,790.00
10	मेसर्स रायगढ़ इस्पात एण्ड पॉवर प्राईवेट लिमिटेड, ग्राम–देलारी, जिला–रायगढ़ (छ.ग.)	15.07.2022	6,25,000.00
		22.08.2023	3,25,000.00
		25.01.2024	46,200.00
11	मेसर्स नवदुर्गा फ्यूल्स प्राईवेट लिमिटेड, ग्राम–सराईपाली, जिला–रायगढ़ (छ.ग.)	21.06.2022	2,40,000.00
		27.092024	2,40,000.00
12	मेसर्स बी. एस. स्पंज प्राईवेट लिमिटेड, ग्राम–तराईमाल, जिला–रायगढ़ (छ.ग.)	9.1.2023	3,00,000.00
		19.05.2023	85,335.00
		6.6.2023	73,785.00
		14.07.2023	1,13,865.00
		25.09.2023	93,015.00
13	मेसर्स आर. आर. इनर्जी. लिमिटेड, ग्राम–गढ़उमरिया, जिला–रायगढ़ (छ.ग.)	6.3.2023	9,50,000.00
14	मेसर्स मां काली एलॉयस प्रा. लिमिटेड, ग्राम–पाली, जिला–रायगढ़ (छ.ग.)	7.7.2023	25,590.00
		22.08.2023	40,000.00
		10.10.2023	9,80,000.00
		24.05.2024	25,500.00
15	मेसर्स सालासार स्टील एण्ड पॉवर लिमिटेड, ग्राम–गेरवानी, जिला–रायगढ़ (छ.ग.)	15.06.2023	44,955.00
		26.05.2023	27,795.00
		10.10.2023	34,575.00
		2.2.2024	26,565.00
16	मेसर्स श्री श्याम इस्पात (इण्डिया) प्राईवेट लिमिटेड, ग्राम–तराईमाल, जिला रायगढ़ (छ.ग.)	25.05.2023	1,32,150.00
		4.9.2023	28,095.00
17	मेसर्स श्री रूपानाथाम स्टील प्राईवेट लिमिटेड, ग्राम–सराईपाली, तहसील–तमनार, जिला–रायगढ़ (छ.ग.)	10.10.2023	30,000.00
		21.03.2024	21,420.00
18	मेसर्स अंजनी स्टील्स प्राईवेट लिमिटेड, ग्राम–उज्जवलपुर, जिला–रायगढ़ (छ.ग)	11.9.2024	89,325.00
कुल –			**2,13,56,732.00**

Annexure-6

छत्तीसगढ़ पर्यावरण संरक्षण मंडल

पर्यावास भवन, नॉर्थ ब्लॉक, सेक्टर–19,
नवा रायपुर, अटल नगर, रायपुर (छ.ग.)
Email add- hocecb@gmail.com

क्रमांक 2528/मु./तक./छ.ग.प.सं.मं./2024 नवा रायपुर, अटल नगर, दिनांक 26/6/2024

कार्यालय आदेश

छत्तीसगढ़ राज्य में बड़ी संख्या में गौण/मुख्य खनिज खदानें एवं स्पंज आयरन प्लांट, पावर प्लांट, स्टील मेल्टिंग शॉप, फेरो एलाएज प्लांट, रोलिंग मिल आदि उद्योग स्थापित हैं। इन उद्योगों से उत्पादित उत्पाद, उत्पन्न अपशिष्ट एवं उद्योगों में प्रयुक्त होने वाले कच्चे माल, जिनसे परिवहन के दौरान डस्ट उत्सर्जन की संभावना रहती है, का परिवहन बड़ी मात्रा में सड़क मार्ग से किया जाता है। परिवहनकर्ता वाहनों द्वारा ओव्हर लोडिंग करने एवं वाहन को उपयुक्त प्रकार से कव्हर नहीं किये जाने के कारण परिवहन के दौरान प्रदूषण एवं दुर्घटना की संभावना बनी रहती है एवं वाहन के पीछे चलने वालों को अत्याधिक असुविधा होती है। उक्त समस्या के निराकरण हेतु वाहनों को उपयुक्त प्रकार से कव्हर किये जाने बाबत निम्न स्टेण्डर्ड ऑपरेटिंग प्रोसिजर के अनुसार कार्यवाही की जावे।

1. **उद्योगों/खदानों/संस्थानों द्वारा की जाने वाली कार्यवाही :–**

- प्रत्येक खदान/उद्योग/संस्थान प्रक्रियाओं का पालन सुनिश्चित करने हेतु एक नोडल अधिकारी नियुक्त करेगा। जोकि इस प्रक्रिया के पालन हेतु उत्तरदायी रहेगा।
- प्रत्येक खदान/उद्योग/संस्थान में परिवहन हेतु वाहनों का समूह चिन्हांकित किया जायेगा। जिसकी सूची एवं पूर्ण विवरण संबंधित खदान/उद्योग/संस्थान के नोटिस बोर्ड पर उपलब्ध रहेगा।
- परिवहन करने वाले वाहन से उत्सर्जन मानकों के अनुरूप रहना चाहिए एवं परिवहन के दौरान वाहन में वैध पी.यू.सी. प्रमाण पत्र उपलब्ध रहना चाहिए।
- प्रत्येक खदान/उद्योग/संस्थान में तारपोलिन से वाहन कव्हर करने हेतु एक स्थाई स्थल चिन्हांकित किया जावेगा एवं इसी स्थल पर वाहन को तारपोलिन से कव्हर करने की कार्यवाही की जायेगी। स्थल पर आवश्यकतानुसार जल छिड़काव की व्यवस्था आदि की जावेगी।

2. **तारपोलिन से वाहन को ढँकने की प्रकिया:–**

प्रत्येक खदान/उद्योग/संस्थान सुनिश्चित करेगा कि –

- वाहन की बॉडी, जिसे तारपोलिन द्वारा ढँका जाना है, में कोई छिद्र अथवा क्रेक नहीं होना चाहिये, जिससे इसमें भरे जाने वाला मटेरियल परिवहन के दौरान सड़क पर नहीं गिरे।
- वाहन में मटेरियल का भराव इस प्रकार से किया जावे, जिससे बॉडी में न्यूनतम 05 सेंटी मीटर का फ्री बोर्ड रहे। वाहन किसी भी परिस्थिति में ओव्हर लोड नहीं किया जाना चाहिये।

- तारपोलिन केनवास अथवा उच्च घनत्व पोलीइथलीन की उपयुक्त मोटाई की होनी चाहिये। उच्च घनत्व पोलीइथलीन की तारपोलिन आई.एस. 7903 : 2011 के प्रावधानों के अनुरूप होनी चाहिये एवं इस पर बी.आई.एस. कोड के प्रावधान अनुसार मार्किंग होना चाहिये।
- तारपोलिन वाटरप्रूफ, वियर रेजिस्टेंट होनी चाहिये। यह कटी–फटी अथवा क्षतिग्रस्त नही होनी चाहिये। तारपोलिन की मजबूती के लिये किनारे/कोने दोहरी सिलाई युक्त होना चाहिये एवं किनारे–किनारे आवश्यकतानुसार आईलेट्स लगे होने चाहिये, ताकि तारपोलिन को सुविधानुसार बांधा जा सके। कटी–फटी अथवा क्षतिग्रस्त तारपोलिन से कव्हर करना पाये जाने पर इस एस.ओ.पी. का उल्लंघन माना जावेगा।
- यथा संभव वाहन को कव्हर करने के लिये एक तारपोलिन का उपयोग किया जाना चाहिये, ताकि परिवहन के दौरान हवा के कारण तारपोलिन उडने की संभावना न रहे। किन्ही परिस्थितियों में यदि एक ही तारपोलिन का उपयोग संभव न हो, तो दो तारपोलिन का उपयोग पर्याप्त ओव्हर लेप करते हुये किया जा सकता है। परंतु इसमें सावधानी रखी जावे कि परिवहन के दौरान हवा के कारण तारपोलिन उडने एवं मटेरियल से प्रदूषण की संभावना न हो।
- तारपोलिन से वाहन के बॉडी के बाहरी न्यूनतम आधे हिस्से को कव्हर कर बांधा जाना चाहिये।
- वाहन को तारपोलिन से कव्हर करने के पश्चात इस प्रकार बांधा जाकर सील किया जाना चाहिए ताकि परिवहन के दौरान वाहन से मटेरियल के बाहर गिरने/उड़ने की संभावना न रहे।
- कव्हर करने के पश्चात वाहन की बाडी के तीनों ओर संबधित खदान/उद्योग/संस्थान के नोडल अधिकारी का सम्पर्क नम्बर सहजदृष्य रूप से प्रदर्शित करने वाला स्टीकर लगाया जायेगा ताकि उल्लंघन पाये जाने पर इसकी जानकारी संबधित को दी जा सके। नोडल अधिकारी इस बाबत जानकारी प्राप्त होते ही यथाशीघ्र समस्या का निराकरण सुनिश्चित करेगा।
- प्रत्येक वाहन में परिवहन किये जा रहे मटेरियल से संबधित वैध दस्तावेज यथा आवश्यकता अनुसार परमिट/पिटपास आदि तथा मटेरियल की मात्रा, मटेरियल पाने वाले का नाम तथा उद्योग/संस्थान आदि जानकारी संबंधी विवरण उपलब्ध रहना चाहिए।
- उपरोक्त कार्यवाही पूर्ण होने के पश्चात वाहनों को व्हील वाशिंग सिस्टम से गुजारा जाना चाहिए ताकि उपरोक्त प्रक्रिया के दौरान वाहन के पहियों पर लगी डस्ट साफ हो सके।
- प्रत्येक खदान/उद्योग/संस्थान उपरोक्त बिन्दुओं पर कार्यवाही हेतु एक चेक लिस्ट तैयार करेगा एवं कार्यवाही पूर्ण होने पर वाहन चालक चेक लिस्ट अनुसार कार्य पूर्ण किये जाने की जानकारी हस्ताक्षर कर सिक्युरिटी गेट पर जमा करेगा एवं एक प्रति वाहन के साथ रखेगा। समस्त कार्यवाही संतोषप्रद रूप से पूर्ण होने के पश्चात ही वाहन को परिसर के बाहर निकलने की अनुमति दी जावेगी।

3. <u>उल्लंघन की स्थिति में कार्यवाही:–</u>

- परिवहन के दौरान वाहन उपरोक्तानुसार तारपोलिन से उपयुक्त रूप से ढका न पाये जाने पर पुलिस/परिवहन विभाग के अधिकारियों द्वारा वाहन पर संबंधित नियमों के अंतर्गत कार्यवाही की जायेगी।

- उद्योगों / खदानों / संस्थानों के निरीक्षण के दौरान परिसर में उपरोक्त प्रकिया का उल्लंघन पाये जाने पर उनके विरूद्ध नियमानुसार पर्यावरणीय क्षतिपूर्ति अधिरोपित करने की कार्यवाही संबंधित क्षेत्रीय कार्यालय, छत्तीसगढ़ पर्यावरण संरक्षण मंडल द्वारा की जावेगी।

उपरोक्त एस.ओ.पी. दिनांक 01 / 08 / 2024 से प्रभावशील होगा। संबंधित उद्योगों / खदानों / संस्थानों द्वारा एस.ओ.पी. के अनुसार आवश्यक व्यवस्थाएं दिनांक 01 / 08 / 2024 के पूर्व पूर्ण करना सुनिश्चित कर लिया जावे।

सदस्य सचिव
छत्तीसगढ़ पर्यावरण संरक्षण मंडल
नवा रायपुर, अटल नगर (छ.ग)

पृ / मु / तक. / छ.ग.प.सं.मं. / 2024 नवा रायपुर, अटल नगर, दिनांक / / 2024

प्रतिलिपि :–

1. सचिव, आवास एवं पर्यावरण विभाग, मंत्रालय, महानदी भवन, नवा रायपुर, अटल नगर, रायपुर (छ.ग.) की ओर प्रेषित कर निवेदन है कि शासन स्तर से परिवहन विभाग को उपरोक्तानुसार कार्यवाही हेतु निर्देशित करने का कष्ट करें।
2. सर्व संबंधित अधिकारी, मुख्यालय, छत्तीसगढ़ पर्यावरण संरक्षण मण्डल, नवा रायपुर, अटल नगर, रायपुर (छ.ग.) की ओर सूचनार्थ एवं पालनार्थ प्रेषित।
3. क्षेत्रीय अधिकारी, क्षेत्रीय कार्यालय, छत्तीसगढ़ पर्यावरण संरक्षण मण्डल, रायपुर / भिलाई–दुर्ग / बिलासपुर / कोरबा / रायगढ़ / अंबिकापुर / जगदलपुर की ओर प्रेषित कर निर्देशित किया जाता है कि आपके कार्यक्षेत्र में स्थापित संबंधित उद्योगों को उपरोक्तानुसार एस.ओ.पी. के पालन एवं इस हेतु आवश्यक व्यवस्था दिनांक 01 / 08 / 2024 के पूर्व पूर्ण करने हेतु निर्देशित करे एवं दिनांक 01 / 08 / 2024 से उद्योगों में निरीक्षण के दौरान उल्लंघन पाये जाने नियमानुसार पर पर्यावरणीय क्षतिपूर्ति अधिरोपित करें।
4. प्रोग्रामर, मुख्यालय, छत्तीसगढ़ पर्यावरण संरक्षण मण्डल, नवा रायपुर, अटल नगर, रायपुर (छ.ग.) की ओर सूचनार्थ एवं पालनार्थ प्रेषित। निर्देशित है कि उक्त आदेश को मण्डल की वेबसाईट मे अपलोड करें।
5. नोटिस बोर्ड।

सदस्य सचिव
छत्तीसगढ़ पर्यावरण संरक्षण मंडल
नवा रायपुर, अटल नगर (छ.ग)

Annexure-7

कार्यालय कलेक्टर एवं जिला दण्डाधिकारी, रायगढ़, जिला–रायगढ़ (छ.ग.)

जावक क्रं. 564 /क्षे. का./प.सं.मं./2021 रायगढ़, दिनांक 22/07/21

विषय :– पावर प्लांट से जनित फ्लाई ऐश के उपयोग (भू–भराव एवं खदान भराव) के संबंध में ।

संदर्भ :– 1. माननीय राष्ट्रीय हरित अधिकरण में दायर वाद क्रमांक 104/2018 में गठित ओवरसाईट कमेटी द्वारा फ्लाई ऐश के अपवहन/निस्तारण हेतु दिये गये दीर्घकालीन सुझाव।
2. मुख्यालय, छ.ग. पर्यावरण संरक्षण मंडल, अटल नगर, नवा रायपुर, जिला–रायपुर (छ.ग.) का पत्र क्रमांक 8332 दिनांक 28.12.2020

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माननीय राष्ट्रीय हरित अधिकरण में दायर वाद क्रमांक 104/2018 में गठित ओवरसाईट कमेटी द्वारा फ्लाई ऐश के अपवहन/निस्तारण हेतु रायगढ़ जिले में पावर प्लांट से जनित फ्लाई ऐश के उपयोग के संबंध में प्रभावी क्रियान्वयन एवं अनुमति प्रदान किये जाने हेतु निम्नानुसार जिला स्तरीय समिति का गठन किया जाता है :–

1	कलेक्टर	अध्यक्ष
2	अनुविभागीय अधिकारी (राजस्व), अनुविभाग–रायगढ़, सारंगढ़, धरमजयगढ़, लैलूंगा, खरसिया, घरघोड़ा, जिला–रायगढ़ (छ.ग.) (अपवहन क्षेत्र के अनुसार)	सदस्य
3	उप संचालक खनिज, जिला–रायगढ़ (छ.ग.)	सदस्य
4	क्षेत्रीय अधिकारी, छ.ग. पर्यावरण संरक्षण मंडल, रायगढ़, जिला–रायगढ़ (छ.ग.) अथवा उनके प्रतिनिधि।	समन्वयक

संबंधित विभाग भारत सरकार, पर्यावरण वन एवं जलवायु परिवर्तन मंत्रालय, नई दिल्ली के कार्यलयीन ज्ञापन दिनांक 28.08.2019 में उल्लेखित व्यवस्थाओं का पालन किये जाने की शर्त के साथ रायगढ़ जिले में स्थित पावर प्लांटों के द्वारा प्रस्तुत पलाई ऐश के अपवहन (भू–भराव एवं खदान भराव में) संबंधी प्रकरणों पर संयुक्त जांच कार्यवाही कर अनुमति हेतु विचार/अनुशंसा करेंगे। अनुशंसा पश्चात् छ.ग. पर्यावरण संरक्षण मंडल, रायगढ़ अनापत्ति/अनुमति प्रदान करने की कार्यवाही सुनिश्चित करेंगे।

कलेक्टर
जिला–रायगढ़ (छ.ग.)

प्रतिलिपि :– सर्व संबंधितो को सूचनार्थ एवं पालनार्थ।

1. सदस्य सचिव, छत्तीसगढ़ पर्यावरण संरक्षण मंडल, अटल नगर, नया रायपुर (छ.ग.) की ओर सूचनार्थ प्रेषित।
2. अनुविभागीय अधिकारी (राजस्व), अनुविभाग–रायगढ़, सारंगढ़, धरमजयगढ़, लैलूंगा, खरसिया, घरघोड़ा, जिला–रायगढ़ (छ.ग.) की ओर सूचनार्थ एवं पालनार्थ।
3. जिला खनिज अधिकारी, खनिज विभाग, जिला–रायगढ़ (छ.ग.) की ओर सूचनार्थ एवं पालनार्थ।
4. क्षेत्रीय अधिकारी, छ.ग. पर्यावरण संरक्षण मंडल, रायगढ़, जिला–रायगढ़ (छ.ग.) की ओर सूचनार्थ एवं पालनार्थ।

कलेक्टर
जिला–रायगढ़ (छ.ग.)

कार्यालय वनमण्डलाधिकारी, रायगढ वनमण्डल; रायगढ (छ.ग.)

☎ □ 07762-224426 (O), 07762-222178 (R), 07762-226047 (F) E-mail: dfo_raigarh@yahoo.co.in

क्रमांक/तक.अधि./ 4067 /2024/रायगढ़, दिनांक – 11/11/24

प्रति,

पी.जगन,
क्षेत्रीय निदेशक,
केन्द्रीय प्रदूषण नियंत्रण बोर्ड,
परिवेश भवन, पर्यावरण परिसर ई–5, अरेरा कालोनी, भोपाल–462016

विषय :– माननीय एनजीटी दिल्ली के प्र.क्र.–970/2024 के संदर्भ में वन क्षेत्र में अवैध रुप से पलाई ऐश निष्पादन संबंधी जानकारी बाबत् ।

संदर्भ :–
1. आपका पत्र क्रमांक/क्षे.नि.भो./एनजीटी ओ.ए.–970/2024/1402 दिनांक 18 अक्टूबर 2024
2. वन परिक्षेत्राधिकारी, तमनार का पत्र क्रमांक/तमनार/1438 तमनार दिनांक 08.11.2024
3. वन परिक्षेत्राधिकारी, रायगढ का पत्र क्रमांक/रा./1179 रायगढ़ दिनांक 08.11.2024
4. वन परिक्षेत्राधिकारी, घरघोड़ा का पत्र क्रमांक/घरघोड़ा/823 घरघोड़ा दिनांक 08.11.2024
5. वन परिक्षेत्राधिकारी, खरसिया का पत्र क्रमांक/ख/1440 खरसिया दिनांक 30.10.2024

उपरोक्त विषयांतर्गत माननीय एनजीटी द्वारा प्र.क्र.–970/2024 में आवेदक श्री बजरंग अग्रवाल, रायगढ़ के द्वारा प्राधिकरण को अवगत कराया गया है कि रायगढ क्षेत्र में उद्योगों से उत्पन्न होने वाल राख का गैर वैज्ञानिक तरीके से वन क्षेत्र की भूमि पर निष्पादित किया जा रहा है। उक्त के संबंध में रायगढ़ वनमण्डल अंतर्गत समस्त परिक्षेत्रों से वन परिक्षेत्राधिकारीयों के द्वारा जांच कराया गया जिनके प्रतिवेदन अनुसार रायगढ़ वनमण्डल रायगढ़ अंतर्गत इस तरह की कोई घटना अथवा पलाई ऐश का अवैध रुप से वनक्षेत्र में निष्पादन नही किया जा रहा है।

जानकारी सादर सूचनार्थ संप्रेषित।

वनमण्डलाधिकारी,
रायगढ़ वनमण्डल, रायगढ

पृ.क्रमांक/तक.अधि./ 4068 /2024/रायगढ़, दिनांक – 11/11/24

प्रतिलिपि :–
1. कलेक्टर, जिला– रायगढ (छ.ग.) की ओर सूचनार्थ संप्रेषित।
2. क्षेत्रीय अधिकारी, छ.ग.प्र.सं.मं., रायगढ़ की ओर सूचनार्थ प्रेषित।

वनमण्डलाधिकारी
रायगढ़ वनमण्डल, रायगढ

\\do2\G\All Section\DM\Memo AI.U15. Memo 2024\Nov- 2024.doc

कार्यालय कार्यालय उप संचालक - कृषि, जिला - रायगढ़ (छ. ग.)

पता- तहसील कार्यालय रायगढ़ के पीछे, चक्रधरनगर रायगढ़ (छ.ग.) संपर्क- ddaraigarh@gmail.com

क्र / टी – 1/ NGT / 24-25 / 4135 रायगढ़ / दिनांक :- 11-11-2024

Annexure-9

प्रति,

क्षेत्रीय निदेशक
केन्द्रीय प्रदुषण नियंत्रण बोर्ड
पर्यावरण, वन एवं जलवायु परिवर्तन
भोपाल (मध्य प्रदेश)

विषय – माननीय एनजीटी दिल्ली के प्र.क्र. -970/2024 के सन्दर्भ में कृषि उत्पादन पर पड़ने वाले प्रभाव संबंधी जानकारी बाबत।
संदर्भ - आपका पत्र क्रमांक 1393, दिनांक 18.10.24।

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उपरोक्तानुसार विषयांतर्गत संदर्भित पत्र के माध्यम से रायगढ़ जिले में उद्योगों से उत्पन्न होने वाली राख का गैर वैज्ञानिक तरीके से कृषि भूमि पर निष्पादन एवं फसल उत्पादन पर उसके दुष्प्रभाव के संबंध में जानकारी चाहि गई है जो निम्नानुसार है :-

क्र.	विकासखंड का नाम	ग्राम का संख्या	राख / फ्लाई ऐश प्रभावित रकबा (हेक्टेयर में)	प्रभाव का संक्षिप्त विवरण
1	2	3	4	5
1	रायगढ़	4	35.900	सड़क किनारे या अन्य स्थलों में डंप किये गए फ्लाई एश वर्षा जल के साथ बहकर खेतों तक आ रहा है जिससे उत्पादन में 30-40% की कमी आई है।
2	खरसिया	-	-	-
3	तमनार	6	32.000	खेत में फ्लाई एश की परत जम जाने के कारण फसल उत्पादन नहीं हो पा रहा है। कृषकों की सहमती से फ्लाई एश डंप किया गया है।
4	पुसौर	-	-	-
5	धरमजयगढ़	3	5.500	फ्लाई एश ब्रिक्स प्लांट से वर्षा जल के साथ बह कर खेतों तक आ रहा है जिससे उत्पादन में कमी आ रही है।
		2	1.00	किसान की सहमती से डंप किया गया है अन्य फसल प्रभावित नहीं है।
6	घरघोड़ा	1	5.106	खेत में फ्लाई एश बह कर पट जाने के कारण फसल उत्पादन नहीं हो पा रहा है।
7	लैलूंगा	-	-	-
योग जिला		16	79.506	-

उप संचालक कृषि
जिला – रायगढ़

पृ. क्र / टी – 1/ NGT / 24-25 / 4136 रायगढ़ / दिनांक :- 11-11-2024

प्रतिलिपि

1. कलेक्टर जिला – रायगढ़ की ओर सादर सूचनार्थ प्रेषित।
2. क्षेत्रीय अधिकारी छ.ग.प. सं. मं. जिला – रायगढ़ की ओर सूचनार्थ प्रेषित।

उप संचालक कृषि
जिला – रायगढ़

Annexure-10

कार्यालय मुख्य चिकित्सा एवं स्वास्थ्य अधिकारी, रायगढ़ (छ.ग.)

Phone No. 07762-232668, e-mail : cmho-rgh.cg@gov.in

क्रमांक/लीगल सेल/2024/ 14522 /रायगढ़ दिनांक 30./10/2024

प्रति,

क्षेत्रीय अधिकारी,
छ.ग.प.सं.मं. रायगढ़
जिला रायगढ़ (छ.ग.)

विषय :– माननीय एनजीटी दिल्ली के प्र.क्र.–970/2024 के संदर्भ में स्वास्थ्य पर पड़ने वाले प्रभाव संबंधी जानकारी उपलब्ध कराने बाबत्।

संदर्भ :– क्षेत्रीय निदेशक, क्षेत्रीय निदेशालय (मध्य), भोपाल, केन्द्रीय प्रदूषण नियंत्रण बोर्ड, परिवेश भवन, पर्यावरण परिसर ई–5, अरेरा कालोनी, भोपाल – 462016 का पत्र क. का.नं. : क्षे.नि.भो./एनजीटी ओ.ए.–970/2024/1399/दिनांक 18 अक्टूबर 2024

—:00:—

उपरोक्त विषयान्तर्गत संदर्भित पत्र के संदर्भ में अवगत हो कि रायगढ़ जिला अंतर्गत विकासखण्ड रायगढ़, घरघोड़ा एवं तमनार में संचालित उद्योगों से उत्पन्न होने वाली राख के गैर वैज्ञानिक तरीके से निष्पादन के कारण स्वांस एवं त्वचा संबंधी बीमारी के बढ़ने की जानकारी प्राप्त नहीं पाई गई है।

मुख्य चिकित्सा एवं स्वास्थ्य अधिकारी
जिला–रायगढ़ (छ0ग0)

पृ.क्रमांक/लीगल सेल/2024/ /रायगढ़ दिनांक ...../10/2024

प्रतिलिपि :–

1– कलेक्टर, जिला रायगढ़ की ओर सादर सूचनार्थ।

मुख्य चिकित्सा एवं स्वास्थ्य अधिकारी
जिला–रायगढ़ (छ0ग0)

Annexure-11

1. Methodology for Audit

The audit team visited the sites and followed the following methodology for the audit of ash management study:

1. Enlisting the parameters and preparation of the documentation
2. Filling up of the required documents/forms as per the list/notification
3. Site visits and discussions with the concerned officials
4. Understanding the level of compliance based on field-based observations during the site visit and review of the documentation provided.

2. Assumptions and Limitations

This auditing study report is limited to the field observations, the documents reviewed, and other relevant information provided by the concerned officials to M/s Rawatpura Enviro Private Limited at the time of the field visit.

3. Acknowledgements

The study team extends its appreciation to all the individuals who provided verbal, visual, or documentary assistance during the assessment study.

4. Findings

In the table below, reference is made to general observations made during the documentation review/assessment, as well as site-specific observations made during the site visit.

TABLE A: Summary of audit details on fly ash generation and utilization for the FY 2023-24

Ash Compliance Report

(for the period April 01, 2023 to March 31, 2024)

SN	Details (FY 23-24) 1000 MW (4x250 MW)	
1	Name of Power Plant	M/s O.P.Jindal Super Thermal Power Plant
2	Name of the company	Jindal Power Limited, Tamnar
3	District	Raigarh
4	State	Chhattisgarh
5	Postal address for communication:	Village & Post- Tamnar, District-Raigarh (C.G) Pin Code-496107
6	E-mail:	Jpl.emd@jindalpower.com
7	Power Plant installed capacity (MW):	1000 MW (4x250 MW)
8	Plant Load Factor (PLF): %	85.58
9	No. of units generated (MWh):	7517436
10	Total area under power plant (ha): (including area under ash ponds)	Power Plant-360 Ha (for 4X250 MW & 4X600 MW TPPs)
		Ash pond- 198 Ha

11	Quantity of coal consumption during reporting period (Metric Tons per Annum):	5619372
12	Average ash content in percentage (per cent):	42.65%
13	Quantity of current ash generation during reporting period (Metric Tons per Annum):	2396820
	Fly ash (Metric Tons per Annum):	1917456
	Bottom ash (Metric Tons per Annum):	479364
14	Capacity of dry fly ash storage silo(s) (Metric Tons) :	3200 MT(2X1600 MT)
15	Details of utilisation of current ash generated during reporting period	
	(a) Total quantity of current ash utilised (MTPA) during reporting period:	2403585
	(b) Quantity of fly ash utilised (MTPA):	2403585
	(i) Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels)	0
	(ii) Cement manufacturing:	0
	(iii) Ready mix concrete:	0
	(iv) Ash and Geo-polymer based construction material:	0
	(v) Manufacturing of sintered or cold bonded ash aggregate:	0
	(vi) Construction of roads, road and fly over embankment:	0
	(vii) Construction of dams:	0
	(viii) Filling up of low lying area:	7749
	(ix) Filling of mine voids:	2395837
	(x) Use in overburden dumps:	0
	(xi) Agriculture:	0
	(xii) Construction of shoreline protection structures in coastal districts;	0
	(xiii) Export of ash to other countries:	0
	(xiv) Others (please specify):	0
	(c) Quantity of bottom ash utilised (MTPA):	0
	(i) Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels):	0
	(ii) Cement manufacturing:	0
	(iii) Ready mix concrete:	0
	(iv) Ash and Geo-polymer based construction material:	0
	(v) Manufacturing of sintered or cold bonded ash aggregate:	0
	(vi) Construction of roads, road and flyover embankment:	0
	(vii) Construction of dams:	0

	(viii) Filling up of low lying area:	0
	(ix) Filling of mine voids:	0
	(x) Use in overburden dumps:	0
	(xi) Agriculture:	0
	(xii) Construction of shoreline protection structures in coastal districts:	0
	(xiii) Export of ash to other countries:	0
	(xiv) Others (please specify):	0
	Total quantity of current ash unutilised (MTPA) during reporting period:	6765 MT excess ash utilized from active ash pond/dyke during reporting period (FY 23-24).
16	Percentage utilisation of current ash generated during reporting period (per cent):	100.28
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):	10446097
	(b) Quantity of ash disposed in ash pond(s) during reporting period (Metric Tons):	6765 MT excess ash utilizedfrom active ash pond/dyke during reporting period (FY 23-24).
	(c) Total quantity of water consumption for slurry discharge into ash ponds during reporting period (m3):	8950190
	(d) Total number of ash ponds:	1
	(i) Active:	1
	(ii) Exhausted (yet to be reclaimed):	0
	(iii) Reclaimed:	0
	(e) total area under ash ponds (ha):	198
18	Individual ash pond details Ash pond-1,2, etc (please provide below mentioned details separately, if number of ash ponds is more than one)	N.A.
	(a) Status: Under construction or Active or Exhausted or Reclaimed	Active
	(b) Date of start of ash disposal in ash pond (DD/MM/YYYY or MMYYYY):	Dec, 2007
	(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)	NA
	(c) area (hectares):	198
	(d) dyke height (m):	18 m
	(d) volume (m3):	
	(e) quantity of ash disposed as on 31st March (Metric Tons):	10439332
	(f) available volume in percentage (per cent) and quantity of ash can be further disposed	2843287.93 M³ (8.58%), 2558959.13 MT

	(Metric Tons):	
	(g) expected life of ash pond (number of years and months):	08.5 Months
	(e) co-ordinates (Lat and Long): (please specify minimum 4 co-ordinates)	SN Latitude Longitude 1 22.12279 83.44879 2 22.13349 83.45347 3 22.12592 83.46450 4 22.11995 83.46389
	(f) type of lining carried in ash pond: HDPE lining or LDPE lining or clay lining or No lining	Clay, LEPE and PCC lining
	g) mode of disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether HCSD or MCSD or LCSD)	LCDS
	(h) Ratio of ash: water in slurry mix (1:___):	1:03
	(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 (m3):	No
	(k) Last date when the dyke stability study was conducted and name of the organisation who conducted the study:	08.11.2023, NIT, Raipur
	(l) Last date when the audit was conducted and name of the organisation who conducted the audit:	26.06.2023,IIT, Bhubaneswar
19	Quantity of legacy ash utilised (MTPA):	Not applicable (Ash pond / dyke of JPL, Tamnar is operational. Hence as per notification amendment has issued by MoEF&CC dated 31.12.2022 ash of ash dyke will not be considered as legacy ash).
	i. Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels):	
	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):			
20	Summary:			
	Details	Quantity generated (MT)	Quantity utilised (MT) and (per cent)	Balance quantity (MT)
	Current ash during reporting period	2396820	2403585 100.28	6765 MT excess ash utilised from active ash pond/dyke during reporting period (FY 23-24).
	Legacy ash	(Ash pond / dyke of JPL, Tamnar is operational. Hence as per notification amendment has issued by MoEF&CC dated 31.12.2022 ash of ash dyke will not be considered as legacy ash).		
	Total	2396820	2403585	6765 MT excess ash utilised from active ash pond/dyke during reporting period (FY 23-24).
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		6765 MT excess ash utilized from active ash pond/dyke during reporting period (FY 23-24).	

SN	Details (FY 23-24) 2400 MW (4X600 MW)	
1	Name of Power Plant	M/s O.P.Jindal Super Thermal Power Plant
2	Name of the company	Jindal Power Limited, Tamnar
3	District	Raigarh
4	State	Chhattisgarh
5	Postal address for communication:	Village & Post- Tamnar, District-Raigarh (C.G) Pin Code-496107
6	E-mail:	Jpl.emd@jindalpower.com
7	Power Plant installed capacity (MW):	2400 MW (4X600 MW)
8	Plant Load Factor (PLF): %	81.31
9	No. of units generated (MWh):	17140564
10	Total area under power plant (ha): (including area under ash ponds)	Power Plant-360 Ha (for 4X250 MW & 4X600 MW TPPs)
		Ash pond- 198 Ha (Existing Ash Dyke of 4X250 MW is being used after getting required clearances)
11	Quantity of coal consumption during reporting period (Metric Tons per Annum):	12819482
12	Average ash content in percentage (per cent):	43.88
13	Quantity of current ash generation during reporting period (Metric Tons per Annum):	5624740
	Fly ash (Metric Tons per Annum):	4499792
	Bottom ash (Metric Tons per Annum):	1124948
14	Capacity of dry fly ash storage silo(s) (Metric Tons) :	9200 MT(4X2300 MT)
15	Details of utilisation of current ash generated during reporting period	
	(a) Total quantity of current ash utilised (MTPA) during reporting period:	5731049
	(b) Quantity of fly ash utilised (MTPA):	5731049
	(i) Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels)	170347
	(ii) Cement manufacturing:	121450
	(iii) Ready mix concrete:	0
	(iv)Ash and Geo-polymer based construction material:	0
	(v) Manufacturing of sintered or cold bonded ash aggregate:	0
	(vi) Construction of roads, road and fly over embankment:	0
	(vii) Construction of dams:	0
	(viii) Filling up of low lying area:	0

	(ix) Filling of mine voids:	5439252
	(x) Use in overburden dumps:	0
	(xi) Agriculture:	0
	(xii) Construction of shoreline protection structures in coastal districts;	0
	(xiii) Export of ash to other countries:	0
	(xiv) Others (please specify):	0
	(c) Quantity of bottom ash utilised (MTPA):	0
	(i) Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels):	0
	(ii) Cement manufacturing:	0
	(iii) Ready mix concrete:	0
	(iv) Ash and Geo-polymer based construction material:	0
	(v) Manufacturing of sintered or cold bonded ash aggregate:	0
	(vi) Construction of roads, road and flyover embankment:	0
	(vii) Construction of dams:	0
	(viii) Filling up of low lying area:	0
	(ix) Filling of mine voids:	0
	(x) Use in overburden dumps:	0
	(xi) Agriculture:	0
	(xii) Construction of shoreline protection structures in coastal districts:	0
	(xiii) Export of ash to other countries:	0
	(xiv) Others (please specify):	0
	Total quantity of current ash unutilised (MTPA) during reporting period:	106309 MT excess ash utilised from active ash pond/dyke during reporting period(FY 23-24).
16	Percentage utilisation of current ash generated during reporting period (per cent):	101.89
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):	5780118
	(b) Quantity of ash disposed in ash pond(s) during reporting period (Metric Tons):	106309 MT excess ash utilised from active ash pond/dyke during reporting period(FY 23-24).
	(c) Total quantity of water consumption for slurry discharge into ash ponds during reporting period (m3):	16813606
	(d) Total number of ash ponds:	1
	(i) Active:	1

	(ii) Exhausted (yet to be reclaimed):	0
	(iii) Reclaimed:	0
	(e) total area under ash ponds (ha):	198 (Existing Ash Dyke of 4X250 MW is being used after getting required clearances)
18	Individual ash pond details Ash pond-1,2, etc (please provide below mentioned details separately, if number of ash ponds is more than one)	Not applicable
	(a) Status: Under construction or Active or Exhausted or Reclaimed	Active (Existing Ash Dyke of 4X250 MW is being used after getting required clearances)
	(b) Date of start of ash disposal in ash pond (DD/MM/YYYY or MMYYYY):	Mar, 2014
	(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)	Not applicable
	(c) area (hectares):	198
	(d) dyke height (m):	18 m
	(d) volume (m3):	
	(e) quantity of ash disposed as on 31st March (Metric Tons):	5673809
	(f) available volume in percentage (per cent) and quantity of ash can be further disposed (Metric Tons):	2843287.93 M^3 (8.58%), 2558959.13 MT
	(g) expected life of ash pond (number of years and months):	08.5 Months
	(e) co-ordinates (Lat and Long): (please specify minimum 4 co-ordinates)	SN Latitude Longitude 1 22.12279 83.44879 2 22.13349 83.45347 3 22.12592 83.46450 4 22.11995 83.46389
	(f) type of lining carried in ash pond: HDPE lining or LDPE lining or clay lining or No lining	Clay, LEPE and PCC lining
	g) mode of disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether HCSD or MCSD or LCSD)	HCDS
	(h) Ratio of ash: water in slurry mix (1:___):	(03:01)
	(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 (m3):	No
	(k) Last date when the dyke stability study was conducted and name of the	08.11.2023, NIT, Raipur

	organization who conducted the study:			
	(l) Last date when the audit was conducted and name of the organisation who conducted the audit:			26..06.2023, IIT, Bhubaneswar
19	Quantity of legacy ash utilised (MTPA):			Notapplicable (Ash pond / dyke of JPL, Tamnar is operational. Hence as per notification amendment has issued by MoEF&CC dated 31.12.2022 ash of ash dyke will not be considered as legacy ash).
	i. Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels):			
	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):			
20	Summary:			
	Details	Quantity generated (MT)	Quantity utilised (MT) and (per cent)	Balance quantity (MT)
	Current ash during reporting period	5624740	5731049 101.89	106309 MT excess ash utilized from active ash pond/dyke during reporting period(FY 23-24).
	Legacy ash	(Ash pond / dyke of JPL, Tamnar is operational. Hence as per notification amendment has issued by MoEF&CC dated 31.12.2022 ash of ash dyke will not be considered as legacy ash).		
	Total	5624740	5731049	106309 MT excess ash utilised from active ash pond/dyke during reporting period(FY 23-24).
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			106309 MT excess ash utilizedfrom active ash pond/dyke during reporting period(FY 23-24).

Conclusions

As per the information and data provided by Jindal Power Limited, Tamnar to VNIT Nagpur and the subsequent site visits to the mine area and power plant, it is concluded that the fly ash generated after coal combustion in the boiler is pneumatically conveyed and stored in dry form in a concrete silo. 100% fly ash is utilized in backfilling of de-coaled areas of Jindal coal mines by mixing of fly ash with overburden as per DGMS guidelines and in manufacturing of bricks and cement. Fly ash is also being used for fly ash brick making in a captive fly ash brick plant for internal consumption. Besides brick manufacturing, a small quantity of ash is sent to the cement manufacturing industry and for reclamation of low-lying areas.

It is noted that the activities undertaken by JPL regarding fly ash management are adequately addressed. The pertinent rules and regulations issued by MoEFCC, CPCB, and CECB for fly ash management are adhered to. The same practices should be continued.

Dr. Shriram S. Sonwane
Professor – Chemical Engg.

Dr. Ajit P. Rathod
Asso. Prof. – Chemical Engg.

Dr. Mangesh V. Madurwar
Asso. Prof. – Civil Engg.

11/10/2024
Dr. Kailas Wasewar
Professor & Head, Chemical Engg.

11.10.24
Dr. Yashwant Katpatal
Professor & Dean (R&C)

Dean / संकायाध्यक्ष
Research & Consultancy / अनुसंधान व परामर्श
VNIT Nagpur-10 / वि. रा. प्रौ. सं. नागपुर-१०

EXTERNAL ASH DISPOSAL COMPLIANCE AUDIT REPORT FOT NTPC LARA, RAIGARH DISTRICT, CHHATTISGARH

Laboratory Proposal No. NITW/ SRIC/ Civil /WED / PVR/24/134 Dt. 27.05.2024

Ref.: CPCB Ash Utilization Notification No.5481(E) dt. 31.12.2021

Our Email Correspondence on 08.08.2024

WATER AND ENVIRONMENT DIVISION
DEPARTMENT OF CIVIL ENGINEERING
NATIONAL INSTITUTE OF TECHNOLOGY
WARANGAL - 506 004, TELANGANA, INDIA

September 2024

1. INTRODUCTION

Ministry of Environment, Forest and Climate Change (MoEF & CC), Government of India has issued Notification No.S.O.5481(E) dated 31.12.2022 regarding ash utilization from coal or lignite-based thermal power plants, which has been amended by notification dated 30.12.2022. The permitted areas of ash utilization are mentioned in Para A (1) & (2), the permitted storage conditions in operational and un-operational ash ponds are mentioned in Para A (6)& (8), and the requirement of submitting annual implementation report to CPCB, concerned SPCB/PCC, CEA and concerned IRO of MoEF & CC by 30th April, with information in the prescribed annexure, is mentioned in para E(2) of the notifications.

2. AUDITING OF ASH

As per the notification given, the following is the scope of the work as part of auditing.

1. 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.

2. 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

3. 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.

4. 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.

5. 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.

3. OBSERVATIONS

The following observations were made during the audit visit held on 17.09.24 at NTPC Lara, located at Raigarh District, Chhattisgarh.

1. The ash generated in the plant is utilised by about 100% during the audit period i.e 1st April, 2023 to 31st March, 2024.
2. During the audit period, the major fraction of fly ash and bottom ash generated was used for road construction, fly-over embankments, filling low-lying areas, and filling mine voids.
3. The AWRS system (wet disposal) is found to be working satisfactorily.
4. The periphery of Ash Pond was provided with very good afforestation all along and maintained good housekeeping practices
5. Overall, the plant is found to be using the ash generated effectively for different purposes as mentioned in the proforma.

4. RECOMMENDATIONS

Based on the field visit and records verification, the plant used about 100% of the total ash produced for different uses in an environmentally friendly manner.

Prof. P. Venkateswara Rao
Professor
Department of Civil Engineering
NIT Warangal-TS

Fly Ash Notification Dated 31st December 2021 - **Statutory Compliance**

Report for the period 01.04.2023 to 31.03.2024

Sl. No.	Details	Reply
1	Name of Power Plant	Lara Super Thermal Power Project
2	Name of the company	NTPC Limited
3	District	Raigarh
4	State	Chhattisgarh
5	Postal address for communication:	Vill-Chhapora, PO&PS-Pussore, Dist.-Raigarh, Chhattisgarh-496440
6	E-mail:	aulara@ntpc.co.in, hoplara@ntpc.co.in
7	Power Plant installed capacity (MW):	2 x 800 MW = 1600 MW
8	Plant Load Factor (PLF):	83.61
9	No. of units generated (MWh):	11751553
10	Total area under power plant (ha): (including area under ash ponds)	1004.87
11	Quantity of coal consumption during reporting period (Metric Tons per Annum):	8406939
12	Average ash content in percentage (per cent):	37.71
13	Quantity of current ash generation during reporting period (Metric Tons per Annum): Fly ash (Metric Tons per Annum): Bottom ash (Metric Tons per Annum):	 3170585 2536468 634117
14	Capacity of dry fly ash storage silo(s) (Metric Tons) :	2100 (3X700MT)
15	Details of utilisation of current ash generated during reporting period	
	(a) Total quantity of current ash utilised (MTPA) during reporting period:	3283211.4
	(i) Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels)	8805.5
	(ii) Cement manufacturing:	0
	(iii) Ready mix concrete:	0
	(iv) Ash and Geo-polymer based construction material:	0
	(v) Manufacturing of sintered or cold bonded ash aggregate:	0
	(vi) Construction of roads, road and fly over embankment:	2779684.7
	(vii) Construction of dams:	0
	(viii) Filling up of low lying area:	494721.2
	(ix) Filling of mine voids:	0
	(x) Use in overburden dumps:	0

1

	(xi) Agriculture:	0
	(xii) Construction of shoreline protection structures in coastal districts:	0
	(xiii) Export of ash to other countries:	0
	(xiv) Others (please specify):	0
	(c) Quantity of bottom ash utilised (MTPA):	0
	(i) Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels):	0
	(ii) Cement manufacturing:	0
	(iii) Ready mix concrete:	0
	(iv) Ash and Geo-polymer based construction material:	0
	(v) Manufacturing of sintered or cold bonded ash aggregate:	0
	(vi) Construction of roads, road and flyover embankment:	0
	(vii) Construction of dams:	0
	(viii) Filling up of low lying area:	0
	(ix) Filling of mine voids:	0
	(x) Use in overburden dumps:	0
	(xi) Agriculture:	0
	(xii) Construction of shoreline protection structures in coastal districts:	0
	(xiii) Export of ash to other countries:	0
	(xiv) Others (please specify):	0
	Total quantity of current ash unutilised (MTPA) during reporting period:	0
16	Percentage utilisation of current ash generated during reporting period (per cent):	**103.55 %**
17	Details of disposal of ash in ash ponds	0
	(a) Total quantity of ash disposed in ash pond(s) (Metric Tons) as on 31st March 2023 (excluding reporting period):	45.53 LMT
	(b) Quantity of ash disposed in ash pond(s) during reporting period (Metric Tons):	0
	(c) Total quantity of water consumption for slurry discharge into ash ponds during reporting period (m3):	896775
	(d) Total number of ash ponds: (i) Active: (ii) Exhausted (yet to be reclaimed): (iii) Reclaimed:	01 01 00 00
	(e) total area under ash ponds (ha):	144
18	Individual ash pond details Ash pond-1,2, etc. (please provide below mentioned details separately, if number of ash ponds is more than one)	One ash pond with three lagoons
	(a) Status: Under construction or Active or Exhausted or Reclaimed	Active

2

	(b) Date of start of ash disposal in ash pond (DD/MM/YYYY or MMYYYY):	01.10.2019
	(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)	NA
	(d) area (hectares):	144
	(e) dyke height (m):	Starter Dyke upto 12 m & 3 m raisings
	(f) volume (m3):	129.25 LCM
	(g) quantity of ash disposed as on 31st March 2024 (Metric Tons):	44.40 LCM
	(h) available volume in percentage (per cent) and quantity of ash can be further disposed (Metric Tons):	65.64% 84.85 LMT
	(i) expected life of ash pond (number of years and months):	16 YEAR (20% DISPOSAL) 8 YEAR (40% DISPOSAL) 5 YEAR & 4 MONTH (60 % DISPOSAL) (consider monthly ash gen=467*2*24*0.37*30*0.85 =220552 MT)
	(j) co-ordinstes (Lat and Long): (please specify minimum 4 co-ordinates)	21°44'18" 83°28'13" 21°44'02" 83°28'07" 21°44'07" 83°27'48" 21°43'07" 83°27'49" 21°44'00" 83°28'37" 21°43'45" 83°28'22" 21°43'39" 83°28'02" 21°43'38" 83°27'42"
	(k) type of lining carried in ash pond: HDPE lining or LDPE lining or clay lining or No lining	No lining
	(l) mode of disposal: Dry disposal or wet slurry (In case of wet slurry please specify whether HCSD or MCSD or LCSD)	Bottom ash as LCSD Fly ash as HCSD
	(h) Ratio of ash: water in slurry mix (1:___):	LCSD- 1:6 HCSD- 1:0.58- 1:1.15
	(m) Ash water recycling system (AWRS) installed and functioning: Yes or No	Yes
	(n) Quantity of wastewater from ash pond discharged into land or water body (m3):	NIL
	(o) Last date when the dyke stability study was conducted and name of the organisation who conducted the study:	14th December 2021, IIT Hyderabad
	(p) Last date when the audit was conducted and name of the organisation who conducted the audit	26.11.2023 National Institute of Technology Rourkela, Odisha
19	Quantity of legacy ash utilised (MTPA):	NA
	i. Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels):	-
	ii. Cement manufacturing:	-
	iii. Ready mix concrete:	-

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	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):		-	
20	Summary:			
	Details	Quantity generated (MTP)	Quantity utilised (MTP) and (per cent)	Balance quantity (MTP)
	Current ash during reporting period	3170585	3283211.4 / **103.55 %**	0
	Legacy ash	NIL	NIL	NIL
	Total	3170585	3283211.4 / **103.55 %**	0
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 Authorised Signatory			

A Singh 16/5/2024

Signature of the Head of Project of the thermal power station
Name
Designation
Date:

अखिलेश सिंह
AKHILESH SINGH
परियोजना प्रमुख
Head of Project
एनटीपीसी-लारा/NTPC-Lara
रायगढ़ (छ.ग.)/Raigarh (C.G.)

Sonu Ram

Dr. P. Venkateswara Rao
Professor
Department of Civil Engineering
NIT Warangal, TS 506004

ASH UTILISATION REPORT- FY 2023-24

S. No.	Month	Coal Consumed in MT	Coal Consumed in Lakh	Ash Content %	Ash Produced	Ash Produced in LMT	Fly Ash	Bottom Ash	Ash Utilized in MT	Ash Utilized in LMT	% Ash Utilized	% AU Cumulative
1	Apr-23	706506	7.06506	37.46	264657	2.64657	211725.6	52931.4	411561	4.1165	155.51	155.51
2	May-23	819661	8.19661	37.31	305816	3.05816	244652.8	61163.2	454865	4.5496	148.74	151.88
3	Jun-23	712832	7.12832	35.84	255479	2.55479	204383.2	51095.8	315393	3.1550	123.45	143.09
4	Jul-23	788684	7.88684	35.45	279588	2.79588	223670.4	55917.6	192958	1.9300	69.02	124.35
5	Aug-23	647167	6.47167	38.93	251942	2.51942	201553.7	50388.4	104100.00	1.0410	41.32	108.94
6	Sep-23	802504	8.02504	34.69	278389	2.78389	222710.9	55677.7	76326	0.7633	27.42	95.07
7	Oct-23	781490	7.81490	39.43	308142	3.08142	246513.2	61628.3	233297.54	2.3330	75.711	92.00
8	Nov-23	407835	4.07835	39.4	160687	1.60687	128549.6	32137.4	293288	2.9329	182.521	98.91
9	Dec-23	451691	4.51691	39.93	180360	1.80360	144288.2	36072.0	256941	2.5694	142.460	102.35
10	Jan-24	766994	7.66994	38.15	292608	2.92608	234086.6	58521.6	289230	2.8923	98.845	101.95
11	Feb-24	728698	7.28698	39.65	288929	2.88929	231143.0	57785.8	496111.16	4.9611	171.707	108.98
12	Mar-24	792877	7.92877	38.34	303989	3.03989	243191.2	60797.8	159140.73	1.5914	52.351	103.55
	Total / Year	**8406939**	**84.06939**	**37.71**	**3170585**	**31.7059**	**2536468**	**634117**	**3283211.4**	**32.8354**	**103.55**	

Dr. P. Venkateswara Rao
Professor
Department of Civil Engineering
NIT Warangal, TS 506004

Annexure-II A

adani

Power

Ref: APL/Raigarh/ENV/MoEFCC/CPCB/FLYASH/715/23
Date: 27.04.2023

To,

Additional Principal Chief Conservator of Forest
Ministry of Environment, Forest & Climate Change
Integral Regional Office, Aranya Bhawan,
North Block, Sector 19, Naya Raipur,
Atal Nagar, Chhattisgarh

Sub: Submission of Annual Fly Ash implementation report for the period of April' 2022 to March'2023 for Raigarh TPP of Adani Power Ltd., Raigarh, Chhattisgarh

Ref: MoEFCC, Fly Ash Notification S.O. 5481(E), dated: 31st December 2021

Dear Sir,

With reference to above subject, we are herewith submitting Annual Fly Ash implementation report for the period of **April'2022 to March'2023** in compliance of Fly Ash Notification of September 1999 and amendment as on 27th August 2003. The Fly Ash Notification has been further amended in 2009, 2016, 2021 & 30th December 2022.

Total Capacity of TPP: **600 MW**

This is for your kind information and record please.

Thanking You,

Yours faithfully,

For **Adani Power Limited**

(R N Shukla)
Authorized Signatory

Encl: As above

CC: The Member Secretary,
Central Pollution Control Board
Parivesh Bhavan, East Arjun Nagar,
Shahadra, New Delhi-110 032

The Regional Officer
Chhattisgarh Environment Conservation Board, TV Tower Road, Raigarh-496001 (C.G).

The Member Secretary,
Chhattisgarh Environment Conservation Board,
Paryavas Bhawan, North Block Sector – 19,
Atal Nagar District – Raipur -492002 (C.G).

Adani Power Ltd
Adani Corporate House
Shantigram, S G Highway
Ahmedabad 382 421
Gujarat, India
CIN: L40100GJ1996PLC030533

Tel +91 79 2555 4444
Fax +91 79 2555 7177
www.adanipower.com

Registered Office: Adani Corporate House, Shantigram, Near Vaishno Devi Circle, S G Highway, Khodiyar, Ahmedabad 382 421, Gujarat, India

Fly Ash Notification S.O.5481 (E), 31st December 2021 –
Ash Compliance Report for the Period 01.04.2022 to 31.03.2023

Sr. No.	Details	Compliance
1.	Name of Power Plant	Adani Power Limited, Raigarh
2.	Name of the company	Adani Power Limited
3.	District	Raigarh
4.	State	Chhattisgarh
5.	Postal address for communication:	Raigarh Energy Generation Ltd. P.O: Bade Bhandar, Tehsil: Pussore, Raigarh, Chhattisgarh PIN : 496100
6.	E-mail:	Arindam.rout@adani.com
7.	Power Plant installed capacity (MW):	600 MW
8.	Plant Load Factor (PLF):	75.50 %
9.	No. of units generated (MWh):	3968284 MWH
10.	Total area under power plant (ha): (including area under ash ponds)	Plant area 362.59 Ash Pond 70.43
11.	Quantity of coal consumption during reporting period (Metric Tons per Annum):	2,970,228 MT
12	Average ash content in percentage (percent):	41.82%
13.	Quantity of current ash generation during reporting period (Metric Tons per Annum):	1246303 MT
	(a) Fly ash (Metric Tons per Annum):	997042 MT
	(b) Bottom ash (Metric Tons per Annum):	249261 MT
14.	Capacity of dry fly ash storage silo(s) (Metric Tons)	1000 MT & 2500 MT
15.	**Details of utilization of current ash generated during reporting period**	
(a)	Total quantity of current ash utilized (MTPA) during reporting period:	11,97,979 MT
(b)	Quantity of fly ash utilized (MTPA):	959,059 MT
i.	Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels)	6,000
ii.	Cement manufacturing:	5,600
iii.	Ready mix concrete:	

iv.	Ready mix concrete:	
v.	Ash and Geo-polymer-based construction material:	
vi.	Manufacturing of sintered or cold bonded ash aggregate:	
vii.	Construction of roads, road, and flyover embankment:	
viii.	Construction of dams	
ix.	Filling up of low-lying area:	91,5,682
x.	Filling of mine voids:	31,777
xi.	Use in over burden dumps:	
xii.	Agriculture:	
xiii.	Construction of shore line protection structures in coastal districts; Export of ash to other countries:	
xiv.	Others (please specify):	
C.	**Quantity of bottom ash utilized (MTPA):**	
i.	Ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels):	10,000
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 fly over embankment:	
vii.	Construction of dams:	
viii.	Filling up of low lying area:	2,28,920
ix.	Filling of mine voids:	
x.	Use in over burden dumps:	
xi.	Agriculture:	
xii.	Construction of shoreline protection structures in coastal districts:	
xiii.	Export of ash to other countries:	
xiv.	Others (please specify):	
Total quantity of current ash unutilized (MTPA) during reporting period:		48324
16.	Percentage utilization of current ash generated during reporting period(percent):	96.12%

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):	2247000
	(b) Quantity of ash disposed in ash pond(s) during reporting period (Metric Tons):	NIL
	(c) Total quantity of water consumption for slurry discharge into ash ponds during reporting period(m^3):	NIL
	(d) Total number of ash ponds:	01
	i. Active: ii. Exhausted (yet to be reclaimed): iii. Reclaimed:	01 N/A N/A
	(e) Total area under ash ponds (ha):	Ash Dyke-1 : 70.43 ha
18.	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 or Exhausted or Reclaimed	Active
	b) Date of start of ash disposal in ash pond	Since commissioning (2014)
	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)	
	d) Area (hectares):	70.43 ha
	e) Dyke height(m):	12 mtr.
	f) Volume (m3):	....
	g) Quantity of ash disposed as on 31st March (Metric Tons):	NIL
	h) Available volume in percentage (percent) and quantity of ash can be further disposed (Metric Tons):	....
	i) Expected life of ash pond (number of years and months):	15 years as per design
	j) co-ordinates (Lat and Long): (please specify minimum 4 co-ordinates)	"520(W),508.5(S) 129.5(E),508.5(S) 129.5(E),895.113(S) 520(W),812.334(S)"
	k) Type of lining carried in ash pond: HDPE lining or LDPE lining or clay lining or No lining	HDPE

	l) Mode of disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether HCSD or MCSD or LCSD)	HCSD
	m) Ratio of ash: water in slurry mix (1:):	65:35 ratio
	n) Ash water recycling system (AWRS) installed and functioning: Yes or No	Yes
	o) Quantity of wastewater from ash pond discharged into land or water body(m^3):	Zero water discharge from Ash Pond
	p) Last date when the dyke stability study was conducted and name of the organization who conducted the study:	2020
	q) Last date when the audit was conducted and name of the organization who conducted the audit:	N/A
19.	**Quantity of legacy ash utilized (MTPA):**	**Not applicable due to Ash Pond 1 is operational**
	i. Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels):	-
	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 over burden dumps:	-
	xi. Agriculture:	-
	xii. Construction of shoreline protection structures in coastal districts;	-
	xiii. Export of ash to other countries:	

		-
	xiv. Others (please specify):	-

Summary:

Details	Quantity generated (MTP) and (percent)	Quantity utilized (MTP) and (percent)	Balance Quantity (MTP)
Current ash during reporting period (FY 2022- 23)	**12,46,303 MT**	**11,97,979 MT 96.12%**	**0 MT**
Legacy ash	Not applicable as per fly ash notification S.O. 6169 (E) dated 30.12.2022		
Total	**12,46,303 MT**	**11,97,979 MT**	**2195000 MT**

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 Authorised Signatory	

REMARKS :
1,00,000 MT Ash is used for Ash dyke bund Strengthening, bund Raising leveling/filling of outer side (around) Ash Pond bund as well, the purpose of Soil/Topsoil conservation.

To

The Member Secretary
Central Pollution Control Board, New Delhi
Parivesh Bhawan, East Arjun Nagar
New Delhi-110032

Sub.: Annual Compliance Audit of Fly Ash Generation and Utilization of M/s SKS Power Generation Limited Raigarh, Chhattisgarh for the Financial Year 2022-23

Dear Madam/Sir,

Enclosed herewith please find a copy of the ***Annual Compliance Audit of Fly Ash Generation and Utilization M/s*** **SKS Power Generation Limited Raigarh,** ***Chhattisgarh for the Financial Year 2022-23.***

The main objective of this audit was to ascertain the utilization and disposal of coal ash (both fly ash and bottom ash) of M/s SKS Power Generation Limited Raigarh, Chhattisgarh for the Financial Year 2022-23 as per ash utilization notification nos. 5481(E) dated December 31, 2021 and 6169(E) dated December 30, 2022.

M/s SKS Power Generation Limited Raigarh, Chhattisgarh approached National Institute of Technology Rourkela as per Central Pollution Control Board (CPCB) Office Memorandum dated March 06, 2023 to carry out the compliance audit of fly ash utilisation and disposal for their Unit for the financial year 2022-2023 and NIT Rourkela accepted it.

On the basis of the audit findings, it is found that utilisation of ash generated during April 01, 2022 to March 31, 2023 is 574017 MT (115.92 %) and there is **NO** legacy ash as per ash utilization notification nos. 5481(E) dated December 31, 2021 and 6169(E) dated December 30, 2022.

I would like to thank and acknowledge the cooperation and assistance extended by the Executives of M/s SKS Power Generation Limited, Raigarh Chhattisgarh particularly Mr. Sanjay Singh, Sr. Manager - Environment & Ash Utilization, M/s SKS Power Generation Limited, Raigarh Chhattisgarh during the Plant visit for audit work.

Yours Sincerely,

CHITTARANJAN PATRA Digitally signed by CHITTARANJAN PATRA
Date: 2024.01.31 21:45:28 +05'30'

Prof. Chittaranjan Patra

Copy to:

1. The Member Secretary, Chhattisgarh Environment Conservation Board, Paryavas Bhawan, Sector-19, Nava Raipur, Atal Nagar, District-Raipur (C.G.) 492002
2. The Sr. Manager, Environmental and Ash Utilization, M/s SKS Power Generation Limited Raigarh, Chhattisgarh

Sl. No.	Details	Observation	Reference/Remarks
1	Name of Power Plant	M/s **SKS Power Generation Limited Raigarh, CG**	As per Enclosure 1.pdf
2	Name of the company	M/s **SKS Power Generation Limited Raigarh, CG**	
3	District	Raigarh	
4	State	Chhattisgarh	
5	Postal address for communication:	Village: Binjkot & Darramura, Tehsil- Kharsia, Raigarh (C.G) - 496111	
6	E-mail:	sksenvironment@spgcl.com	Sr. Manager, Environment & Ash Utilization
7	Power Plant installed capacity (MW):	600 MW (2 × 300 MW)	As per CTO Enclosure 1.pdf
8	Plant Load Factor (PLF)	43.68 %	
9	No. of units generated (MWh):	195001.7	
10	Total area under power plant (ha): (including area under ash ponds)	240.73	As per Plot Plan, Attached as Enclosure 2.pdf
11	Quantity of coal/fuel consumption during reporting period (Metric tons per Annum):	1121261 MT	As per Ash Compliance Report for FY 2022-23, Attached as Enclosure 1.pdf
12	Average ash content in percentage (per cent):	44.04 %	Attached as Enclosure 1.pdf
13	Quantity of current ash generation during reporting period (Metric Tons per Annum):	495195 MT	Attached as Enclosure 1.pdf
	Fly ash (Metric Tons per Annum):	398512 MT	
	Bottom ash (Metric Tons per Annum):	96683 MT	
14	Capacity of dry fly ash storage silo(s) (Metric Tons):	2500 MT	As per Ash Silo drawing, attached as Enclosure 3.pdf
15	Details of utilisation of current ash generated during reporting period		
(a)	**(Total quantity of current ash utilised (MTPA) during reporting period:**	**574017 MT**	The total ash utilized includes the ash taken from the ash pond for utilization
(b)	**Quantity of fly ash utilised (MTPA):**	**477331 MT**	

	iv.	Ash and Geo-polymer based construction material:	0	
	v.	Manufacturing of sintered or cold bonded ash aggregate:	0	
	vi.	Construction of roads, road and fly over embankment:	0	
	vii.	Construction of dams:	0	
	viii.	Filing up of low lying area:	00	
	ix.	Filling of mine voids:	96686 MT	
	x.	Use in overburden dumps:	0	
	xi.	Agriculture:	0	
	xii.	Construction of shoreline protection structures in coastal districts:	0	
	xiii.	() Export of ash to other countries:	0	
	xiv.	(xiv) Others (please specify):	0	
		Total quantity of current ash unutilised (MTPA) during reporting period:	**00**	
16		Percentage of utilisation of current ash generated during reporting period (per cent):	**115.92 %**	
17		Details of disposal of ash in ponds		
(a)		Total quantity of ash disposed in ash ponds (Metric Tons) as on 31st March 2022 (excluding reporting period):	410000 MT	As per Enclosure 1 A.pdf
(b)		Quantity of ash disposed in ash pond(s) during reporting period (Metric Tons):	-78,822 MT	As per Enclosure 3.pdf
(c)		Total quantity of water consumption for slurry discharge into ash ponds during reportin	19562 m^3 2,01,600 m^3 (Water consumed during lagoon	

	i.	Fly ash based products (bricks or blocks or til or fibre cement sheets or pipes or boards or panels)	11393 MT	As per Enclosure 1.pdf, **Enclosure 4.pdf** and **Enclosure 5.pdf**documents showing fly ash sent to Low Lying Areas and Mine voids As per Enclosure 1.pdf and **Enclosure 6.pdf** **document showing fly ash sent to cement factory**
	ii.	Cement manufacturing:	46868 MT	
	iii.	Ready mix concrete:	0	
	iv.	Ash and Geo-polymer based construction material:	0	
	v.	Manufacturing of sintered or cold bonded ash aggregate:	0	
	vi.	Construction of roads, road and fly over embankment:	0	
	vii.	Construction of dams:	0	
	viii.	Filling up of low lying area:	337236 MT	
	ix.	Filling of mine voids:	81834 MT	
	x.	Use in overburden dumps:	0	
	xi.	Agriculture:	0	
	xii.	Construction of shoreline protection structures in coastal districts:	0	
	xiii.	Others like Export of ash to other countries:	0	
	xiv.	Others (Making of Ramp and approach road of ash dyke):	0	
(c)		**Quantity of bottom ash utilised (MTPA)**	**96686 MT**	
	i.	Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards panels):	0	
	ii.	Cement manufacturing:	0	
	iii.	Ready mix concrete:	0	

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i)	expected life of ash pond (number of years and months):	Depends upon plant operation, and ash generation with day to day ash utilization		There are two lagoons in Ash Pond. One lagoon is for fly ash and another one for bottom ash disposal Bottom ash is disposed in dry form, while fly ash is disposed in HCSD form
j)	Coordinates (Lat and Long): (please specify minimum 4 coordinates)	**Lat./Long** 22.006964/83.200293 22.007467/83.197601 22.009750/83.197499 22.010643/83.197901	**Lat./Long** 22.006615/83.202003 22.007603/83.202379 22.006897/83.203514 22.006231/83.203941	Attached as Enclosure 7.pdf
k)	type of lining carried in ash pond: HDPE lining or LDPE lining or clay lining or No lining	LDPE lining with PCC		As per observation during Plant visit
l)	mode of disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether HCSD or MCSD or LCSD)	HCSD Pumps for Fly Ash	Conveyor System for Bottom Ash	
m)	Ratio of ash: water in slurry mix (1:_):	60% Ash : 40% Water in HCSD		
n)	Ash water recycling system (AWRS) installed and functioning: Yes or No	Advanced WRS system Installed Operational	NA	
o)	Quantity of waste water from ash pond discharged into land or water body (m^3)	Nil	NA	As per observation during Plant visit
p)	Last date when the dyke stability study was conducted and name of the organisation who conducted the study:	**Date of Stability Study of Dyke:- 2016** **Name:-** Dr. Chittaranjan Patra Professor, Department of Civil Engineering, NIT Rourkela, Odisha		
q)	Last date when the audit was conducted and name of the organisation who conducted the audit:	July 2022 M/s Ultimate Envirolytical Solutions HDD-272, Phase- 3,Kabir Nagar, Raipur, Chhattisgarh		As per Enclosure 10.pdf

		period (m^3):	changeover)		
(d)		Total number of ash ponds:	02 (Two)		
	i.	Active:	02 (Two)		
	ii.	Exhausted (yet to be reclaimed):	NA		
	iii.	Reclaimed:	NA		
(e)		Total area under ash ponds (ha):	12.14 ha		
18		Individual ash pond details Ash pond 1, 2 etc. (please provide below mentioned details separately if number of ash ponds is more than one)	**Ash Pond-1**	**Ash Pond-2**	
a)		Status: Under construction or Active or Exhausted or Reclaimed	Active	Active	
b)		Date of start of ash disposal in ash pond (DD/MM/YYYY or MMYYYY):	(21/01/2017)	(21/01/2017)	
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)	NA	NA	Ash pond is operational as observed during the Plant visit
d)		area (hectares):	6.47	5.67	As per Plot Plan, Attached as Enclosure 8.pdf
e)		dyke height (m):	6	6	As per Ash Pond layout and cross section drawing Attached as Enclosure 9.pdf
f)		volume (m^3):	388542	397250	As per Enclosure 9.pdf
g)		quantity of ash disposal as on 31st March 2023 (Metric Tons):	**- 78822 MT**	0	
h)		available volume in percentage (per cent) and quantity of ash can be further disposed (Metric Tons):	0	0	

19	Quantity of legacy ash utilised (MTPA):	00	
i.	Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels):	0	As per ash utilization notification nos. 5481(E) dated December 31, 2021 and 6169(E) dated December 30, 2022
ii.	Cement manufacturing:	0	
iii.	Ready mix concrete:	0	
iv.	Ash and Geo-polymer based construction material:	0	
v.	Manufacturing of sintered or cold bonded ash aggregate:	0	
vi.	Construction of roads, road and flyover embankment:	0	
vii.	Construction of dams:	0	
viii.	Filling up of low lying area:	NA	
ix.	Filling of mine voids:	NA	
x.	Use in overburden dumps:	0	
xi.	Agriculture:	0	
xii.	Construction of shore line protection structures in coastal districts; Export of ash to other countries	0	
xiii.	Export of ash to other countries:	0	
xiv.	Others (please specify)	0	

<table>
<tr><td rowspan="4">20</td><td colspan="4">Summary</td></tr>
<tr><td>Details</td><td>Quantity generated (MTP)</td><td>Quantity utilised (MTP) and (per cent)</td><td>Balance quantity (MTP)</td></tr>
<tr><td>Current ash during reporting period ash</td><td>495195</td><td>574017 MT (115.92%)</td><td>-78,822 MT*</td></tr>
<tr><td>Legacy ash</td><td>NA</td><td>NA</td><td>NA</td></tr>
<tr><td></td><td>Total</td><td>495195</td><td>574017 MT</td><td>-78,822 MT*</td></tr>
<tr><td>21</td><td colspan="2">Any other information: Soft copy of the annual compliance report, and shape files or power plant and ash ponds</td><td colspan="2">NA</td></tr>
<tr><td>22</td><td colspan="2">Signature of Authorised Signatory</td><td colspan="2">CHITTARANJAN PATRA Digitally signed by CHITTARANJAN PATRA Date: 2024.01.31 21:46:04 +05'30'</td></tr>
<tr><td></td><td colspan="2">Name</td><td colspan="2">Dr. Chittaranjan Patra</td></tr>
<tr><td></td><td colspan="2">Designation</td><td colspan="2">Professor</td></tr>
<tr><td></td><td colspan="2">Address</td><td colspan="2">Professor, Department of Civil Engineering NIT Rourkela</td></tr>
<tr><td></td><td colspan="2">E-mail</td><td colspan="2">crpatra@nitrkl.ac.in crpatra19@yahoo.co.in</td></tr>
<tr><td></td><td colspan="2">Telephone</td><td colspan="2">0661-246-2316</td></tr>
<tr><td></td><td colspan="2">Mobile No.</td><td colspan="2">7854072178</td></tr>
<tr><td></td><td colspan="2">Date of Plant Visit</td><td colspan="2"></td></tr>
<tr><td>23</td><td colspan="2">Signature of Authorised Signatory</td><td colspan="2">CHITTARANJAN PATRA Digitally signed by CHITTARANJAN PATRA Date: 2024.01.31 21:46:27 +05'30'
Dr. Chittaranjan Patra
Professor
Department of Civil Engineering
National Institute of Technology Rourkela</td></tr>
</table>

*Stored ash dredged from active ash pond for utilisation in various sectors till March 31, 2023

NA: Not Applicable

TABLE A: Summary of audit details on fly ash generation and utilization for the FY 2023-24

Ash Compliance Report

(for the period April 01, 2023 to March 31, 2024)

Sl. No.	Details	
1	Name of Power Plant	M/s TRN Energy Private Limited
2	Name of the company	M/s TRN Energy Private Limited
3	District	Raigarh
4	State	Chhattisgarh
5	Postal address for communication:	Village – Bhengari, Nawapara (Tenda), Tehsil – Gharghoda, District- Raigarh – 496111(C.G.)
6	E-mail:	environment@trnenergy.com
7	Power Plant installed capacity (MW):	600 MW (2 × 300 MW)
8	Plant Load Factor (PLF)	65.82
9	No. of units generated (MWh):	3468616
10	Total area under power plant (ha): (including area under ash ponds)	220 ha
11	Quantity of coal/fuel consumption during reporting period (Metric tons per Annum):	2526578
12	Average ash content in percentage (per cent):	40.64
13	Quantity of current ash generation during reporting period (Metric Tons per Annum):	1026799
	Fly ash (Metric Tons per Annum):	821439
	Bottom ash (Metric Tons per Annum):	205360
14	Capacity of dry fly ash storage silo(s) (Metric Tons):	02 Nos. (2 × 1280 MT)
15	Details of utilisation of current ash generated during reporting period	
	(a) Total quantity of current ash utilised (MTPA) during reporting period:	**628470**
	(b) Quantity of fly ash utilised (MTPA):	**526329**
	(i) Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels)	41898
	(ii) Cement manufacturing:	0
	(iii) Ready mix concrete:	0
	(iv) Ash and Geo-polymer based construction material:	0
	(v) Manufacturing of sintered or cold bonded ash aggregate:	0

Sl. No.	Details	
	(vi) Construction of roads, road and fly over embankment:	1710
	(vii) Construction of dams:	0
	(viii) Filling up of low lying area:	240840
	(ix) Filling of mine voids:	241881
	(x) Use in overburden dumps:	0
	(xi) Agriculture:	0
	(xii) Construction of shoreline protection structures in coastal districts:	0
	(xiii) Export of ash to other countries:	0
	(xiv) Others (Making of Ramp and approach road of ash dyke):	0
	(c) Quantity of bottom ash utilized (MTPA)	**102141**
	(i) Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels):	0
	(ii) Cement manufacturing:	0
	(iii) Ready mix concrete:	0
	(iv) Ash and Geo-polymer based construction material:	0
	(v) Manufacturing of sintered or cold bonded ash aggregate:	0
	(vi) Construction of roads, road and fly over embankment:	97413
	(vii) Construction of dams:	0
	(viii) Filing up of low lying area:	4728
	(ix) Filling of mine voids:	0
	(x) Use in overburden dumps:	0
	(xi) Agriculture:	0
	(xii) Construction of shoreline protection structures in coastal districts:	0
	(xiii) Export of ash to other countries:	0
	(xiv) Others (please specify):	0
	Total quantity of current ash unutilized (MTPA) during reporting period:	**398329**
16	**Percentage of utilisation of current ash generated during reporting period (per cent):**	**61.21%**
17	Details of disposal of ash in ponds	
	(a) Total quantity of ash disposed in ash ponds (Metric Tons) as on 31st March 2023 (excluding reporting	1439079

Sl. No.	Details	
	period):	
	(b) Quantity of ash disposed in ash pond(s) during reporting period (Metric Tons):	398329
	(c) Total quantity of water consumption for slurry discharge into ash ponds during reporting period (m3):	17000 cu.m (After recovery 90% from ash pond)
	(d) Total number of ash ponds:	2
	(i) Active:	2
	(ii) Exhausted (yet to be reclaimed):	0
	(iii) Reclaimed:	0
	(e) Total area under ash ponds (ha):	61 Hectare
18	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 or Exhausted or Reclaimed	Ash Pond – 1 (Active) Ash Pond – 2 (Active)
	(b) Date of start of ash disposal in ash pond (DD/MM/YYYY or MMYYYY):	Ash Pond – 1 (18/04/2017) Ash Pond – 2 (08/07/2018)
	(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)	
	(d) Area (hectares):	Ash Pond – 1 (19 Hectare) Ash Pond – 2 (42 Hectare)
	(e) Dyke height (m):	6 meter
	(f) Volume (m3):	Ash Pond – 1 (10 Lakh m3) Ash Pond – 2 (32 Lakh m3)
	(g) Quantity of ash disposal as on 31st March (Metric Tons):	2578587 MT (out of this 741179 Settled FY 22-23) Ash Pond – 1: 8,00,000 MT Ash Pond – 2: 17,78,587 MT
	(h) Available volume in percentage (per cent) and quantity of ash can be further disposed (Metric Tons):	Ash Pond – 1: 20.00%, 2,00,000 MT Ash Pond – 2: 44.42%, 14,21,413 MT
	(i) Expected life of ash pond (number of years and months):	Ash Pond-1: 02 months Ash Pond-2: 01 year and 02 months
	(j) Coordinates (Lat and Long): (please specify minimum 4 coordinates)	**Latitude** / **Longitude** 22° 8'26" / 22° 8'44" 22° 8'22" / 83° 15'6" 22° 8'33" / 83° 15'12" 22° 8'44" / 83° 15'29"

Sl. No.	Details	
	(k) Type of lining carried in ash pond: HDPE lining or LDPE lining or clay lining or No lining:	Ash Pond – 1 LDPE Ash Pond – 2 LDPE
	(l) Mode of disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether HCSD or MCSD or LCSD)	Ash Pond – 1 HSCD Ash Pond – 2 HCSD
	(m) Ratio of ash: water in slurry mix (1:_):	65% Ash : 35% Water
	(n) Ash water recycling system (AWRS) installed and functioning: Yes or No	Yes
	(o) Quantity of waste water from ash pond discharged into land or water body (m3)	0
	(p) Last date when the dyke stability study was conducted and name of the organisation who conducted the study:	FY 2024-25 by Chittaranjan Das Patra Dyke stability test conducted on 28th June 2024 by M/s NIT Rourkela
	(q) Last date when the audit was conducted and name of the organisation who conducted the audit:	04/10/2023 for FY 2022-23 Prof Rabi Narayan Behera, NIT Rourkela Odisha
19	Quantity of legacy ash utilised (MTPA):	NA
	(i) Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels):	
	(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)	

20	Summary			
	Description	Quantity generated (MTPA)	Quantity utilised (MTPA) and (per cent)	Balance quantity (MTPA)
	Current ash during reporting period	1026799	628470 (61.21%)	398329
	Unutilized accumulated Ash	1439079	0	1439079
	Legacy ash	(Ash pond / dyke of TRN, Nawapara is operational. Hence as per notification amendment has issued by MoEF&CC dated 31.12.2022 ash of ash dyke will not be considered as legacy ash).		
	Total	0	0	**1837408**
21	Any other information: Soft copy of the annual compliance report, and shape files or power plant and ash ponds may be e-mailed to: moefcc-coalash@gov.in	Generated ash is being used for manufacturing of bricks/blocks, NHAI Dharmjaigarh area, and plan for abandoned mines and other applications may be explored including cement plant.		

Conclusions

As per the information and data provided by M/s Rawatpura Enviro Private Limited to VNIT Nagpur and the subsequent site visits to the plant and ash dyke area and power plant, it is concluded that the fly ash generated after coal combustion in the boiler is pneumatically conveyed and stored in dry form in a concrete silo. 100% fly ash is utilized in different activities as supply to NHAI Dharmjaigarh for road making, brick plants and low laying area. Besides of this, a small quantity of ash is sent to the stone mines for reclamation of low-lying areas.

It is noted that the activities undertaken by **TRN Energy Private Limited** regarding fly ash management are adequately addressed. The pertinent rules and regulations issued by MoEFCC, CPCB, and CECB for fly ash management are adhered to. The same practices should be continued.

Dr. Shriram S. Sonwane
Professor – Chemical Engg.

Dr. Ajit P. Rathod
Asso. Prof. – Chemical Engg.

Dr. Mangesh V. Madurwar
Asso. Prof. – Civil Engg.

11/10/2024
Dr. Kailas Wasewar
Professor & Head, Chemical Engg.

11.10.24
Dr. Yashwant Kaipatal
Professor & Dean (R&C)

Dean / संकायाध्यक्ष
Research & Consultancy / अनुसंधान व परामर्श
VNIT Nagpur-10 / वि. रा. प्रौ. सं. नागपुर-१०

Ash Compliance Report (for the period 1st April 2023-31st March 2024)

(FY 2023-24)

S.No.	Details	
1.	Name of Power Plant	Captive Power Plant Jindal Steel & Power Limited
2.	Name of company	Jindal Steel & Power Limited
3.	District	Raigarh
4.	State	Chhattisgarh
5.	Postal address for communication	Post Box No. 16 Kharsia Road Raigarh – 496001
6.	E-mail	pinaki.bhattacharjee@jindalsteel.com
7.	Power Plant installed Capacity (MW)	AFBC - 110 MW CFBC - 24 MW
8.	Plant Load Factor	Considering CPPs, it may varies depending upon power requirement. The main power requirement is met from JSPL TPP located at Dongamahua, Tamnar, District Raigarh, Chhatisgarh
9.	No. of units generated (MWh)	AFBC - 110 MW (coal fine + Char) CFBC - 24 MW (80% Char) WHRB - 40 MW (flue heat DRI-1) WHRB - 50 MW (flue heat DRI-2) WHRB - 75 MW (flue heat Coke Oven)
10.	Total area under Power Plant (Ha) Including area under ash pond	AFBC - 56 acres (22.66 Ha) CFBC - 69 acres (27.92 Ha including coke oven Ash Pond - 187 acres (75.67 Ha)
11.	Quantity of Coal consumption during reporting period (Metric Ton Per Annum)	791149 T (Mixed fuel i.e. char, middling & coal fines)
12.	Average ash content in percentage (per cent):	Around 48.59%
13.	Quantity of current ash generation during reporting	Fly Ash - 307577 T

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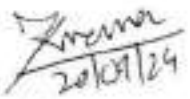
	period (Metric Tons per Annum): Fly ash (Metric Tons per Annum): Bottom ash (Metric Tons per Annum)	Bottom ash - 76894 T
14.	Capacity of dry fly ash storage silo(s) (Metric Tons)	3 x 600 T = 1800 TPD
15.	Details of utilization of current ash generated during reporting period (a) Total quantity of current ash utilized (MTPA) during reporting period:	384472 Ton
	(b) Quantity of fly ash utilized (MTPA):	384472 Ton
	(i) Fly ash based products (bricks or blocks or tiles or fiber cement sheets or pipes or boards or panels)	107954 Ton
	(ii) Cement manufacturing	31268
	(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) Construction of dams:	Nil
	(viii) Filling up of low lying area:	168356 Ton
	(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 utilized (MTPA):	76894 Ton
	(i) Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels):	76894 T
	(ii) Cement manufacturing:	Nil



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	(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 flyover embankment:	Nil
	(vii) Construction 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
	Total quantity of current ash unutilized (MTPA) during reporting period:	Nil
16.	Percentage utilization of current ash generated during reporting period (per cent):	100%
	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):	Nil
	(b) Quantity of ash disposed in ash pond(s) during reporting period (Metric Tons):	Nil
	(c) Total quantity of water consumption for slurry discharge into ash ponds during reporting period (m3):	Nil
	(d) Total number of ash ponds: (i) Active: (ii) Exhausted (yet to be reclaimed): (iii) Reclaimed:	 02 None None

Verma
20/09/24

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	(e) total area under ash ponds (ha):	187 Acres (75.67 Ha)
17.	Individual ash pond details Ash pond-1,2, etc (please provide below mentioned details separately, if number of ash ponds is more than one)	There are 2 lagoons (Lagoon 1 - 125 Acre, Lagoon 2 – 62 Acres)
18.	(a) Status: Under construction or Active or Exhausted or Reclaimed	Active
	(b) Date of start of ash disposal in ash pond (DD/MM/YYYY or MMYYYY):	Since commencement
	(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)	Active
	c) area (hectares):	187 acres (75.67 Ha)
	(d) dyke height (m):	261 M RL
	(d) volume (m3):	Around 18.8 million cu.m
	(e) quantity of ash disposed as on 31st March (Metric Tons):	18.7 million
	(f) available volume in percentage (per cent) and quantity of ash can be further disposed (Metric Tons):	Around 0.1 million cu.m
	(g) expected life of ash pond (number of years and months):	Around 2 - 3 years
	(e) co-ordinates (Lat and Long): (please specify minimum 4 co-ordinates)	21^0 55" 16' N-83^0 19" 43' E 21^0 55" 03' N-83^0 20" 13' E 21^0 54" 56' N-83^0 19" 33' E 21^0 54" 41' N-83^0 20" 08' E
	(f) type of lining carried in ash pond: HDPE lining or LDPE lining or clay lining or No lining	Clay lining
	(g) mode of disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether HCSD or MCSD or LCSD)	High concentrations slurry disposal systems (HCSDS)
	(h) Ratio of ash: water in slurry mix (1:3.33):	30% water
	(i) Ash water recycling system (AWRS) installed and functioning: Yes or No	Yes

20/09/24

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	(j) Quantity of wastewater from ash pond discharged into land or water body (m3):	None
	(k) Last date when the dyke stability study was conducted and name of the organization who conducted the study:	March 2023 NIT Rourkela
	(l) Last date when the audit was conducted and name of the organization who conducted the audit:	Last year audit conducted by M/s Institute of Environment Management for FY 2022-23
19.	Quantity of legacy ash utilized (MTPA):	
	i. Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels):	Partially removed (around 1.7 Lakh T) and used in filling of open voids at Timarlaga (Chandrapur) through external transporter. Rest will be utilized in low lying areas or as per demand in any road construction projects.
	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):	
20.	Summary	

	Details	Quantity generated (MTP)	Quantity utilized (MTP) and (per cent)	Balance quantity (MTP)

20/09/24

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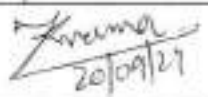
	Current ash during reporting period	384472 Ton	384472 Ton (100%)	Nil
	Legacy ash	Nil	170000 (WHRB Ash)	Laying in ash pond
	Total	384472 Ton	100%	Nil
21.	Any other information: Soft copy of the annual compliance report, and shape files of power plant and ash ponds may be e-mailed to:- moefcc-coalash@gov.in		KML file provided	
22.	Signature of Authorized Signatory			

Note:

1. The fly ash generated from AFBC and CFBC is utilized 100% as per Fly Ash Notification
2. The WHRB ash (ESP hopper ash) is disposed in ash pond, for which permission is granted.

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Ash Compliance Report (for the period 1st April 2023 to 31st March 2024) MSP Steel & Power Limited Jamgaon, Raigarh(C.G)		
Sl No.	**Details**	
1	Name of Power Plant	MSP Captive Power Plant
2	Name of the Company	MSP Steel & Power Limited Jamgaon, Raigarh(C.G)
3	District	Raigarh
4	State	Chhattisgarh
5	Postal Address for communication	MSP Steel & Power Limited At/Po:- Jamgaon, Dist:- Raigarh (Chhattisgarh)
6	E-mail	sanjay.parihar@msprgh.mspsteel.com
7	Power Plant installed capacity MW)	48.5 MW (34+10+4.5) MW (AFBC Bio mass based & CFBC)
8	Plant Load Factor (PLF)	75.99%
9	No. of units generated (MWh)	322845
10	Total area under power plant (ha) (including area under ash ponds)	10.11 ha (25 Acre)
11	Quantity of coal consumption during reporting period (Metric Tons per Annum)	378520 MT (Rice husk, Coal & Dolochar)
12	Average ash content in percentage (per cent)	51.22%
13	Quantity of current ash generation during reporting period (metric Tons per Annum) :	194094 MT
	Fly ash (Metric Tons per Annum) :	155275 MT
	Bottom ash (Metric Ton per Annum) :	38819 MT
14	Capacity of dry fly ash storage silo (s) (Metric Tons)	1175 MT (3 X 125 MT + 1 X 200 MT + 2 X 300 MT)
15	Details of utilisation of current ash generated during reporting period **(a) Total Quantity of current ash utilised (MTPA) during reporting period:**	**194094 MT**
	(b) Quantity of fly ash utilised (MTPA):	**155275 MT**
	(i) Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels):	147275 MT
	(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:	8000 MT

Spsingh
27/07/2024
HEAD, DEPT. OF CIVIL ENGG.
National Institute of Technology
Rourkela - 769 008 (ODISHA)

	(ix) Filling of mine voids:	-
	(x) Use in overburden	-
	(xi) Agriculture:	-
	(xii) Construction of shoreline protection structures in coastal districts:	-
	(xiii) Export of ash to other countries:	-
	(xiv) Others (please specify):	-
	(c) Quantity of Bottom ash utilized (MTPA):	**38819 MT**
	(i) Bottom ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels):	38819 MT
	(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 and flyover embankment:	-
	(vii) Construction of dams:	-
	(viii) Filling up of low lying area:	-
	(ix) Filling of mine voids:	-
	(x) Use in overburden	-
	(xi) Agriculture:	-
	(xii) Construction of shoreline protection structures in coastal districts:	-
	(xiii) Export of ash to other countries:	-
	(xiv) Others (please specify):	-
	Total quantity of current ash unutilised (MTPA) during reporting period:	Nil
16	Percentage utilization of current ash unutilized (MTPA) during reporting period:	100%
17	Details of disposal of ash in ash ponds	The Unit has no ash pond (Not Applicable)
	(a) Total quantity of ash disposed in ash pond(s) (Metric Tons) as on 31st March (excluding reporting period):	NA
	(b) Quantity of ash disposed in ash pond(s) during reporting period (Metric tons):	NA
	(c) Total quantity of water consumption for slurry discharge in ash ponds during reporting period (m^3):	NA
	(d) Total number of ash ponds: (i) Active; (ii) Exhausted (yet to be reclaimed): (iii) Reclaimed:	NA
	(e) Total area under ash ponds (ha):	NA

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18	Individual ash pond details Ash pond-1,2, etc. (please provide below mentioned details separately, if number of ash ponds is more than one)	NA
	(a)Status: Under construction or Active or Exhausted or Reclaimed	NA
	(b) Date of start of ash disposal in ash pond (DD/MM/YYYY or MMYYYY):	NA
	(c) Date of stoppage of ash disposal in ash pond after completing its capacity (DD/MM/YYYY): (Not applicable for active ash ponds)	NA
	(d) Area (hectares):	NA
	(e) Dyke height (m):	NA
	(f) Volume (m^3):	NA
	(g) Quantity of ash disposed as on 31st March,2023 (Metric Tons): [Volume x Bulk density(0.95 kg/m3)]	NA
	(a) Available volume in percentage (per cent) and quantity of ash can be further disposed (Metric Tons):	NA
	(i) Expected life of ash pond (no of years and months):	NA
	(j) Co-ordinates (Lat. and Long.): (please specify minimum 4 co-ordinates)	NA
	(k) Type of lining carried in ash pond: HDPE lining or LDPE lining or clay lining or No lining	NA
	(l) Mode of disposal : Dry disposal or wet slurry (in case of wet slurry please specify whether HCSD or MCSD or LCSD)	NA
	(m) Ratio of ash: water in slurry mix (1 : _):	NA
	(n) Ash water recycling system (AWRS) installed and functioning: yes or No	NA
	(o) Quantity of wastewater from ash pond discharged into land or water body (m^3):	NA
	(p) Last date when the dyke stability study was conducted and name of the organisation who conducted the study:	NA
	(q) Last date when the audit was conducted and name of the organisation who conducted the audit:	Last annual ash audit was done by Prof. S. P. Singh, NIT Rourkela, Odisha in October 2023.
19	Quantity of legacy ash utilised (MTPA):	NA
	(i) Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels):	NA

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	(ii) Cement manufacturing:	NA
	(iii) Ready mix concrete:	NA
	(iv) Ash and Geo-polymer based construction material:	NA
	(v) Manufacturing of sintered or cold bonded ash aggregate:	NA
	(vi) Construction of roads and flyover embankment:	NA
	(vii) Construction of dams:	NA
	(viii) Filling up of low lying area:	NA
	(ix) Filling of mine voids:	NA
	(x) Use in overburden:	NA
	(xi) Agriculture:	NA
	(xii) Construction of shoreline protection structures in coastal districts:	NA
	(xiii) Export of ash to other countries:	NA
	(xiv) Others (please specify):	NA

20				
	Details	Quantity generated (MTP)	Quantity utilised (MTP) & (Percent)	Balance Quantity (MTP)
	Current ash during reporting period (Apr 2023-Mar 2024)	194094 MT	194094 MT (100%)	Nil
	Legacy ash	Nil	Nil	Nil
	Total	194094 MT	194094 MT (100%)	Nil
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:- moefcc-coalash@gov.in	Major amount of generated ash is being used for manufacture of bricks/blocks. Management of ash is satisfactory. Attached 1. Compliance report, 2. Month wise generation & utilisation data 3. Shapefile		
22	Signature of Authorised Signatory	Spsingh 27/07/2024 HEAD, DEPT. OF CIVIL ENGG. National Institute of Technology Rourkela - 769 008 (ODISHA)		

Ash Compliance Report (for the period 1st April 2021 to 31st March 2022)

Sl.No	Detail	
1	Name of Power Plant	NavDurga Fuel Pvt. Ltd
2	Name of the Company	NavDurga Fuel Pvt. Ltd
3	District	Raigarh
4	State	Chhattisgarh
5	Postal address for communication	Saraipalli (Vill), Gerwani, Ghargoda Road.
6	E-mail	navdurgafuels@gmail.com
7	Power plant installed capacity(MW)	7MW(WHRB)+ 5MW AFBC
8	Plant load factor(PLF)	AFBC -32.97%
9	No. of units generated (mWh)	AFBC-**14441.440 MWH** (16046.045MVAH) WHRB-10602.711MWH (11780.791MVAH) TOTAL-25044.151MWH (27826.836 MVAH)
10	Total area under power plant(ha) (including area under ash pond)	16 acre
11	Quantity of coal consumption report	Coal - 2722.850 MT Dolachar - 60482.870MT
12	Average ash content in percentage	70%
13	Quaintity of current ash generation during reporting period (Metric Tones per Annum) Bottom ash(Metric Tones per Annum)	Total Ash - 44244.004 MT (CPP) FLY Ash -30970.803 MT Bottom Ash – 13273.201 MT
14	Capacity of dry fly ash Silo(s) (Metric Tones)	80 MT
15	Details of Utilization of current ash generated during reporting period. **(a)The Quantity of current ash utilized (MTPA) during reporting period.** **(b) Quantity of fly ash utilized (MTPA)** (i)Fly ash based products (bricks or blocks or tiles or fiber cement sheets or pipes or boards or pancis) (ii) Cement manufacturing (iii) Ready mix concrete. (iv) Ash and Geo polymer based construction material.	a.) 44244.004 MT b.) 30970.803 MT (Shanti Construction for making of Fly Ash bricks and blocks.

	(v) Manufacturing of sintered or cold bonded ash aggregate. (vi)Construction of roads road and fly over embankment (vii) Construction of dams (viii)Filling up of low laying area. (ix)Filling of mine voids. (x) Use in overburden dumps. (xi) Agriculture (xii) Construction of shoreling protection structures in coastal districts. (xiii) Exports of Fly ash to other countries. (xiv) Other (please specify)	
	(C)Quantity of bottom ash utilized (MTPA) (i)Fly ash based products (bricks or blocks or tiles or fiber cement sheets or pipes or boards or pancis) (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 fly over embankment (vii) Construction of dams (viii)Filling up of low laying area. (ix)Filling of mine. (x) Use in overburden dumps. (xi) Agriculture (xii) Construction of shoreling protection structures in coastal districts. (xiii) Exports of Fly ash to other countries. (xiv) Other (please specify) Total quantity of curent ash unutilized (MTPA) during reporting period.	**13273.201 MT** 13273.201 MT (Shanti Construction for making of Fly Ash bricks and blocks
16	Percentage utilization of current ash generated during reporting period (per cent)	100%
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 periods) (b)Quantity of ash disposed in ash pond(s) during reporting period(Metric Tons) (c) Total quantity of water consumption for slurry discharge into ash pond(s) during reporting period(M3)	NILL

	(d) Total number of ash ponds: (i) Active (ii)Exhausted (yet to be reclaimed) (iii) Reclaimed (e) total area under ash ponds (ha)	
18	Indivisual 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 or exhausted or reclaimed (b) Date of start of ash disposal in ash pond (DD/MM/YYYY) or (MM/YYYY) (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 in (hectares) (d)dyke height(m) (d)Volume(m3) (e)Quainty of ash disposed as on 31st March (Metric Tones) (f) Available volume in percentage (per.cent) and quainty of ash can be further disposed(Metric Tons) (g) Expected life of ash ponds(number of years and months) (e)Co-ordinates (lat and long) (Please specify minimum 4 co-ordinates) (f)Type of lining carried in ash pond:HDPE lining or LDPE lining or clay lining or no lining. (g) Mode of disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether (HCSD or MCSD or LCSD) (h)Ration of ash water in slurry mix(1:_) (i) Ash water recyling system (AWRS) installed and functioning: Yes or No. (j) Quantity of waste water from ash pond discharged into land or water body (m3) (k) Last date when the dyke stability study was conducted and name of the when the audit was conducted the study: Last date when the audit was conducted and name of the organisation who conducted the audit:	NILL

19	Quantity of legacy ash Utilised (MTPA) (i)Fly ash based products (bricks or blocks or tiles or fiber cement sheets or pipes or boards or pancis) (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 fly over embankment (vii) Construction of dams (viii)Filling up of low laying area. (ix)Filling of mine voids. (x) Use in overburden dumps. (xi) Agriculture (xii) Construction of shoreling protection structures in coastal distriets. (xiii) Exports of Fly ash to other countries. (xiv) Other (please specify)	NILL
20	Summery:	
21	Any other information Soft copy of the annual compliance report and shape files of power plant and may be emaild to moefcc-coalash@gov.in	Will be sent.
22	Signature of Authorised Signatory	Authorised Signatory Nav Durga Fuel Pvt. Ltd.

Details	Quantity generated (MTP)	Quantity utilised (MTP) And (Per cent)	Balance Quantity (MTP)
Current ash during reporting period	44244.004 MT	44244.004 MT (100%)	0
Legacy ash	0	0	0
Total	44244.004 MT	44244.004 MT (100%)	0

Sr. No.	Details	
1.	Name of Power Plant	Nalwa Steel and Power Limited, Raigarh (C.G.)
2.	Name of the company	Nalwa Steel and Power Limited
3.	District	Raigarh
4.	State	Chhattisgarh
5.	Postal address for communication:	Nalwa Steel and Power Limited Taraimal, Raigarh, Chhattisgarh, Pin-496001
6.	E-mail:	mlsahu@nalwa.com
7.	Power Plant installed capacity (MW):	16 MW
8.	Plant Load Factor (PLF):	64.66%
9.	No. of units generated (MWh):	90640 MWh
10.	Total area under power plant (ha): (including area under ash ponds)	5 ha (CPP)
11.	Quantity of coal consumption during reporting period (Metric Tons per Annum):	Coal: 106216 MT Char/Dolochar: 29924 MT Total: 136140 MT
12.	Average ash content in percentage (per cent):	54.63%
13.	Quantity of current ash generation during reporting period (Metric Tons per Annum i.e. MTPA): **Fly ash (MTPA):** **Bottom ash (MTPA):**	**74381 MT** 63569 MT 10812 MT
14.	Capacity of dry fly ash storage silo(s) (Metric Tons) :	240 MT
15.	Details of utilisation of current ash generated during reporting period (a) **Total quantity of current ash utilised (MTPA) during reporting period:**	74381 MT
	(b) **Quantity of fly ash utilised (MTPA):**	**63569 MT**
	(i) Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels)	-
	(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 fly over embankment	-
	(vii) Construction of dams	-
	(viii) Filling up of low lying area	63569 MT
	(ix) Filling of mine voids	-
	(x) Use in overburden dumps	-

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	(xi) Agriculture:	-
	(xii) Construction of shoreline protection structures in coastal districts;	-
	(xiii) Export of ash to other countries:	-
	(xiv) Others (please specify)	-
	(c) Quantity of bottom ash utilised (MTPA):	**10812 MT**
	(i) Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels):	-
	(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:	10812 MT
	(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):	-
	Total quantity of current ash unutilised (MTPA) during reporting period:	**NIL**
16.	Percentage utilisation of current ash generated during reporting period (per cent):	**100%**
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):	NA The Unit has no Ash Pond
	(b) Quantity of ash disposed in ash pond(s) during reporting period (Metric Tons):	-
	(c) Total quantity of water consumption for slurry discharge into ash ponds during reporting period (m3)	-
	(d) Total number of ash ponds: (i) Active: (ii) Exhausted (yet to be reclaimed): (iii) Reclaimed:	-
	(e) Total area under ash ponds (ha):	-
18.	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 or Exhausted or Reclaimed	-
	(b) Date of start of ash disposal in ash pond (DD/MM/YYYY or MMYYYY):	-

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	(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)	-
	(d) Area (hectares):	-
	(e) Dyke height (m):	-
	(f) Volume (m3):	-
	(g) Quantity of ash disposed as on 31st March (Metric Tons)	-
	(h) Available volume in percentage (per cent) and quantity of ash can be further disposed (Metric Tons):	-
	(i) Expected life of ash pond (number of years and months):	-
	(j) Co-ordinates (Lat. and Long): (please specify minimum 4 co-ordinates)	-
	(k) Type of lining carried in ash pond: HDPE lining or LDPE lining or clay lining or No lining	-
	(l) Mode of disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether HCSD/MCSD/LCSD)	-
	(m) Ratio of ash: water in slurry mix (1:___):	-
	(n) Ash water recycling system (AWRS) installed and functioning: Yes, or No	-
	(o) Quantity of wastewater from ash pond discharged into land or water body (m3):	-
	(p) Last date when the dyke stability study was conducted and name of the organisation who conducted the study:	-
	(q) Last date when the audit was conducted and name of the organisation who conducted the audit:	-
19.	**Quantity of legacy ash utilised (MTPA):** i. Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels):	**NA**
	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):	-

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20.	Summary:			
	Details	Quantity Generated (MTP)	Quantity Utilized (MTP) & (percent)	Balance Quantity (MTP)
	Current ash during reporting period	74381 MT	74381 MT (100%)	NIL
	Legacy ash	-	-	-
	Total	74381 MT	74381 MT (100%)	NIL
21.	Any other information:		Total ash produced is currently being used for filling of low-lying areas. The guidelines for the same was obtained from Indian School of Mines, Dhanbad and State Environmental Conservation Board of C.G. However, State Environmental Conservation Board of C.G is requested to review this and may take initiative to persuade the Power plant to go for more value added applications of generated ash.	
	Soft copy of the annual compliance report, and shape files of power plant and ash ponds may be e-mailed to : - moefeccoalash@gov.in		1. Compliance report, 2. Month wise generation & utilisation data 3. Shape file of power plant	
22.	Signature of Authorised Signatory		Spsingh Prof. S. P. Singh PROFESSOR Department of Civil Engineering National Institute of Technology Rourkela - 769 008 (ODISHA)	

Ash Compliance Report (for the period 1st April 2023 to 31st March 2024) to be submitted on or before 31st May.

Sl.No	Detail	
1	Name of Power Plant	SHYAM CPP (AFBC)
2	Name of the Company	M/s SHRI SHYAM ISPAT (INDIA) PVT. LTD.
3	District	RAIGARH
4	State	CHHATTISGARH
5	Postal address for communication	Village- Taraimal, PO- Gerwani, Raigarh Chhattisgarh, Pin-496001
6	E-mail	singhalenviro@gmail.com
7	Power plant installed capacity(MW)	12 MW
8	Plant load factor(PLF)	91%
9	No. of units generated (mWh)	31852.510 MW
10	Total area under power plant(ha) (including area under ash pond)	28.344 Hect. (The Unit is Integrated Steel Plant having Sponge Iron, Induction Furnace, Rolling Mill and Power Plant in same premises)
11	Quantity of coal consumption report	75975.00 MT
12	Average ash content in percentage	41%
13	Quaintity of current ash generation during reporting period (Metric Tones per Annum)	41106 MT
	Bottom ash(Metric Tones per Annum)	3575 MT
14	Capacity of dry fly ash Silo(s) (Metric Tones)	120 MT
15	Details of Utilization of current ash generated during reporting period. (a)The Quantity of current ash utilized (MTPA) during reporting period.	41106 MT
	(b) Quantity of fly ash utilized (MTPA) (i)Fly ash based products (bricks or blocks or tiles or fiber cement sheets or pipes or boards or pancis)	In manufacturing of Fly Ash Bricks 31624 MT
	(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) Construction of dams	Nil
(viii)Filling up of low laying area.	9025 MT
(ix)Filling of mine voids.	Nil
(x) Use in overburden dumps.	Nil
(xi) Agriculture	Nil
(xii) Construction of shoreling protection structures in coastal distriets.	Nil
(xiii) Exports of Fly ash to other countries.	Nil
(xiv) Other (please specify)	Nil
(C)Quantity of bottom ash utilized (MTPA) (i)Fly ash based products (bricks or blocks or tiles or fiber cement sheets or pipes or boards or pancis)	In manufacturing of Block 3575 MT
(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	457 MT
(vii) Construction of dams	Nil
(viii)Filling up of low laying area.	Nil
(ix)Filling of mine.	Nil
(x) Use in overburden dumps.	Nil
(xi) Agriculture	Nil
(xii) Construction of shoreling protection structures in coastal distriets.	Nil
(xiii) Exports of Fly ash to other countries.	Nil
(xiv) Other (please specify)	Nil

	Total quantity of curent ash unutilized (MTPA) during reporting period	3575 MT
16	Percentage utilization of current ash generated during reporting period (per cent)	100%
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 periods)	Not Applicable
	(b)Quantity of ash disposed in ash pond(s) during reporting period(Metric Tons)	
	(c) Total quantity of water consumption for slurry discharge into ash pond(s) during reporting period(M3)	
	(d) Total number of ash ponds: (i) Active (ii)Exhausted (yet to be reclaimed) (iii) Reclaimed	
	(e) total area under ash ponds (ha)	
18	Indivisual 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 or exhausted or reclaimed	Not Applicable
	(b) Date of start of ash disposal in ash pond (DD/MM/YYYY) or (MM/YYYY)	
	(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)	
	(d) Area in (hectares)	
	(e)dyke height(m)	
	(f)Volume(m3)	
	(g)Quainty of ash disposed as on 31st March (Metric Tones)	
	(h) Available volume in percentage (per.cent) and quainty of ash can be further disposed(Metric Tons)	
	(i) Expected life of ash ponds(number of years and months)	
	(j)Co-ordinates (lat and long) (Please specify minimum 4 co-	

	ordinates)	
	(k)Type of lining carried in ash pond:HDPE lining or LDPE lining or clay lining or no lining.	
	(l) Mode of disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether (HCSD or MCSD or LCSD)	
	(m) Ration of ash water in slurry mix(1:_)	
	(n) Ash water recyling system (AWRS) installed and functioning: Yes or No.	
	(o) Quantity of waste water from ash pond discharged into land or water body (m3)	
	(p) Last date when the dyke stability study was conducted and name of the when the audit was conducted the study: Last date when the audit was conducted and name of the organisation who conducted the audit:	
19	Quantity of legacy ash Utilised (MTPA) (i) Fly ash based products (bricks or blocks or tiles or fiber cement sheets or pipes or boards or pancis)	Not Applicable
	(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 fly over embankment	
	(vii) Construction of dams.	
	(viii) Filling up of low laying area.	
	(ix) Filling of mine voids.	
	(x) Use in overburden dumps.	
	(xi) Agriculture.	
	(xii) Construction of shoreling protection structures in coastal distriets.	
	(xiii) Exports of Fly ash to other countries.	
	(xiv) Other (please specify)	

20	Summary:			
	Details	Quantity generated (MTP)	Quantity utilised (MTP) And (Per cent)	Balance Quantity (MTP)
	Current ash during reporting period	44681 MT	44681MT (100%)	0.00 MT
	Legacy ash	Nil	Nil	Nil
	Total	44681 MT	44681MT (100%)	0.00 MT
21	Any other information Soft copy of the annual compliance report and shape files of power plant and may be emaild to moefcc-coalash@gov.in		We will send the reports in time	
22	Signature of Authorised Signatory			

Ash Compliance Report (for the period 1st April 2020 to 31st March 2021):

NOT APPLICABLE SINCE THE 4 MW AFBC Boiler technology based Captive Power Plant is operational since 01 October 2021.

Ash Compliance Report (for the period 1st Oct 2021 to 31st March 2022)

Sl. No	Detail	
1	Name of Power Plant	4MW AFBC (Plant started on 01.10.2021)
2	Name of the Company	B/s Sponge Pvt Ltd
3	District	Raigarh
4	State	Chattisgarh
5	Postal address for communication	Gerwani Post
6	E-mail	bssspongefactory@gmail.com
7	Power plant installed capacity(MW)	4MW (AFBC)
8	Plant load factor(PLF)	85%
9	No. of units generated (mWh)	17,472 mWh
10	Total area under power plant(ha) (including area under ash pond)	2 Hectares; no ash pond available
11	Quantity of coal consumption report	54986 MT
12	Average ash content in percentage	33%
13	Quaintity of current ash generation during reporting period (Metric Tonnes per Annum) Bottom ash(Metric Tonnes per Annum)	17736 MT (01.10.2021 TO 31/03.2022) 16500 MT fly ash 1236 MT Bottom ash
14	Capacity of dry fly ash Silo(s) (Metric Tonnes)	150MT
15	Details of Utilization of current ash generated during reporting period. **(a)The Quantity of current ash utilized (MTPA) during reporting period.** **(b) Quantity of fly ash utilized (MTPA)** (i)Fly ash based products (bricks or blocks or tiles or fiber cement sheets or pipes or boards or pancis) (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 fly over embankment (vii) Construction of dams	(a) **17444 MT** (b) **16500 MT** Bricks manufacturing

	(viii)Filling up of low laying area. (ix)Filling of mine voids. (x) Use in overburden dumps. (xi) Agriculture (xii) Construction of shoreline protection structures in coastal districts. (xiii) Exports of Fly ash to other countries. (xiv) Other (please specify) **(C)Quantity of bottom ash utilized (MTPA)** **(i)Fly ash based products (bricks or blocks or tiles or fiber cement sheets or pipes or boards or pancis)** (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 fly over embankment (vii) Construction of dams (viii)Filling up of low laying area. (ix)Filling of mine. (x) Use in overburden dumps. (xi) Agriculture (xii) Construction of shoreline protection structures in coastal districts. (xiii) Exports of Fly ash to other countries. (xiv) Other (please specify) **Total quantity of current ash unutilized (MTPA) during reporting period.**	**(c) 944 MT** **(i) 944 MT Brick manufacturing** **292 MT**
16	Percentage utilization of current ash generated during reporting period (per cent)	98.35%
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 periods) (b)Quantity of ash disposed in ash pond(s) during reporting period(Metric Tons) (c) Total quantity of water consumption for slurry discharge into ash pond(s) during reporting period(M3) (d) Total number of ash ponds: (i) Active (ii)Exhausted (yet to be reclaimed) (iii) Reclaimed (e) total area under ash ponds (ha)	NA NA
18	Individual ash pond details Ash pond 1,2 etc (please provide below mentioned details separately. If number of ash ponds is more than one)	NA

	(a) Status under construction or active or exhausted or reclaimed (b) Date of start of ash disposal in ash pond (DD/MM/YYYY) or (MM/YYYY) (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 in (hectares) (d)dyke height(m) (d)Volume(m3) (e)Quantity of ash disposed as on 31st March (Metric Tonnes) (f) Available volume in percentage (percent) and quantity of ash can be further disposed(Metric Tons) (g) Expected life of ash ponds(number of years and months) (e)Co-ordinates (lat and long) (Please specify minimum 4 co-ordinates) (f)Type of lining carried in ash pond: HDPE lining or LDPE lining or clay lining or no lining. (g) Mode of disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether (HCSD or MCSD or LCSD) (h)Ration of ash water in slurry mix(1:_) (i) Ash water recycling system (AWRS) installed and functioning: Yes or No. (j) Quantity of waste water from ash pond discharged into land or water body (m3) (k) Last date when the dyke stability study was conducted and name of the when the audit was conducted the study: Last date when the audit was conducted and name of the organisation who conducted the audit:	
19	Quantity of legacy ash Utilised (MTPA) (i)Fly ash based products (bricks or blocks or tiles or fiber cement sheets or pipes or boards or pancis) (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 fly over embankment (vii) Construction of dams (viii)Filling up of low laying area. (ix)Filling of mine voids. (x) Use in overburden dumps. (xi) Agriculture (xii) Construction of shoreline protection structures in coastal districts. (xiii) Exports of Fly ash to other countries. (xiv) Other (please specify)	NA NA
20	Summary:	

	Details	Quantity generated (MTPA)	Quantity utilised (MTPA) And (Per cent)	Balance Quantity (MTP)
	Current ash during reporting period	17736	17444 (98.35%)	292
	Legacy ash	0	0	0
	Total	17736	17444 (98.35%)	292
21	Any other information Soft copy of the annual compliance report and shape files of power plant and may be emaild to moefcc-coalash@gov.in			Will be sent
22	Signature of Authorised Signatory			

Ash Compliance Report (for the period April 01, 2023 – March 31, 2024) of M/s Anjani Steels Limited, Raigarh (C.G.)

Sl. No.	Details	Observation	Reference/Remarks
1	Name of Power Plant	M/s Anjani Steels Limited	As per CTO obtained from CECB, Raipur. Attached as Enclosure-1
2	Name of the company	M/s Anjani Steels Limited	
3	District	Raigarh	
4	State	Chhattisgarh	
5	Postal address for communication:	Village: Ujalpur, Tehsil: Gharghoda, PO: Gerwani, District: Raigarh-496001 (CG)	
6	E-mail:	accounts@anjanisteels.com	Factory Manager
7	Power Plant installed capacity (MW):	12 MW (CPP: 06 MW & WHRB: 06 MW)	Refer Enclosure-1
8	Plant Load Factor (PLF)	88.95 %	As per Power generation, fuel consumption and Coal proximate analysis report, Attached as Enclosure-2
9	No. of units generated (MWh):	93841.0	
10	Total area under power plant (ha): (including area under ash ponds)	1.469 ha No Ash Pond	As per Plant layout drawing, Attached as Enclosure-5 As per observation during Plant visit
11	Quantity of coal/fuel consumption during reporting period (Metric tons per Annum):	55351 MT [Coal: 43939 MT & Dolochar: 11412 MT]	Refer Enclosure-2
12	Average ash content in percentage (per cent):	54.62 %	

Sl. No.	Details	Observation	Reference/Remarks
13	Quantity of current ash generation during reporting period (Metric Tons per Annum):	25422.74 MT	As per coal ash generation and utilization report, Attached as Enclosure-3
	Fly ash (Metric Tons per Annum):	20342.118 MT	
	Bottom ash (Metric Tons per Annum):	5080.622 MT	
14	Capacity of dry fly ash storage silo(s) (Metric Tons):	250 m^3 (≈ 197.5 MT)	As per Silo Layout drawing, Attached as Enclosure-4 and as per fly ash density test report, Attached as Enclosure-6
15	Details of utilisation of current ash generated during reporting period		
	(a) Total quantity of current ash utilised (MTPA) during reporting period:	25422.74 MT	Refer Enclosure-3 and Annual fly ash report submitted to CECB, Raigarh, Attached as Enclosure-8
	(b) Quantity of fly ash utilised (MTPA):	20342.118 MT	
	(i) Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels)	20342.118 MT	
	(ii) Cement manufacturing:	0	
	(iii) Ready mix concrete:	0	
	(iv) Ash and Geo-polymer based construction material:	0	
	(v) Manufacturing of sintered or cold bonded ash aggregate:	0	
	(vi) Construction of roads, road and fly over embankment:	0	
	(vii) Construction of dams:	0	

Sl. No.	Details	Observation	Reference/Remarks
	(viii) Filling up of low lying area:	0	
	(ix) Filling of mine voids:	0	
	(x) Use in overburden dumps:	0	
	(xi) Agriculture:	0	
	(xii) Construction of shoreline protection structures in coastal districts:	0	
	(xiii) Export of ash to other countries:	0	
	(xiv) Others (Making of Ramp and approach road of ash dyke):	0	
	(c) Quantity of bottom ash utilised (MTPA)	5080.622 MT	
	(i) Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels):	5080.622 MT	
	(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 fly over embankment:		
	(vii) Construction of dams:		
	(viii) Filing up of low lying area:		
	(ix) Filling of mine voids:		
	(x) Use in overburden dumps:		
	(xi) Agriculture:		

Sl. No.	Details	Observation	Reference/Remarks
	(xii) Construction of shoreline protection structures in coastal districts:		
	(xiii) Export of ash to other countries:		
	(xiv) Others (please specify):		
	Total quantity of current ash unutilised (MTPA) during reporting period:	0	
16	Percentage of utilisation of current ash generated during reporting period (per cent):	**100%**	Refer Enclosure-3 and Enclosure-8
17	Details of disposal of ash in ponds		
	(a) Total quantity of ash disposed in ash ponds (Metric Tons) as on 31st March 2023 (excluding reporting period):	N/A	As per observation during Plant visit
	(b) Quantity of ash disposed in ash pond(s) during reporting period (Metric Tons):	N/A	
	(c) Total quantity of water consumption for slurry discharge into ash ponds during reporting period (m^3):	N/A	
	(d) Total number of ash ponds:	No Ash Pond	
	(i) Active:	N/A	
	(ii) Exhausted (yet to be reclaimed):	N/A	
	(iii) Reclaimed:	N/A	
	(e) Total area under ash ponds (ha):	N/A	
18	Individual ash pond details		
	Ash pond-1, 2 etc. (please provide below mentioned details separately, if number of ash ponds is more than one)	No Ash Pond	

Sl. No.	Details	Observation	Reference/Remarks
	(a) Status: Under construction or Active or Exhausted or Reclaimed	N/A	As per observation during Plant visit
	(b) Date of start of ash disposal in ash pond (DD/MM/YYYY or MMYYYY):	N/A	
	(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)	N/A	
	(d) area (hectares):	N/A	
	(e) dyke height (m):	N/A	
	(f) volume (m^3):	N/A	
	(g) quantity of ash disposal as on 31st March 2024 (Metric Tons):	N/A	
	(h) available volume in percentage (per cent) and quantity of ash can be further disposed (Metric Tons):	N/A	
	(i) expected life of ash pond (number of years and months):	N/A	
	(j) Coordinates (Lat and Long): (please specify minimum 4 coordinates)	N/A	
	(k) type of lining carried in ash pond: HDPE lining or LDPE lining or clay lining or No lining	N/A	
	(l) mode of disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether HCSD or MCSD or LCSD)	N/A	
	(m) Ratio of ash: water in slurry mix (1:_):	N/A	

Sl. No.	Details	Observation	Reference/Remarks
	(n) Ash water recycling system (AWRS) installed and functioning: Yes or No	N/A	
	(o) Quantity of waste water from ash pond discharged into land or water body (m^3)	N/A	
	(p) Last date when the dyke stability study was conducted and name of the organisation who conducted the study:	N/A	
	(q) Last date when the audit was conducted and name of the organisation who conducted the audit:	The Annual Ash Compliance Audit was conducted by Prof. R N Behera of NIT Rourkela for the financial year 2022-23 and the audit report was submitted to CPCB & CECB on 2nd December 2023	Fly ash compliance Audit report for FY 2022-23, Attached as Enclosure-7
19	Quantity of legacy ash utilised (MTPA):	0	Refer Enclosure-7 and Enclosure-8
	(i) Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels):	0	
	(ii) Cement manufacturing:	0	
	(iii) Ready mix concrete:	0	
	(iv) Ash and Geo-polymer based construction material:	0	
	(v) Manufacturing of sintered or cold bonded ash aggregate:	0	
	(vi) Construction of roads, road and flyover embankment:	0	
	(vii) Construction of dams:	0	
	(viii) Filling up of low lying area:	0	

Sl. No.	Details	Observation	Reference/Remarks
	(ix) Filling of mine voids:	0	
	(x) Use in overburden dumps:	0	
	(xi) Agriculture:	0	
	(xii) Construction of shoreline protection structures in coastal districts:	0	
	(xiii) Export of ash to other countries:	0	
	(xiv) Others (please specify)	0	

20	Summary			
	Details	Quantity generated (MTPA)	Quantity utilised (MTPA) and (per cent)	Balance quantity (MTPA)
	Current ash during reporting period (01st April 2023-31st March 2024)	25422.74 MT	25422.74 MT (100%)	Nil
	Legacy ash (Till 31st March 2023)	Nil	Nil	Nil
	Total	25422.74 MT	25422.74 MT (100%)	Nil
21	Any other information: Soft copy of the annual compliance report, and shape files or power plant and ash ponds may be e-mailed to: moefcc-coalash@gov.in	Some Selected Photographs during Plant visit and best practiced adopted within Plant premises are attached as Enclosure-9 along with other Enclosures as mentioned above.		
22	Auditor details			
	Name	Dr. Rabi Narayan Behera		
	Designation	Associate Professor		
	Address	Department of Civil Engineering, Geotechnical Engineering Division,		

		National Institute of Technology Rourkela, Rourkela-769008, Odisha
	Email	beherarabin@nitrkl.ac.in, rnbehera82@gmail.com
	Telephone	0661 246 2348
	Mob. No.	78731 00435
	Date of Plant Visit	September 11, 2024
23	Signature of Authorised Signatory	Dr. Rabi Narayan Behera Associate Professor Department of Civil Engineering Geotechnical Engineering Division National Institute of Technology Rourkela Dr. R. N. Behera Associate Professor Department of Civil Engineering National Institute of Technology Rourkela (Odisha)

N/A: Not Applicable

FY: Financial Year

Annexure-12

Compiled information of the industrial units regarding Green Belt Development and Fly ash

S. no.	Name of Industry	Validy of Consent	Type of Industry	Plant Total Area in Acres	Green Belt Area in Acres	Coal Consumption (TPD)	Fly Ash Generation (TPD)	Fly Ash Storage Facility and mode of disposal	Own Brick Plant	Green Belt Audit conducted Yes/No	Fly Ash Audit conducted Yes/No
1.	M/S Jindal Power Ltd. Village-Tamnar, Tehsil-Tamnar, District-Raigarh (C.G.)	CTO of 4 x 250 MW is valid up to 30.11.2024. CTO of 4 x 600 MW is valid up to 31.12.2024.	Large TPP (3400 MW TPP)	889	301	15395	6567 MT /Day and 15410 MT/Day =21977	Silos back filling of de-coaled mine and bricks plant	JPL has installed brick plants with capacity of 3,55,000 bricks per day	Yes	Yes
2.	M/s N.T.P.C. Ltd., Lara Super Thermal Power Project, Village- Lara, Tehsil-Pussore, District-Raigarh (C.G)	30/04/2025	Large TPP	1676.28	639.78	22970	10000	3 Nos of Silo	Capacity: 60000 bricks/day	Yes	Yes
3.	M/s Adani Power Ltd., Village- Bade Bhandar, Tehsil-Pussore, District-Raigarh (C.G)	31/03/2025 .	Large TPP	487	195	8256	3512	Silo and Ash Pond (HCSD)	1.43 lakh/ day	Yes	Yes
4.	M/s Sharda Energy Ltd. formerly known as SKS Power Generation (Chhattisgarh) Limited (2x300 MW, Coal Based Thermal Power Plant), Village–Binjkot, Darramuda, Kharsia, District - Raigarh	30.11.2025	Large TPP	574	192 (33% of the total Plot area)	9000-10000	4000	03 Silo and NHAI for filling low lying areas	1.35 Lacs/ Day	Yes	Yes
5.	M/s TRN Energy Private Limited Village – Bhengari, Nawapara (Tenda), Tehsil – Gharghoda, District- Raigarh –	30.11.2024	Large TPP	548	180 out of total 548 Acre is develo	10000	4000	02 Nos. (2 × 1280 MT) RCC Silo and HCSD Pumps	Presently no Ash Brick Plant is installed. However order for	Yes	Yes

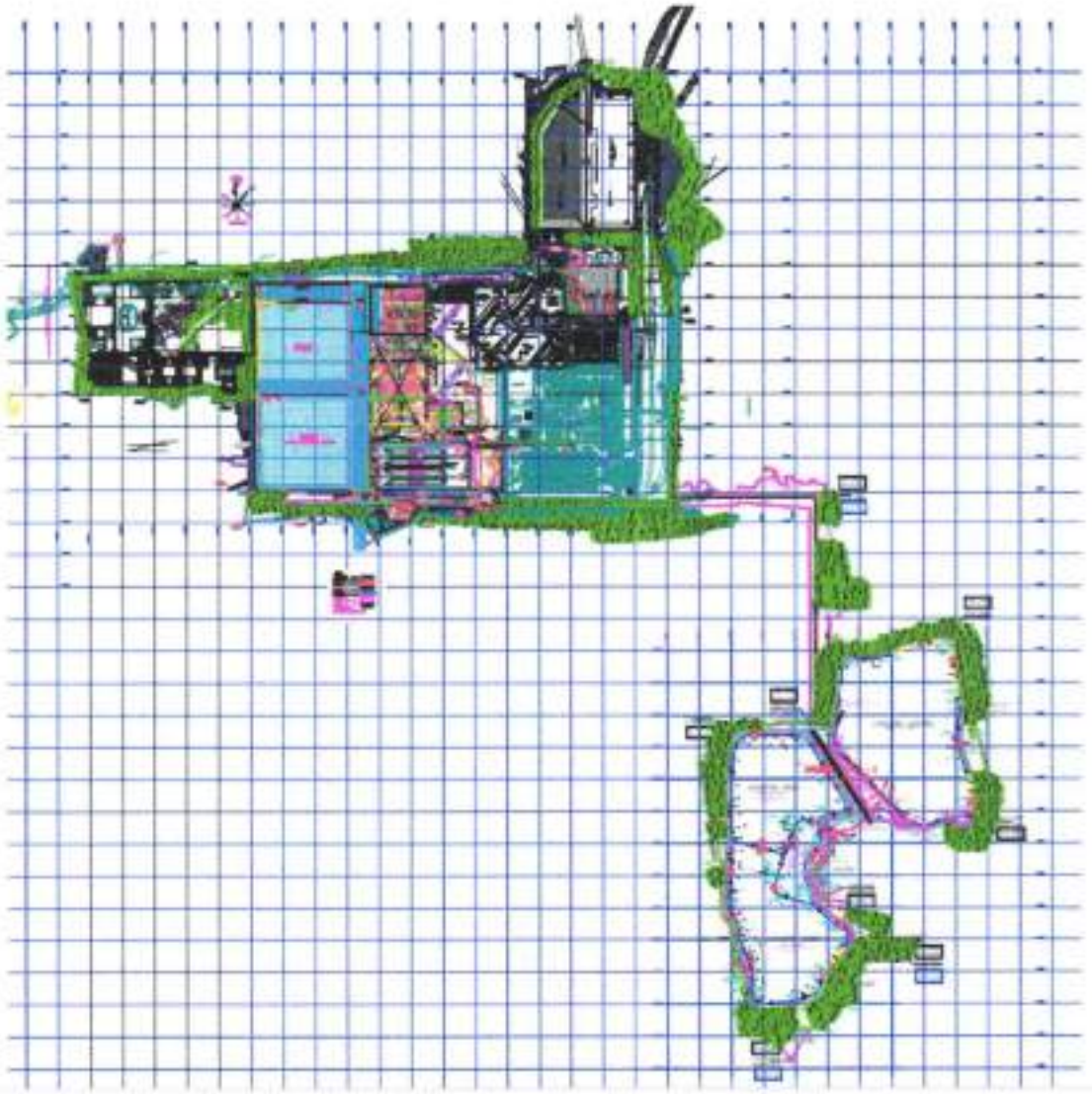
	496111(C.G.)				ped as green belt				procurement of Brick Plant Placed.		
6.	M/S Jindal Steel & Power Ltd. Village-Patrapali, Tehsil & District- Raigarh (C.G.)	31.12.2024	Large Integrated Steel plant	1913	533	2350	1160	bricks making, cement making and landfill	Bricks plant of Capacity 3 Lakh Bricks/ day is installed	Yes	Yes
7.	M/S MSP Steel & Power Ltd. Village-Jamgaon, Tehsil & District- Raigarh (C.G.)	31.01.2025	Large Steel & Power TPP	126	41.58	1000	650	Silo	02 brick plants capacity of 16000 bricks/day each	Yes	Yes
8.	M/S Navdurga Fuels Pvt. Ltd. Village-Saraipali, Tehsil-Tamnar, District-Raigarh (C.G.	31/07/2026	Medium TPP / Sponge Iron	47	15.5	8.570	177	Fly Ash Silo installed 80 MT and Road Transport	30,000 Unit/Day	Yes	Yes
9.	M/S Nalwa Steel & Power Ltd. Village-Taraimal, Tehsil-Gharghoda, District-Raigarh (C.G.)	30.04.2025	Medium sponge iron	220	75	325	187	BY Truck	No	Yes	Yes
10.	M/S Shri Shyam Ispat (India) Pvt. Ltd. Village- Taraimal, Tehsil-Tamnar, District-Raigarh (C.G.)	30.04.2026	Medium Sponge Iron Plant with CPP	70	24	250	140	Ash Silo of 120 TPD and filling Low Laying Area.	20,000 Nos per day	Yes	Yes
11.	M/S B.S. Sponge Pvt. Ltd. Village-Taraimal, Tehsil-Tamnar, District-Raigarh (C.G.)	31.08.2025	Medium Sponge Iron Plant with CPP	108.06	35.64	117	105	Fly ash sent to bricks manufacturing unit.	Bricks- 10000 Nos per day	Yes	Yes
12.	M/S Anjani Steel Pvt. Ltd. Village-Ujjavalpur, Tehsil-Tamnar, District-Raigarh (C.G.)	30.04.2029	Medium Sponge Iron Plant with CPP	150	50	300	75	Use in bricks plant	Capacity 10000 Nos Per Day	Yes	Yes
13.	M/S Mahaveer Energy & Coal Benification Ltd.	31.10.2026	Medium Husk based	27.15	11.0	54	60	Stored in silo and low layinfg area	20000/Day	Yes	No

	Village-Bhengari,Tehsil – Gharghoda, District-Raigarh (C.G)		Power Plant-12MW								
14.	M/S Shiv Shakti Steel Pvt. Ltd. Village-Chakradharpur, Tehsil & District-Raigarh (C.G.)	30.04.2028	Medium Sponge Iron Plant	123	76	250	No Fly Ash Generation	NA	NA	Yes	NA
15.	M/s Maa Shakambari Iron & Steel Private Limited, Village-Sambalpuri, Tehsil and District-Raigarh (C.G.)	31.12.2025	Medium Sponge Iron Plant	44	15	220	No fly ash generation	NA	NA	Yes	NA
16.	M/S Maa Mangla Ispat Pvt. Ltd. Village- Natwarpur, Tehsil & District-Raigarh (C.G.)	28.02.2026	Medium Sponge Iron, WHRB & AFBC	48.6	16	210	No fly ash generation	NA	Under installation capacity 10500 Nos Per Day	Yes	NA

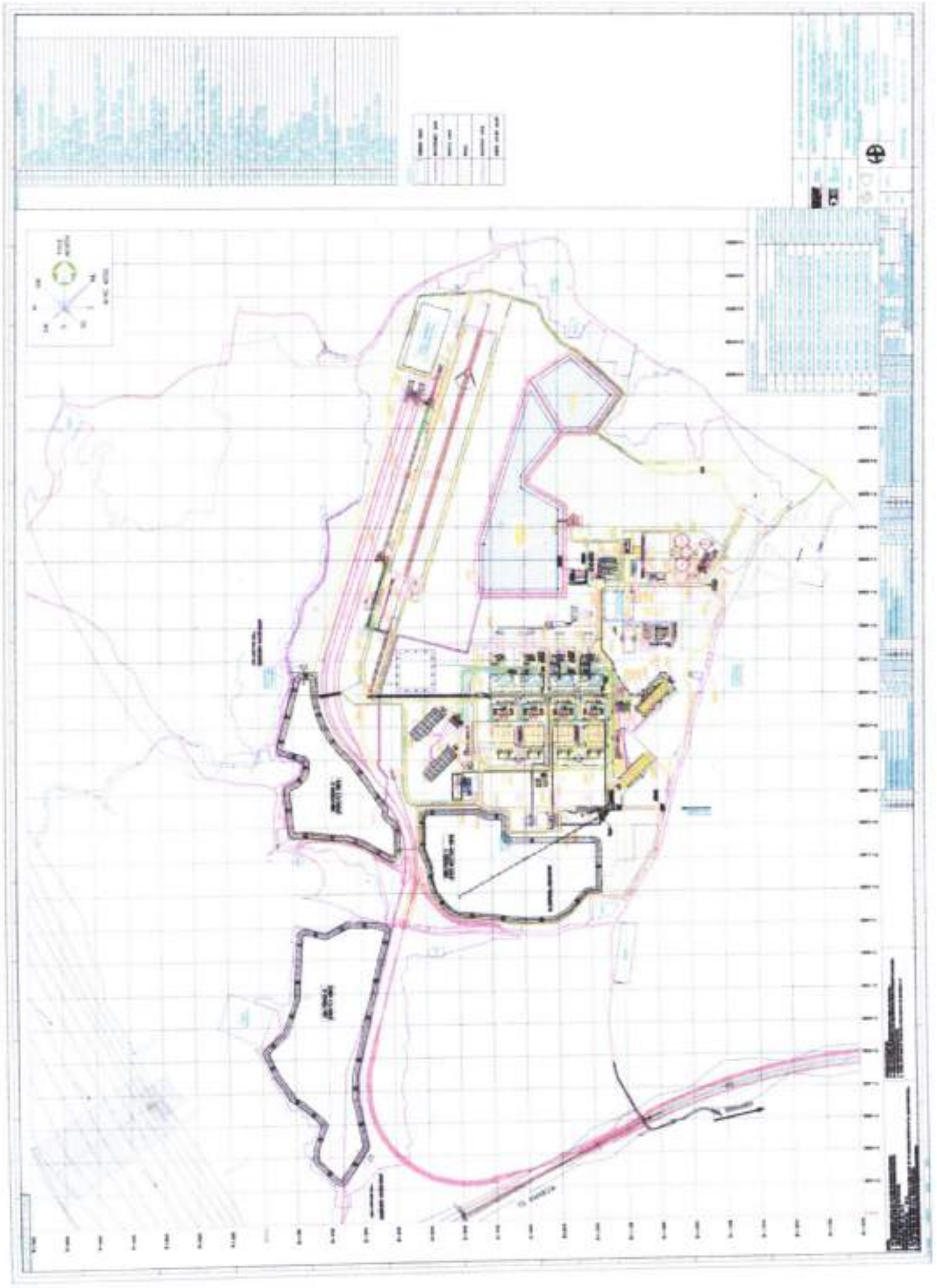
NA- Not Applicable

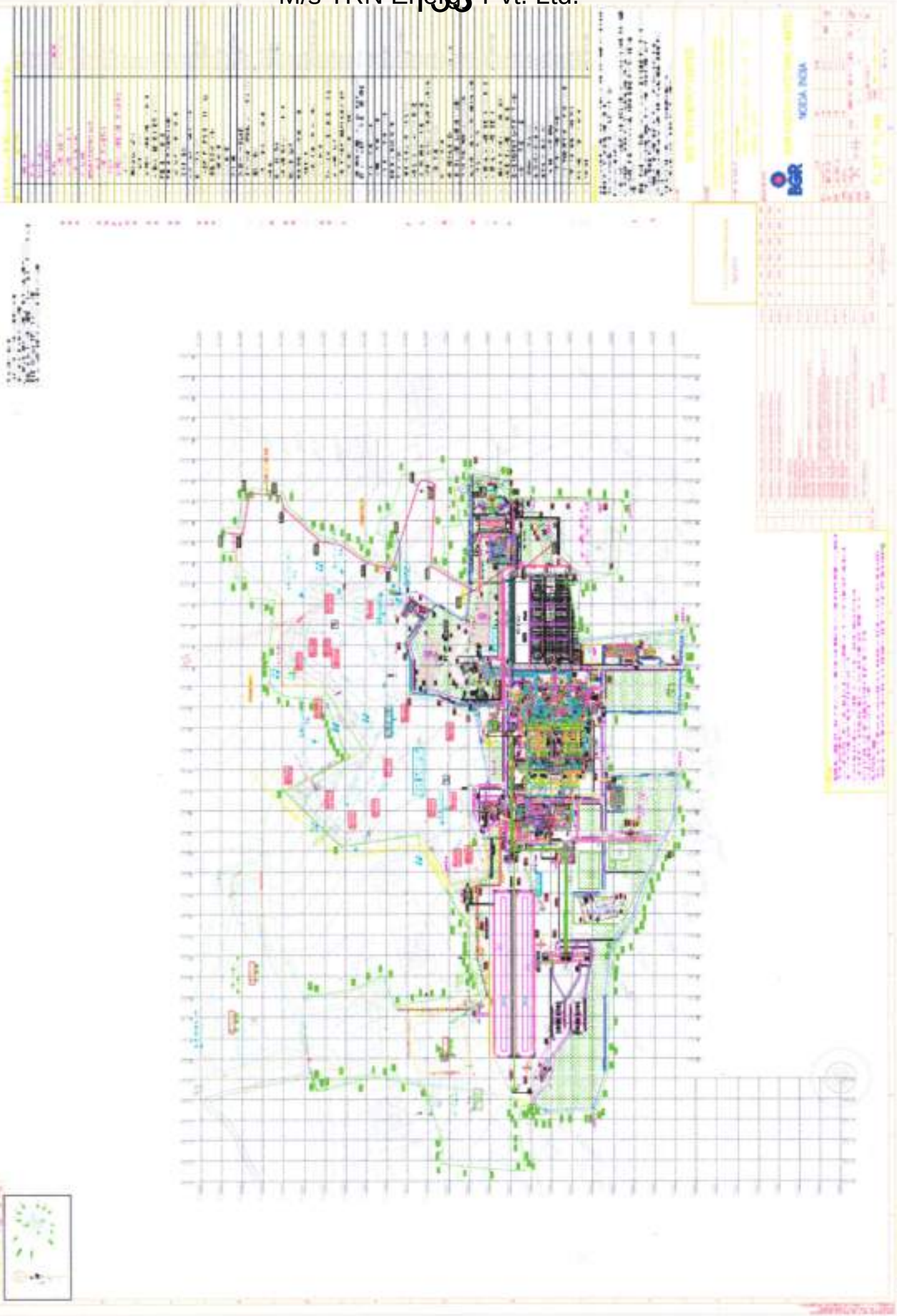
M/s Jindal Power Limited Tamnar

LAYOUT OF GREENBELT



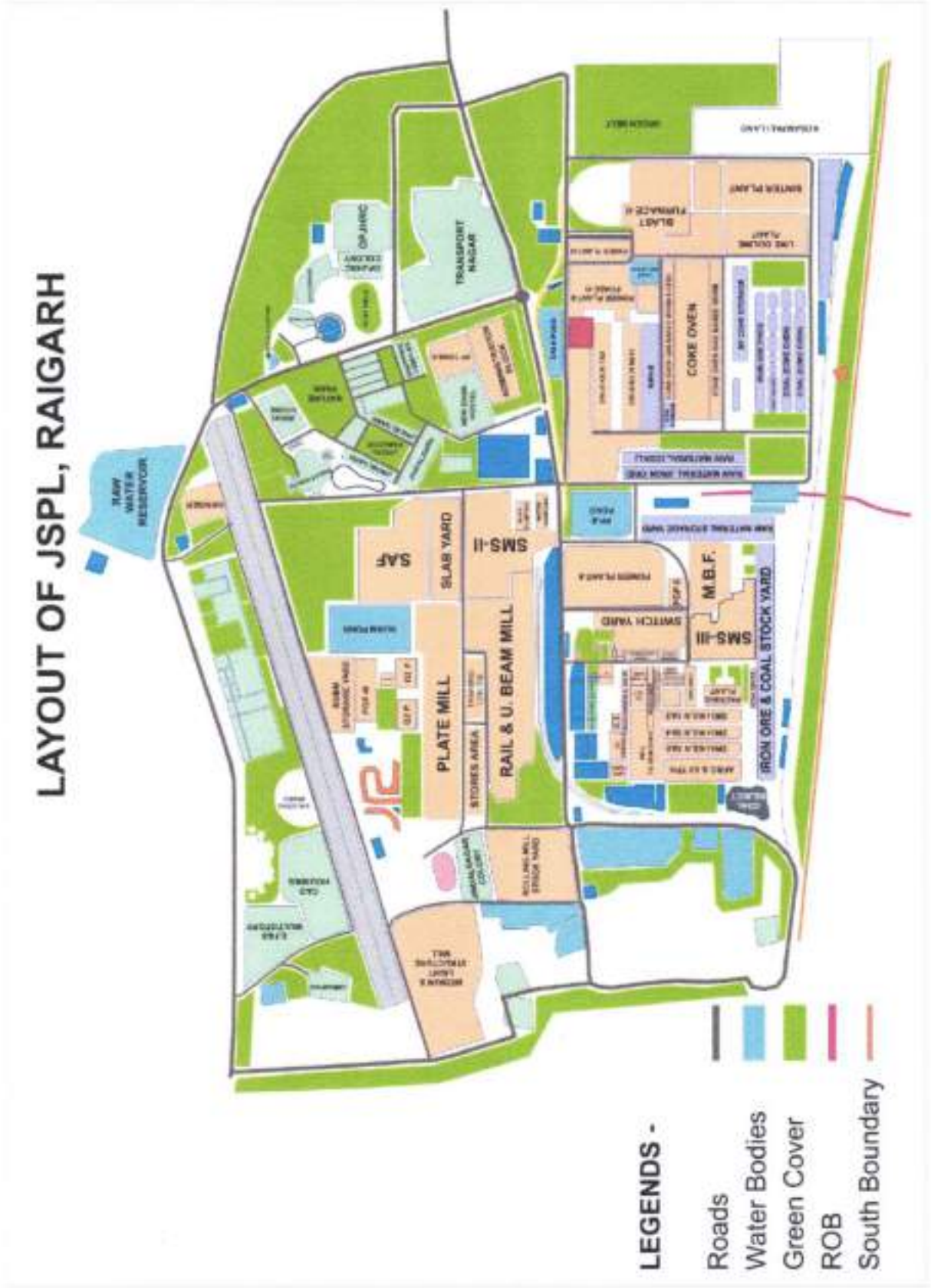
NTPC
LARA





JINDAL STEEL & POWER

VERIFICATION OF GREEN BELT

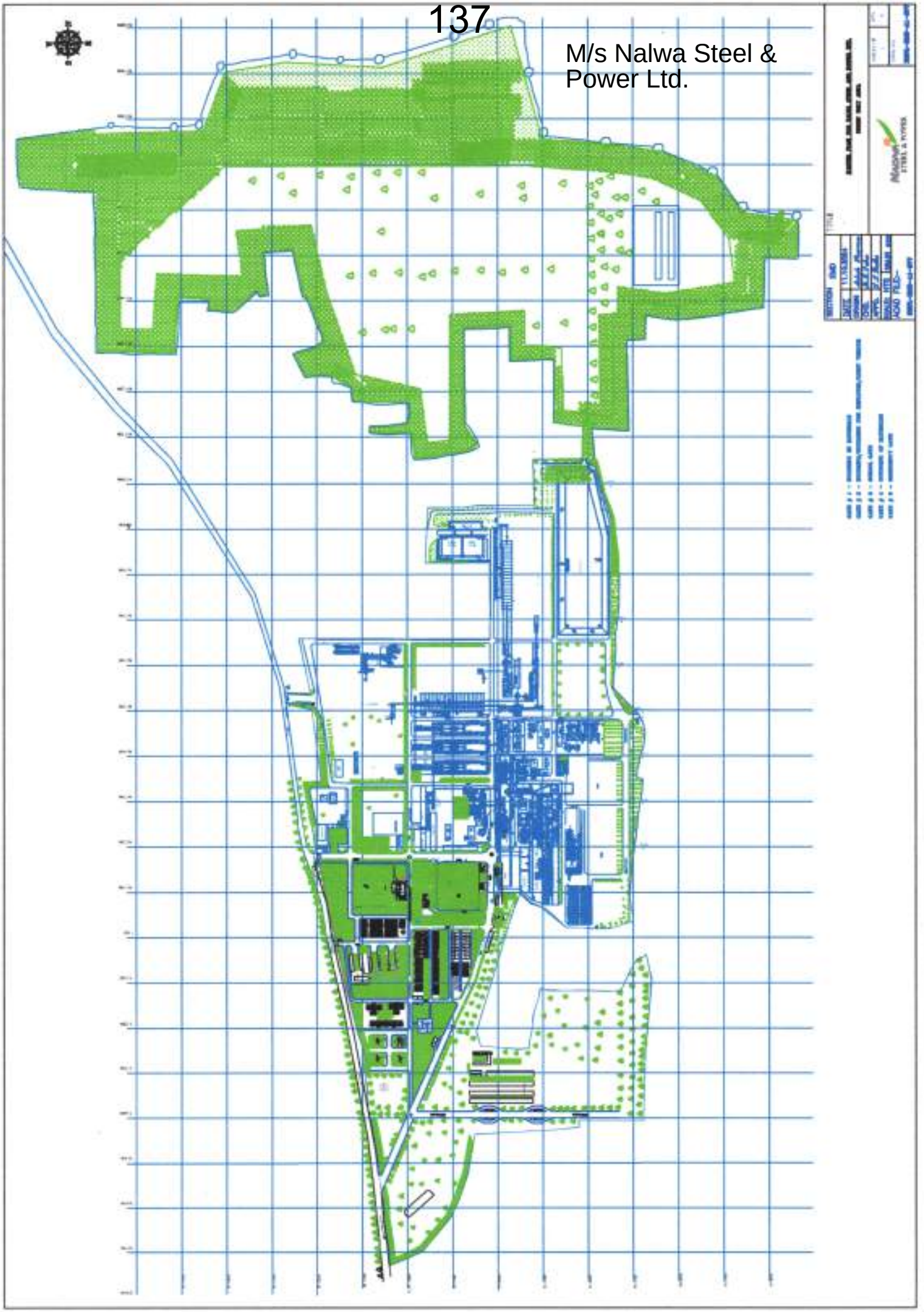


M/s MSP Steel and Power Ltd.

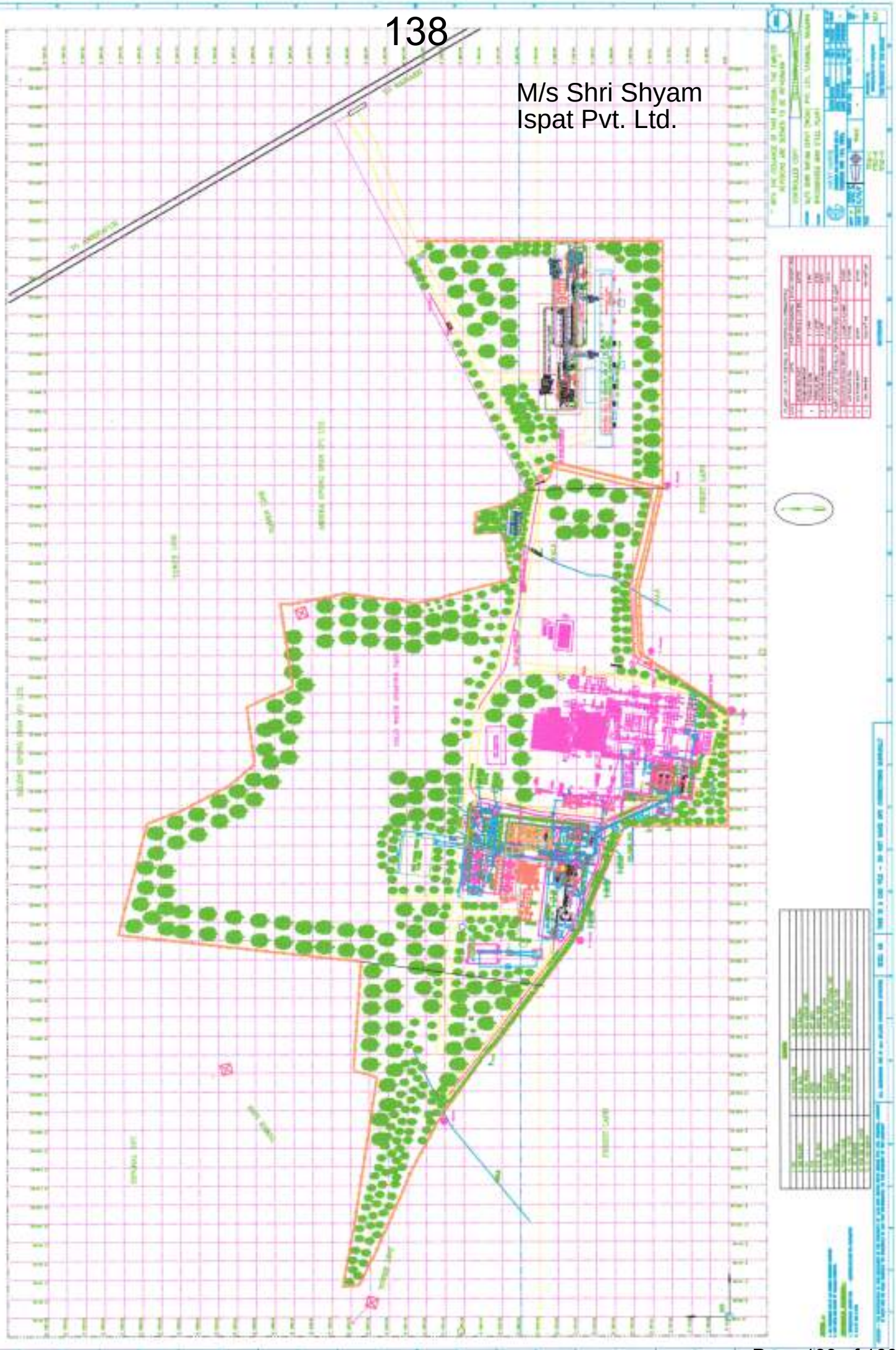
MSP	MSP STEEL & POWER LTD VILLAGE & POST JAMGAON , DISTT. RAIGARH , (C.G.) ALL DIMENSIONS ARE IN MTR.	
DRAWN	CKP	TITLE :- MSP OVERALL BLOCK LAYOUT
CHECKED	Dr. S.S. PARIHAR	
DATE	06.11.24	
DEPT	ENV.	
REV.	R0	DRW. NO. :- MSP/274-50/0A
SCALE :-	1:1	

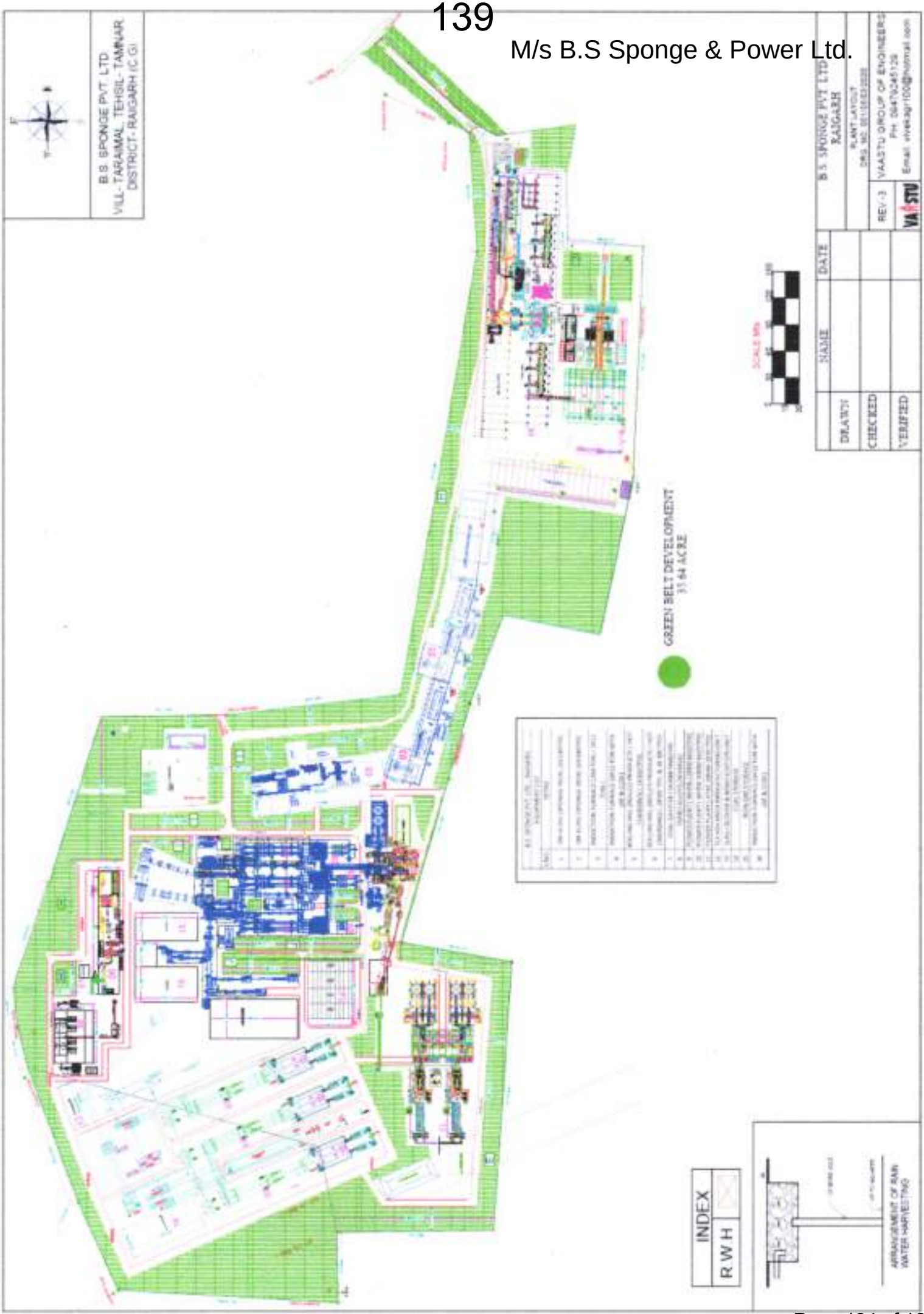
M/s Navdurga Fuels Pvt. Ltd.

M/s Nalwa Steel & Power Ltd.

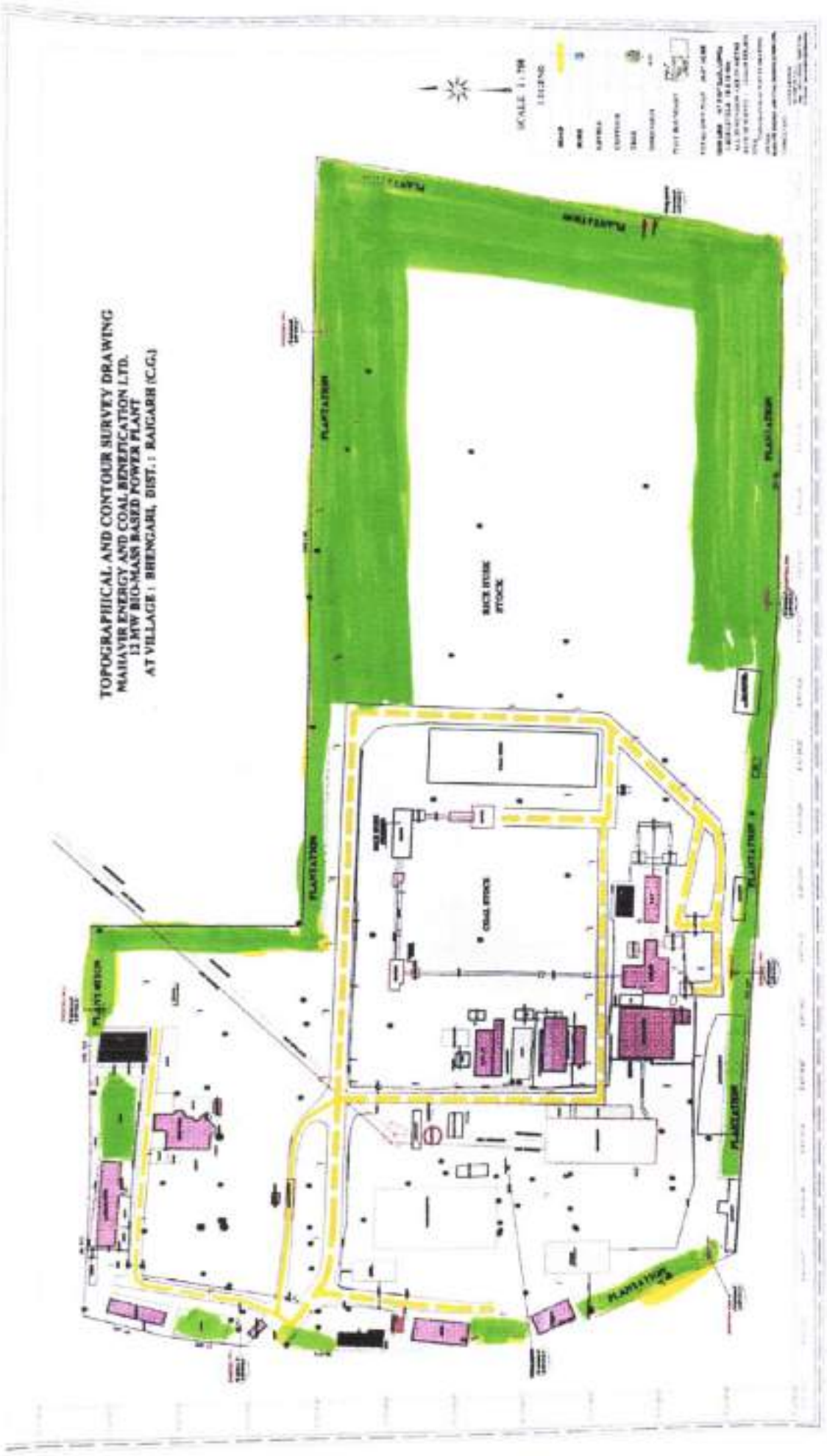


M/s Shri Shyam
Ispat Pvt. Ltd.




B.S SPONGE PVT. LTD
VILL- TARAIMAL, TEHSIL- TAMNAR
DISTRICT- RAIGARH (C.G)
B.S SPONGE PVT LTD
RAIGARH
PLANT LAYOUT
VAASTU GROUP OF ENGINEERS
REV - 3
NAME
DATE
DRAWN
CHECKED
VERIFIED
GREEN BELT DEVELOPMENT
33.64 ACRE
INDEX
R.W.H
ARRANGEMENT OF RAIN
WATER HARVESTING

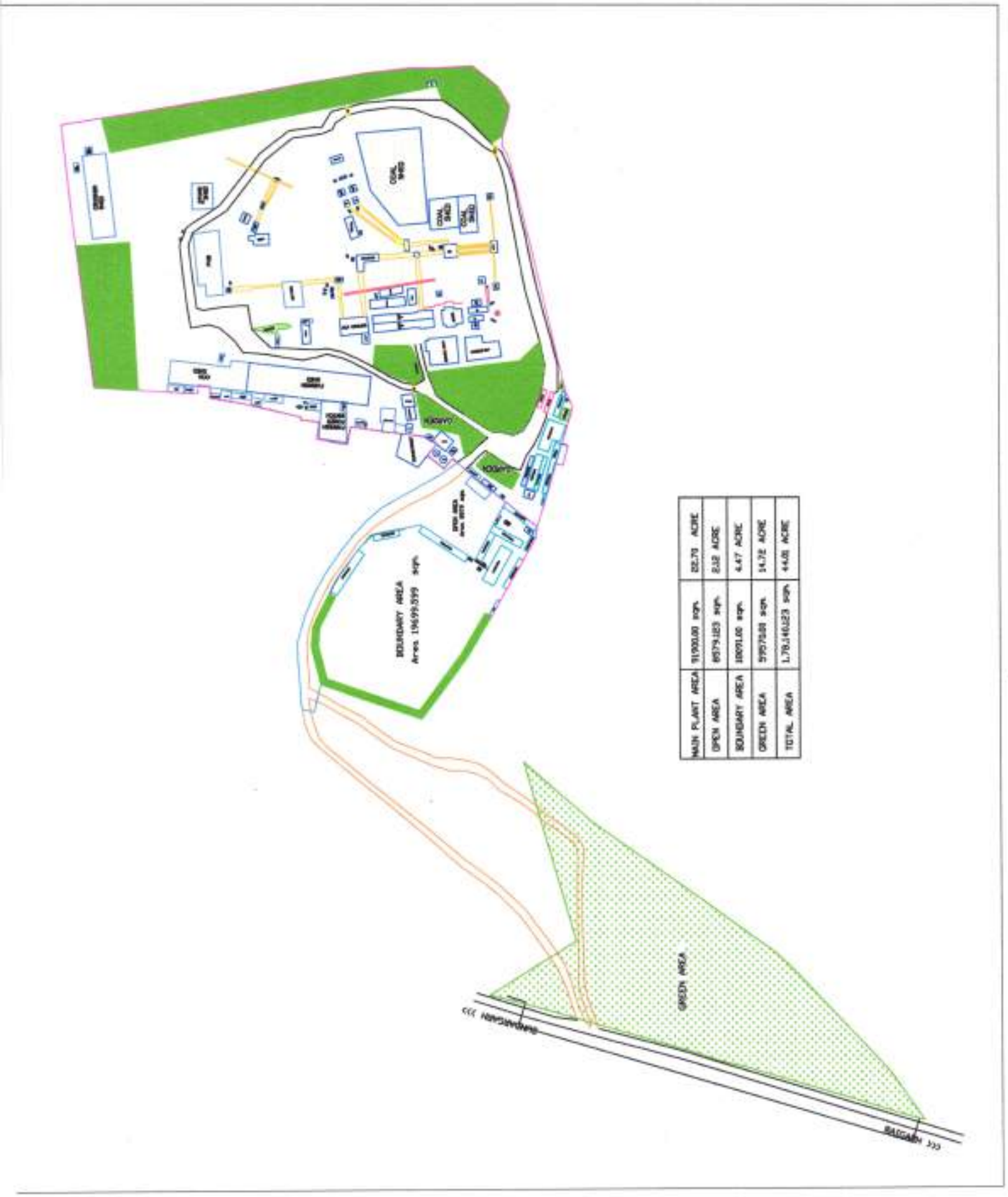
Plantation Area at Anjani Steels Limited



LAYOUT OF SHIV SHAKTI STEEL PVT. LTD. RAIGARH

NOTE: - Map taken from Topographical Survey Drawing. Not on actual scale. Verified by L.N. Swarnkar.

M/s Maa Shakambri Steel



PLANT AREA	30.00 ACRE
OPEN AREA	2.46 ACRE
GREEN AREA	16.10 ACRE
TOTAL AREA	48.56 ACRE

Annexure-14

CUSTOMER COPY –
MASTER COPY
COPY FOR LAB NO.

Regional Directorate (Central)
Central Pollution Control Board

"Parivesh Bhawan", Paryavaran Parisar, E-5, Arera Colony,
Bhopal – 462016
Tel: 0755-2775385/86, Fax: 0755-2775587

EPA Recognized Lab-2015

TEST REPORT

Ambient / Fugitive Air Analysis Report

F/LAB/06/TR-03

Sample from:	**M/s. CECB Regional Office, Raigarh (CG.)**			**Req. No: 126**	**Test report No: AAQM/24-25/39**
Sample Description:	**CECB R O Building Raigarh**			**Registration No:.**	**AAQM/24-25/39**
Date of collection:	21-22.10.2024	**Type of sample: grab/composite**		**Date:**	06.11.2024
Date of receipt :	25.10.2024	**Sample collected By**		**Dr. Anoop Chaturvedi, Sh. R. Bandewar & CECB official**	
Date of analysis :	30.10.2024				

S. No.	Parameters	Unit	Result	Method
1.	Suspended Particulate Matter (SPM) / **PM10**	**µg /M³**	**97**	ISC Method No. 501, Page no. 427 – 439, 3rd ED. 1989 IS Method No. 5182, (Part -4), 1999
2.	**Particulate Matter PM- 2.5**	**µg/M³**	**62**	ISC Method No. 501, Page no. 427 – 439, 3rd ED. 1989
3.	**Nitrogen Dioxide (NO_2)**	**µg/M³**	**32**	IS Method No. 5182, (Part -6), 2006
4.	**Sulphur Dioxide (SO_2)**	**µg/M³**	**11**	IS Method No. 5182, (Part -2), 2001
5.	Fluoride	µg/M³		AS 3580- 13.2- 1991/ 3580.13.3 – 1993, Sodium Acetate method
6.	Ammonia	µg/M³	--	EPA -401 3rd Edition 2000 Indo -phenol method
7.	Other Specific Parameters	µg /M³	--	USEPA- 29, 3rd Edition 1998 (AAS/ Graphite generation) APHA311B

Prepared By:

Lab Head
Authorised Signatory
मिलिन्द कुमार निमले/Milind Kumar Nimje
वैज्ञानिक-'ग',प्रभार प्रयोगशाला एवं सरकारी विश्लेषक
Scientist 'C' Lab Head & Government Analyst
क्षेत्रीय निदेशालय / Regional Directorate
केन्द्रीय प्रदूषण नियंत्रण बोर्ड/CPCB (R.D.)
Central Pollution Control Board, Bhopal (M.P.)

CUSTOMER COPY
MASTER COPY
COPY FOR LAB I/C

Regional Directorate (Central)

Central Pollution Control Board

"Parivesh Bhawan", Paryavaran Parisar, E-5, Arera Colony,
Bhopal – 462016
Tel: 0755-2775385/86, Fax: 0755-2775587

EPA Recognized Lab-2015

TEST REPORT

Ambient / Fugitive Air Analysis Report

F/LAB/06/TR-03

Sample from:	**M/s. Bajrang Agrawal House No. 28 Gulmohar Colony Raigarh (CG.)**			**Req. No: 126**	**Test report No: AAQM/24-25/40**
Sample Description:	**House No. 28 Gulmohar Colony Raigarh**			**Registration No:.**	**AAQM/24-25/40**
Date of collection:	21-22.10.2024	**Type of sample:** grab/composite		**Date:**	06.11.2024
Date of receipt :	25.10.2024	**Sample collected By**		**Dr. Anoop Chaturvedi, Sh. R. Bandewar & CECB official**	
Date of analysis :	30.10.2024				

S. No.	Parameters	Unit.	Result	Method
1.	Suspended Particulate Matter (SPM) / **PM10**	µg /M³	84	ISC Method No. 501, Page no. 427 – 439, 3rd ED. 1989 IS Method No. 5182, (Part -4), 1999
2.	**Particulate Matter PM- 2.5**	µg/M³	52	ISC Method No. 501, Page no. 427 – 439, 3rd ED. 1989
3.	**Nitrogen Dioxide (NO_2)**	µg/M³	39	IS Method No. 5182, (Part -6), 2006
4.	**Sulphur Dioxide (SO_2)**	µg/M³	12	IS Method No. 5182, (Part -2), 2001
5.	Fluoride	µg/M³		AS 3580- 13.2- 1991/ 3580.13.3 – 1993, Sodium Acetate method
6.	Ammonia	µg/M³	--	EPA -401 3rd Edition 2000 Indo -phenol method
7.	Other Specific Parameters	µg /M³	--	USEPA- 29, 3rd Edition 1998 (AAS/ Graphite generation) APHA311B

Prepared By:

Lab Head
Authorised Signatory

मिलिन्द कुमार निमजे/Milind Kumar Nimje
वैज्ञानिक-'ग'/लैब प्रमुख एवं सरकारी विश्लेषक
Scientist 'G'/Lab Head & Government Analyst
क्षेत्रीय निदेशालय/Regional Directorate
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Regional Directorate (Central)

Central Pollution Control Board

"Parivesh Bhawan", Paryavaran Parisar, E-5, Arera Colony,
Bhopal – 462016
Tel: 0755-2775385/86, Fax: 0755-2775587

EPA Recognized Lab-2015

TEST REPORT

Ambient / Fugitive Air Analysis Report

F/LAB/06/TR-03

Sample from:	**M/s. Near Schehool Banjhil Pali Area Raigarh (C.G.)**			**Req. No: 126**	**Test report No: AAQM/24-25/41**
Sample Description:	**Near Schehool Banjhil pali Area Raigarh**			**Registration No:.**	**AAQM/24-25/41**
Date of collection:	21-22.10.2024	**Type of sample: grab/composite**		**Date:**	06.11.2024
Date of receipt :	25.10.2024	**Sample collected By**		**Dr. Anoop Chaturvedi, Sh. R. Bandewar & CECB official**	
Date of analysis :	30.10.2024				

S. No.	Parameters	Unit	Result	Method
1.	Suspended Particulate Matter (SPM) / **PM10**	**µg /M³**	**148**	ISC Method No. 501, Page no. 427 – 439, 3rd ED. 1989 IS Method No. 5182, (Part -4), 1999
2.	**Particulate Matter PM- 2.5**	**µg/M³**	**82**	ISC Method No. 501, Page no. 427 – 439, 3rd ED. 1989
3.	**Nitrogen Dioxide (NO_2)**	**µg/M³**	**36**	IS Method No. 5182, (Part -6), 2006
4.	**Sulphur Dioxide (SO_2)**	**µg/M³**	**12**	IS Method No. 5182, (Part -2), 2001
5.	Fluoride	µg/M³		AS 3580- 13.2- 1991/ 3580.13.3 – 1993, Sodium Acetate method
6.	Ammonia	µg/M³	--	EPA -401 3rd Edition 2000 Indo -phenol method
7.	Other Specific Parameters	µg /M³	--	USEPA- 29, 3rd Edition 1998 (AAS/ Graphite generation) APHA311B

Prepared By:

Lab Head
Authorised Signatory

मिलिन्द कुमार निगवे/Milind Kumar Nigve
वैज्ञानिक-'ग' एवं प्रमुख एवं सरकारी विश्लेषक
Scientist 'G' Lab Head & Government Analyst
क्षेत्रीय निदेशालय / Regional Directorate
केन्द्रीय प्रदूषण नियंत्रण बोर्ड/Central Pollution Control Board,Bhopal

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Regional Directorate (Central)
Central Pollution Control Board

"Parivesh Bhawan", Paryavaran Parisar, E-5, Arera Colony,
Bhopal – 462016
Tel: 0755-2775385/86, Fax: 0755-2775587

EPA Recognized Lab-2015

TEST REPORT

Ambient / Fugitive Air Analysis Report

F/LAB/06/TR-03

Sample from:	**M/s. Jindal School, Raigarh (C.G.)**			**Req. No: 126**	**Test report No: AAQM/24-25/42**
Sample Description:	**Jindal School, Raigarh**			**Registration No:.**	**AAQM/24-25/42**
Date of collection:	21-22.10.2024	**Type of sample: grab/composite**		**Date:**	06.11.2024
Date of receipt :	25.10.2024	**Sample collected By**		**Dr. Anoop Chaturvedi, Sh. R. Bandewar & CECB official**	
Date of analysis :	30.10.2024				

S. No.	Parameters	Unit	Result	Method
1.	Suspended Particulate Matter (SPM) / **PM10**	µg /M³	92	ISC Method No. 501, Page no. 427 – 439, 3rd ED. 1989 IS Method No. 5182, (Part -4), 1999
2.	**Particulate Matter PM- 2.5**	µg/M³	64	ISC Method No. 501, Page no. 427 – 439, 3rd ED. 1989
3.	**Nitrogen Dioxide (NO_2)**	µg/M³	28	IS Method No. 5182, (Part -6), 2006
4.	**Sulphur Dioxide (SO_2)**	µg/M³	8	IS Method No. 5182, (Part -2), 2001
5.	Fluoride	µg/M³		AS 3580- 13.2- 1991/ 3580.13.3 – 1993, Sodium Acetate method
6.	Ammonia	µg/M³	--	EPA -401 3rd Edition 2000 Indo -phenol method
7.	Other Specific Parameters	µg /M³	--	USEPA- 29, 3rd Edition 1998 (AAS/ Graphite generation) APHA311B

Prepared By:

Lab Head
Authorised Signatory

REGIONAL OFFICE
C.G. ENVIRONMENT CONSERVATION BOARD
T.V. TOWER ROAD, RAIGARH

Date of Monitoring	:	07.11.2024 to 08.11.2024
Date of Analysis	:	08.11.2024
Monitoring Done by	:	CPCB Representative
Analysis Done by	:	Satish Patel (Jr. Scientist) & Rameshwar Bandewar (S.S.A.)
Checked by	:	Navin Chandra Malviya (Chief Chemist)

AAQM ANALYSIS REPORT

S.No.	Location	PM10 (µg/m3)	PM2.5 (µg/m3)	SO2 (µg/m3)	NO2 (µg/m3)
1	Apex Hospital, Chhatamunda Chowk	81	52	6.03	27
2	M/s JSPL Model Town Kerajhar	87	54	11.98	36
3	M/s MSP Colony, Village- Junadih	90	59	8.47	34
4	Village-Chakradharpur	76	49	9.27	34
NAAQS (Ambient air monitoring carried out for 24 Hr basis)		100	60	80	80

Jr. Scientist

Chief Chemist

Regional Officer

CPCB

Central Pollution Control Board
Regional Directorate (Central)
"Parivesh Bhawan"
Paryavaran Parisar, E-5, Arera Colony, Bhopal
EPA Recognised Lab
Test Report : Fresh Water (Physico Chemical Parameter)

Project Name	NGT Case No.- 970/2024			Test Report No.	FW/24-25/57
Sample Description	Kelo River, Raigarh U/S			Requisition No.	101
Date of sample collection	23.10.2024			Date	30.10.2024
Date of sample receipt	25.10.2024			Type of sample	Grab
Date of analysis	25.10.2024 to 30.10.2024			Sample collected by	Dr. A Chaturvedi, Sh. R Bandewar & CECB,RO Team

S.No.	Parameters	Unit	Result	Method
1	Temperature	°C	-	-
2	Odour	-	-	-
3	Appearance	-	-	0
4	Colour	Pt-Co Scale	-	APHA, 2120-B
5	Residual Chlorine	mg/L	-	APHA 4500-Cl-B
6	Dissolved Oxygen	mg/L	-	APHA 4500-O-C
7	**pH**	**pH unit**	**7.14**	**APHA, 4500H+B**
8	**Specific Conductivity**	**µmho/cm**	**181**	**APHA 2510 B**
9	**Suspended Solids**	**mg/L**	**BDL (DL=10)**	**APHA 2540 D**
10	**Total Dissolved Solids**	**mg/L**	**111**	**APHA 2540 C**
11	**Total Solids**	**mg/L**	**117**	**APHA 2540 B**
12	Fixed Dissolved Solid	mg/L	-	APHA 2540 E
13	**COD**	**mg/L**	**6**	**APHA, 5220 B**
14	**BOD (3 days, 27°C)**	**mg/L**	**2**	**IS 3025, 1993**
15	**Chloride**	**mg/L**	**42**	**APHA, 4500-CL-B**
16	**Total Alkalinity**	**mg/L**	**64**	**APHA 2320-B**
17	**T. Hardness (as $CaCO_3$)**	**mg/L**	**57**	**APHA 2340-C**
18	**Ca Hardness (as $CaCO_3$)**	**mg/L**	**34**	**APHA 3500-Ca-B**
19	**Mg Hardness (as $CaCO_3$)**	**mg/L**	**23**	**APHA 3500-Mg-B**
20	Oil & Grease	mg/L	-	APHA 5520-D
21	Total Kjehdal Nitrogen	mg/L	-	APHA 4500-Norg-C
22	**Turbidity**	**N.T.U.**	**1**	**APHA, 2130-B**
23	**Phosphate (as P)**	**mg/L**	**0.48**	**APHA 4500-P-D**
24	**Sulphate (as SO_4)**	**mg/L**	**16**	**APHA 4500-SO_4-E**
25	**Ammo. Nitrogen (as NH_3)**	**mg/L**	**0.234**	**APHA 4500-NH_3-F**
26	**Nitrite Nitrogen (as NO_2)**	**mg/L**	**BDL (DL=0.02)**	**APHA 4500-NO_2-B**
27	**Nitrate Nitrogen (as NO_3)**	**mg/L**	**BDL (DL=0.3)**	**APHA 4500-NO_3B**
28	**Fluoride (as F)**	**mg/L**	**0.012**	**APHA 4500-F-D**
29	Sodium (as Na)	mg/L	-	APHA 3500-Na-B
30	Potassium (as K)	mg/L	-	APHA 3500-K-B
31	Chromium (as Cr^{+6})	mg/L	-	APHA 3500-Cr B
32	Boron (as B)	mg/L	-	APHA 4500-B-C
33	**Faecal Coliform**	**MPN/100ml**	**17**	**APHA 9221-E**
34	**Total Coliform**	**MPN/100ml**	**280**	**APHA 9221-A,B,C**
35	Bioassay Test	% Survival	-	APHA 8910 A-C
36				
37				
38				

Prepared by

Laboratory Head

REGIONAL OFFICE
C.G. ENVIRONMENT CONSERVATION BOARD
T.V. TOWER ROAD, RAIGARH

SAMPLE COLLETED FROM	:	Kelo River
DESCRIPTION OF SAMPLE	:	Kelo river midstream near chakrapath
DATE OF COLLECTION	:	08.11.2024
DATE OF RECEIVED	:	08.11.2024
DATE OF ANALYSIS	:	09.11.2024
SAMPLE COLLECTED BY	:	CPCB Representative
ANALYSED BY	:	Satish Patel (Jr. Scientist) & Rameshwar Bandewar (S.S.A.)
CHECKED BY	:	Navin Chandra Malviya (Chief Chemist)

WATER ANALYSIS REPORT

S.No.	Characteristics	Unit	Results
1.	Temperature	°C	21
2.	Appearance	-	Clear
3.	Odour	Threshold No.	OL
4.	pH	pH Unit	7.11
5.	Specific Conductivity	Micro Mhos	221.0
6.	Total Solids	Mg/L	175.0
7.	Dissolved Solids	Mg/L	159.0
8.	Suspended Solids	Mg/L	16.0
9.	Phosphate (as PO_4)	Mg/L	0.42
10.	Chloride (asCL)	Mg/L	46.0
11.	Sulphate (as SO_4)	Mg/L	29.0
12.	Total Coliform	MPN/100ml	430
13.	Dissolved Oxygen (D.O.)	Mg/L	7.42
14.	B.O.D. (3 day 27°C)	Mg/L	3.0
15.	C.O.D.	Mg/L	10.0
16.	Total Alkalinity	Mg/L	78.0
17.	Total Hardness	Mg/L	68.0

Jr. Scientist Chief Chemist Regional Officer

REGIONAL OFFICE
C.G. ENVIRONMENT CONSERVATION BOARD
T.V. TOWER ROAD, RAIGARH

SAMPLE COLLETED FROM	:	Kelo River
DESCRIPTION OF SAMPLE	:	Kelo river down stream near bade attarmuda
DATE OF COLLECTION	:	08.11.2024
DATE OF RECEIVED	:	08.11.2024
DATE OF ANALYSIS	:	09.11.2024
SAMPLE COLLECTED BY	:	CPCB Representative
ANALYSED BY	:	Satish Patel (Jr. Scientist) & Rameshwar Bandewar (S.S.A.)
CHECKED BY	:	Navin Chandra Malviya (Chief Chemist)

WATER ANALYSIS REPORT

S.No.	Characteristics	Unit	Results
1.	Temperature	^{0}C	22
2.	Appearance	-	Clear
3.	Odour	Threshold No.	OL
4.	pH	pH Unit	7.23
5.	Specific Conductivity	Micro Mhos	247.0
6.	Total Solids	Mg/L	181.0
7.	Dissolved Solids	Mg/L	162.0
8.	Suspended Solids	Mg/L	19.0
9.	Phosphate (as PO_4)	Mg/L	0.44
10.	Chloride (asCL)	Mg/L	48.0
11.	Sulphate (as SO_4)	Mg/L	26.0
12.	Total Coliform	MPN/100ml	350
13.	Dissolved Oxygen (D.O.)	Mg/L	7.61
14.	B.O.D. (3 day 27^{0}C)	Mg/L	3.0
15.	C.O.D.	Mg/L	8.0
16.	Total Alkalinity	Mg/L	68.0
17.	Total Hardness	Mg/L	71.0

Jr. Scientist Chief Chemist Regional Officer

CPCB

Central Pollution Control Board
Regional Directorate (Central)
"Parivesh Bhawan"
Paryavaran Parisar, E-5, Arera Colony, Bhopal
EPA Recognised Lab
Test Report : Fresh Water (Physico Chemical Parameter)

CUSTOMER COPY — F/LAB/06/TR-01

Project Name	NGT Case No.- 970/2024	Test Report No.	FW/24-25/58
Sample Description	Jaisingh Talab, Niklemahadev Mandir ke pass, Raigarh	Requisition No.	101
Date of sample collection	23.10.2024	Date	30.10.2024
Date of sample receipt	25.10.2024	Type of sample	Grab
Date of analysis	25.10.2024 to 30.10.2024	Sample collected by	Dr. A Chaturvedi, Sh. R Bandewar & CECB,RO Team

S.No.	Parameters	Unit	Result	Method
1	Temperature	°C	-	-
2	Odour	-	-	-
3	Appearance	-	-	-
4	Colour	Pt-Co Scale	-	APHA, 2120-B
5	Residual Chlorine	mg/L	-	APHA 4500-Cl-B
6	Dissolved Oxygen	mg/L	-	APHA 4500-O-C
7	**pH**	**pH unit**	**6.63**	**APHA, 4500H+B**
8	**Specific Conductivity**	**µmho/cm**	**702**	**APHA 2510 B**
9	**Suspended Solids**	**mg/L**	**23**	**APHA 2540 D**
10	**Total Dissolved Solids**	**mg/L**	**584**	**APHA 2540 C**
11	**Total Solids**	**mg/L**	**607**	**APHA 2540 B**
12	Fixed Dissolved Solid	mg/L	-	APHA 2540 E
13	**COD**	**mg/L**	**28**	**APHA, 5220 B**
14	**BOD (3 days, 27°C)**	**mg/L**	**12**	**IS 3025, 1993**
15	**Chloride**	**mg/L**	**176**	**APHA, 4500-CL-B**
16	**Total Alkalinity**	**mg/L**	**101**	**APHA 2320-B**
17	**T. Hardness (as $CaCO_3$)**	**mg/L**	**249**	**APHA 2340-C**
18	**Ca Hardness (as $CaCO_3$)**	**mg/L**	**182**	**APHA 3500-Ca-B**
19	**Mg Hardness (as $CaCO_3$)**	**mg/L**	**67**	**APHA 3500-Mg-B**
20	Oil & Grease	mg/L	-	APHA 5520-D
21	Total Kjehdal Nitrogen	mg/L	-	APHA 4500-Norg-C
22	**Turbidity**	**N.T.U.**	**8**	**APHA, 2130-B**
23	**Phosphate (as P)**	**mg/L**	**0.52**	**APHA 4500-P-D**
24	**Sulphate (as SO_4)**	**mg/L**	**67**	**APHA 4500-SO_4-E**
25	**Ammo. Nitrogen (as NH_3)**	**mg/L**	**0.43**	**APHA 4500-NH_3-F**
26	**Nitrite Nitrogen (as NO_2)**	**mg/L**	**0.049**	**APHA 4500-NO_2-B**
27	**Nitrate Nitrogen (as NO_3)**	**mg/L**	**0.62**	**APHA 4500-NO_3B**
28	**Fluoride (as F)**	**mg/L**	**0.011**	**APHA 4500-F-D**
29	Sodium (as Na)	mg/L	-	APHA 3500-Na-B
30	Potassium (as K)	mg/L	-	APHA 3500-K-B
31	Chromium (as Cr^{+6})	mg/L	-	APHA 3500-Cr B
32	Boron (as B)	mg/L	-	APHA 4500-B-C
33	**Faecal Coliform**	**MPN/100ml**	**>1600**	**APHA 9221-E**
34	**Total Coliform**	**MPN/100ml**	**>1600**	**APHA 9221-A,B,C**
35	Bioassay Test	% Survival	-	APHA 8910 A-C
36				
37				
38				

Prepared by

मिलिन्द कुमार निगवे/Milind Kumar Nigve
वैज्ञानिक 'सी' एवं क्षेत्र प्रमुख एवं सरकारी विश्लेषक
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Laboratory Head

CPCB

Central Pollution Control Board
Regional Directorate (Central)
"Parivesh Bhawan"
Paryavaran Parisar, E-5, Arera Colony, Bhopal
EPA Recognised Lab
Test Report : Fresh Water (Physico Chemical Parameter)

F/LAB/06/TR-01

Project Name	NGT Case No.- 970/2024	Test Report No.	FW/24-25/59
Sample Description	Ganesh Talab, Ghadi chowk, Raigarh	Requisition No.	101
Date of sample collection	23.10.2024	Date	30.10.2024
Date of sample receipt	25.10.2024	Type of sample	Grab
Date of analysis	25.10.2024 to 30.10.2024	Sample collected by	Dr. A Chaturvedi, Sh. R Bandewar & CECB,RO Team

S.No.	Parameters	Unit	Result	Method
1	Temperature	°C	-	-
2	Odour	-	-	-
3	Appearance	-	-	-
4	Colour	Pt-Co Scale	-	APHA, 2120-B
5	Residual Chlorine	mg/L	-	APHA 4500-Cl-B
6	Dissolved Oxygen	mg/L	-	APHA 4500-O-C
7	**pH**	**pH unit**	**7.09**	**APHA, 4500H+B**
8	**Specific Conductivity**	**µmho/cm**	**658**	**APHA 2510 B**
9	**Suspended Solids**	**mg/L**	**15**	**APHA 2540 D**
10	**Total Dissolved Solids**	**mg/L**	**371**	**APHA 2540 C**
11	**Total Solids**	**mg/L**	**586**	**APHA 2540 B**
12	Fixed Dissolved Solid	mg/L	-	APHA 2540 E
13	**COD**	**mg/L**	**24**	**APHA, 5220 B**
14	**BOD (3 days, 27°C)**	**mg/L**	**8**	**IS 3025, 1993**
15	**Chloride**	**mg/L**	**106**	**APHA, 4500-CL-B**
16	**Total Alkalinity**	**mg/L**	**98**	**APHA 2320-B**
17	**T. Hardness (as $CaCO_3$)**	**mg/L**	**204**	**APHA 2340-C**
18	**Ca Hardness (as $CaCO_3$)**	**mg/L**	**138**	**APHA 3500-Ca-B**
19	**Mg Hardness (as $CaCO_3$)**	**mg/L**	**66**	**APHA 3500-Mg-B**
20	Oil & Grease	mg/L	-	APHA 5520-D
21	Total Kjehdal Nitrogen	mg/L	-	APHA 4500-Norg-C
22	**Turbidity**	**N.T.U.**	**6.2**	**APHA, 2130-B**
23	**Phosphate (as P)**	**mg/L**	**0.58**	**APHA 4500-P-D**
24	**Sulphate (as SO_4)**	**mg/L**	**58**	**APHA 4500-SO_4-E**
25	**Ammo. Nitrogen (as NH_3)**	**mg/L**	**0.52**	**APHA 4500-NH_3-F**
26	**Nitrite Nitrogen (as NO_2)**	**mg/L**	**0.032**	**APHA 4500-NO_2-B**
27	**Nitrate Nitrogen (as NO_3)**	**mg/L**	**0.48**	**APHA 4500-NO_3B**
28	**Fluoride (as F)**	**mg/L**	**0.009**	**APHA 4500-F-D**
29	Sodium (as Na)	mg/L	-	APHA 3500-Na-B
30	Potassium (as K)	mg/L	-	APHA 3500-K-B
31	Chromium (as Cr^{+6})	mg/L	-	APHA 3500-Cr B
32	Boron (as B)	mg/L	-	APHA 4500-B-C
33	**Faecal Coliform**	**MPN/100ml**	**>1600**	**APHA 9221-E**
34	**Total Coliform**	**MPN/100ml**	**>1600**	**APHA 9221-A,B,C**
35	Bioassay Test	% Survival	-	APHA 8910 A-C
36				
37				
38				

Prepared by:

मिलिन्द कुमार निगवे/Milind Kumar Nenje
वैज्ञानिक 'सी', लैब प्रमुख एवं सरकारी विश्लेषक
Scientist 'C', Lab Head & Government Analyst
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Laboratory Head

Central Pollution Control Board
Regional Directorate (Central)
"Parivesh Bhawan"
Paryavaran Parisar, E-5, Arera Colony, Bhopal
EPA Recognised Lab
Test Report : Fresh Water (Physico Chemical Parameter)

CPCB

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Project Name	NGT Case No.- 970/2024	Test Report No.	FW/24-25/60
Sample Description	Budhi Mai Talab, Raigarh	Requisition No.	101
Date of sample collection	23.10.2024	Date	30.10.2024
Date of sample receipt	25.10.2024	Type of sample	Grab
Date of analysis	25.10.2024 to 30.10.2024	Sample collected by	Dr. A Chaturvedi, Sh. R Bandewar & CECB,RO Team

S.No.	Parameters	Unit	Result	Method
1	Temperature	°C	-	-
2	Odour	-	-	-
3	Appearance	-	-	-
4	Colour	Pt-Co Scale	-	APHA, 2120-B
5	Residual Chlorine	mg/L	-	APHA 4500-Cl-B
6	Dissolved Oxygen	mg/L	-	APHA 4500-O-C
7	**pH**	**pH unit**	**6.97**	**APHA, 4500H+B**
8	**Specific Conductivity**	**µmho/cm**	**1420**	**APHA 2510 B**
9	**Suspended Solids**	**mg/L**	**22**	**APHA 2540 D**
10	**Total Dissolved Solids**	**mg/L**	**828**	**APHA 2540 C**
11	**Total Solids**	**mg/L**	**850**	**APHA 2540 B**
12	Fixed Dissolved Solid	mg/L	-	APHA 2540 E
13	**COD**	**mg/L**	**32**	**APHA, 5220 B**
14	**BOD (3 days, 27°C)**	**mg/L**	**14**	**IS 3025, 1993**
15	**Chloride**	**mg/L**	**220**	**APHA, 4500-CL-B**
16	**Total Alkalinity**	**mg/L**	**129**	**APHA 2320-B**
17	**T. Hardness (as $CaCO_3$)**	**mg/L**	**400**	**APHA 2340-C**
18	**Ca Hardness (as $CaCO_3$)**	**mg/L**	**314**	**APHA 3500-Ca-B**
19	**Mg Hardness (as $CaCO_3$)**	**mg/L**	**86**	**APHA 3500-Mg-B**
20	Oil & Grease	mg/L	-	APHA 5520-D
21	Total Kjehdal Nitrogen	mg/L	-	APHA 4500-Norg-C
22	**Turbidity**	**N.T.U.**	**8.1**	**APHA, 2130-B**
23	**Phosphate (as P)**	**mg/L**	**0.61**	**APHA 4500-P-D**
24	**Sulphate (as SO_4)**	**mg/L**	**176**	**APHA 4500-SO_4-E**
25	**Ammo. Nitrogen (as NH_3)**	**mg/L**	**13.02**	**APHA 4500-NH_3-F**
26	**Nitrite Nitrogen (as NO_2)**	**mg/L**	**0.044**	**APHA 4500-NO_2-B**
27	**Nitrate Nitrogen (as NO_3)**	**mg/L**	**0.72**	**APHA 4500-NO_3B**
28	**Fluoride (as F)**	**mg/L**	**0.016**	**APHA 4500-F-D**
29	Sodium (as Na)	mg/L	-	APHA 3500-Na-B
30	Potassium (as K)	mg/L	-	APHA 3500-K-B
31	Chromium (as Cr^{+6})	mg/L	-	APHA 3500-Cr B
32	Boron (as B)	mg/L	-	APHA 4500-B-C
33	**Faecal Coliform**	**MPN/100ml**	**>1600**	**APHA 9221-E**
34	**Total Coliform**	**MPN/100ml**	**>1600**	**APHA 9221-A,B,C**
35	Bioassay Test	% Survival	-	APHA 8910 A-C
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Prepared by:

मिलिंद कुमार निमजे/Milind Kumar Nimje
वैज्ञानिक-'सी',लैब प्रमुख एवं सरकारी विश्लेषक
Scientist 'C' Lab Head & Government Analyst
क्षेत्रीय निदेशालय / Regional Directorate
केंद्रीय प्रदूषण नियंत्रण बोर्ड (म.प्र.)

Laboratory Head

REGIONAL OFFICE
C.G. ENVIRONMENT CONSERVATION BOARD
T.V. TOWER ROAD, RAIGARH

SAMPLE COLLETED FROM	:	Kirodimalnagar Talab
DESCRIPTION OF SAMPLE	:	Pond sample
DATE OF COLLECTION	:	08.11.2024
DATE OF RECEIVED	:	08.11.2024
DATE OF ANALYSIS	:	09.11.2024
SAMPLE COLLECTED BY	:	CPCB Representative
ANALYSED BY	:	Satish Patel (Jr. Scientist) & Rameshwar Bandewar (S.S.A.)
CHECKED BY	:	Navin Chandra Malviya (Chief Chemist)

WATER ANALYSIS REPORT

S.No.	Characteristics	Unit	Results
1.	Temperature	°C	21
2.	Appearance	-	Clear
3.	Odour	Threshold No.	OL
4.	pH	pH Unit	6.89
5.	Specific Conductivity	Micro Mhos	548.0
6.	Total Solids	Mg/L	309.0
7.	Dissolved Solids	Mg/L	295.0
8.	Suspended Solids	Mg/L	14.0
9.	Phosphate (as PO_4)	Mg/L	0.26
10.	Chloride (asCL)	Mg/L	76.0
11.	Sulphate (as SO_4)	Mg/L	72.0
12.	Total Coliform	MPN/100ml	540
13.	Dissolved Oxygen (D.O.)	Mg/L	--
14.	B.O.D. (3 day 27°C)	Mg/L	8.0
15.	C.O.D.	Mg/L	22.0
16.	Total Alkalinity	Mg/L	69.0
17.	Total Hardness	Mg/L	191.0

Jr. Scientist Chief Chemist Regional Officer

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REGIONAL OFFICE
C.G. ENVIRONMENT CONSERVATION BOARD
T.V. TOWER ROAD, RAIGARH

SAMPLE COLLETED FROM	:	Bhagwanpura Talab
DESCRIPTION OF SAMPLE	:	Pond samble
DATE OF COLLECTION	:	08.11.2024
DATE OF RECEIVED	:	08.11.2024
DATE OF ANALYSIS	:	09.11.2024
SAMPLE COLLECTED BY	:	CPCB Representative
ANALYSED BY	:	Satish Patel (Jr. Scientist) & Rameshwar Bandewar (S.S.A.)
CHECKED BY	:	Navin Chandra Malviya (Chief Chemist)

WATER ANALYSIS REPORT

S.No.	Characteristics	Unit	Results
1.	Temperature	°C	21.5
2.	Appearance	-	Clear
3.	Odour	Threshold No.	OL
4.	pH	pH Unit	6.60
5.	Specific Conductivity	Micro Mhos	614.0
6.	Total Solids	Mg/L	392.0
7.	Dissolved Solids	Mg/L	381.0
8.	Suspended Solids	Mg/L	11.0
9.	Phosphate (as PO_4)	Mg/L	0.21
10.	Chloride (asCL)	Mg/L	81.0
11.	Sulphate (as SO_4)	Mg/L	81.0
12	Total Coliform	MPN/100ml	740
13.	Dissolved Oxygen (D.O.)	Mg/L	--
14.	B.O.D. (3 day 27°C)	Mg/L	11.0
15.	C.O.D.	Mg/L	26.0
16.	Total Alkalinity	Mg/L	84.0
17.	Total Hardness	Mg/L	189.0

Jr. Scientist Chief Chemist Regional Officer

REGIONAL OFFICE
C.G. ENVIRONMENT CONSERVATION BOARD
T.V. TOWER ROAD, RAIGARH

SAMPLE COLLETED FROM	:	Vijaypur Talab
DESCRIPTION OF SAMPLE	:	Pond sample
DATE OF COLLECTION	:	08.11.2024
DATE OF RECEIVED	:	08.11.2024
DATE OF ANALYSIS	:	09.11.2024
SAMPLE COLLECTED BY	:	CPCB Representative
ANALYSED BY	:	Satish Patel (Jr. Scientist) & Rameshwar Bandewar (S.S.A.)
CHECKED BY	:	Navin Chandra Malviya (Chief Chemist)

WATER ANALYSIS REPORT

S.No.	Characteristics	Unit	Results
1.	Temperature	^0C	22
2.	Appearance	-	Clear
3.	Odour	Threshold No.	OL
4.	pH	pH Unit	7.14
5.	Specific Conductivity	Micro Mhos	581.0
6.	Total Solids	Mg/L	276.0
7.	Dissolved Solids	Mg/L	268.0
8.	Suspended Solids	Mg/L	14.0
9.	Phosphate (as PO_4)	Mg/L	0.32
10.	Chloride (asCL)	Mg/L	69.0
11.	Sulphate (as SO_4)	Mg/L	74.0
12.	Total Coliform	MPN/100ml	920
13.	Dissolved Oxygen (D.O.)	Mg/L	--
14.	B.O.D. (3 day 27^0C)	Mg/L	7.0
15.	C.O.D.	Mg/L	19.0
16.	Total Alkalinity	Mg/L	74.0
17.	Total Hardness	Mg/L	154.0

Jr. Scientist Chief Chemist Regional Officer

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REGIONAL OFFICE
C.G. ENVIRONMENT CONSERVATION BOARD
T.V. TOWER ROAD, RAIGARH

SAMPLE COLLETED FROM	:	Manjhapara Talab
DESCRIPTION OF SAMPLE	:	Pond Sample
DATE OF COLLECTION	:	08.11.2024
DATE OF RECEIVED	:	08.11.2024
DATE OF ANALYSIS	:	09.11.2024
SAMPLE COLLECTED BY	:	CPCB Representative
ANALYSED BY	:	Satish Patel (Jr. Scientist) & Rameshwar Bandewar (S.S.A.)
CHECKED BY	:	Navin Chandra Malviya (Chief Chemist)

WATER ANALYSIS REPORT

S.No.	Characteristics	Unit	Results
1.	Temperature	^0C	21
2.	Appearance	-	Clear
3.	Odour	Threshold No.	OL
4.	pH	pH Unit	7.22
5.	Specific Conductivity	Micro Mhos	1263.0
6.	Total Solids	Mg/L	800.0
7.	Dissolved Solids	Mg/L	788.0
8.	Suspended Solids	Mg/L	12.0
9.	Phosphate (as PO_4)	Mg/L	0.51
10.	Chloride (asCL)	Mg/L	168.0
11.	Sulphate (as SO_4)	Mg/L	112.0
12.	Total Coliform	MPN/100ml	810
13.	Dissolved Oxygen (D.O.)	Mg/L	--
14.	B.O.D. (3 day 27^0C)	Mg/L	16.0
15.	C.O.D.	Mg/L	39.0
16.	Total Alkalinity	Mg/L	102.0
17.	Total Hardness	Mg/L	309.0

Jr. Scientist Chief Chemist Regional Officer

CPCB

Central Pollution Control Board
Regional Directorate (Central)
"Parivesh Bhawan"
Paryavaran Parisar, E-5, Arera Colony, Bhopal
EPA Recognised Lab
Test Report : Fresh Water (Physico Chemical Parameter)

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Project Name	NGT Case No.- 970/2024		Test Report No.	FW/24-25/67
Sample Description	Talab Kirodimal Nagar, Raigarh		Requisition No.	103
Date of sample collection	08.11.2024		Date	20.11.2024
Date of sample receipt	16.11.2024		Type of sample	Grab
Date of analysis	16.11.2024 to 18.11.2024		Sample collected by	Dr. A Chaturvedi, Sh. R Bandewar & CECB,RO Team

S.No.	Parameters	Unit	Result	Method
1	Temperature	°C	-	-
2	Odour	-	-	-
3	Appearance	-	-	-
4	Colour	Pt-Co Scale	-	APHA, 2120-B
5	Residual Chlorine	mg/L	-	APHA 4500-Cl-B
6	Dissolved Oxygen	mg/L	-	APHA 4500-O-C
7	pH	pH unit	-	APHA, 4500H+B
8	Specific Conductivity	µmho/cm	-	APHA 2510 B
9	Suspended Solids	mg/L	-	APHA 2540 D
10	Total Dissolved Solids	mg/L	-	APHA 2540 C
11	Total Solids	mg/L	-	APHA 2540 B
12	Fixed Dissolved Solid	mg/L	-	APHA 2540 E
13	COD	mg/L	-	APHA, 5220 B
14	BOD (3 days, 27°C)	mg/L	-	IS 3025, 1993
15	Chloride	mg/L	-	APHA, 4500-CL-B
16	Total Alkalinity	mg/L	-	APHA 2320-B
17	T. Hardness (as $CaCO_3$)	mg/L	-	APHA 2340-C
18	Ca Hardness (as $CaCO_3$)	mg/L	-	APHA 3500-Ca-B
19	Mg Hardness (as $CaCO_3$)	mg/L	-	APHA 3500-Mg-B
20	Oil & Grease	mg/L	-	APHA 5520-D
21	Total Kjehdal Nitrogen	mg/L	-	APHA 4500-Norg-C
22	Turbidity	N.T.U.	-	APHA, 2130-B
23	Phosphate (as P)	mg/L	-	APHA 4500-P-D
24	Sulphate (as SO_4)	mg/L	-	APHA 4500-SO_4-E
25	**Ammo. Nitrogen (as NH_3)**	**mg/L**	**4.8**	**APHA 4500-NH_3-F**
26	**Nitrite Nitrogen (as NO_2)**	**mg/L**	**0.02**	**APHA 4500-NO_2-B**
27	**Nitrate Nitrogen (as NO_3)**	**mg/L**	**0.44**	**APHA 4500-NO_3B**
28	Fluoride (as F)	mg/L	-	APHA 4500-F-D
29	Sodium (as Na)	mg/L	-	APHA 3500-Na-B
30	Potassium (as K)	mg/L	-	APHA 3500-K-B
31	Chromium (as Cr^{+6})	mg/L	-	APHA 3500-Cr B
32	Boron (as B)	mg/L	-	APHA 4500-B-C
33	**Faecal Coliform**	**MPN/100ml**	**170**	**APHA 9221-E**
34	Total Coliform	MPN/100ml	-	APHA 9221-A,B,C
35	Bioassay Test	% Survival	-	APHA 8910 A-C
36				
37				
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Prepared by

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वैज्ञानिक 'ग' एवं प्रभारी एवं सरकारी विश्लेषक
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Central Pollution Control Board Bhopal (M.P.)

Laboratory Head

CPCB

Central Pollution Control Board
Regional Directorate (Central)
"Parivesh Bhawan"
Paryavaran Parisar, E-5, Arera Colony, Bhopal
EPA Recognised Lab
Test Report : Fresh Water (Physico Chemical Parameter)

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Project Name	NGT Case No.- 970/2024	Test Report No.	FW/24-25/66
Sample Description	Uper Basti Talab, Bhagwanpur, Jindal Road, Raigarh	Requisition No.	103
Date of sample collection	08.11.2024	Date	20.11.2024
Date of sample receipt	16.11.2024	Type of sample	Grab
Date of analysis	16.11.2024 to 18.11.2024	Sample collected by	Dr. A Chaturvedi, Sh. R Bandewar & CECB,RO Team

S.No.	Parameters	Unit	Result	Method
1	Temperature	°C	-	-
2	Odour	-	-	-
3	Appearance	-	-	-
4	Colour	Pt-Co Scale	-	APHA, 2120-B
5	Residual Chlorine	mg/L	-	APHA 4500-Cl-B
6	Dissolved Oxygen	mg/L	-	APHA 4500-O-C
7	pH	pH unit	-	APHA, 4500H+B
8	Specific Conductivity	µmho/cm	-	APHA 2510 B
9	Suspended Solids	mg/L	-	APHA 2540 D
10	Total Dissolved Solids	mg/L	-	APHA 2540 C
11	Total Solids	mg/L	-	APHA 2540 B
12	Fixed Dissolved Solid	mg/L	-	APHA 2540 E
13	COD	mg/L	-	APHA, 5220 B
14	BOD (3 days, 27°C)	mg/L	-	IS 3025, 1993
15	Chloride	mg/L	-	APHA, 4500-CL-B
16	Total Alkalinity	mg/L	-	APHA 2320-B
17	T. Hardness (as $CaCO_3$)	mg/L	-	APHA 2340-C
18	Ca Hardness (as $CaCO_3$)	mg/L	-	APHA 3500-Ca-B
19	Mg Hardness (as $CaCO_3$)	mg/L	-	APHA 3500-Mg-B
20	Oil & Grease	mg/L	-	APHA 5520-D
21	Total Kjehdal Nitrogen	mg/L	-	APHA 4500-Norg-C
22	Turbidity	N.T.U.	-	APHA, 2130-B
23	Phosphate (as P)	mg/L	-	APHA 4500-P-D
24	Sulphate (as SO_4)	mg/L	-	APHA 4500-SO_4-E
25	**Ammo. Nitrogen (as NH_3)**	**mg/L**	**5.62**	**APHA 4500-NH_3-F**
26	**Nitrite Nitrogen (as NO_2)**	**mg/L**	**0.038**	**APHA 4500-NO_2-B**
27	**Nitrate Nitrogen (as NO_3)**	**mg/L**	**0.56**	**APHA 4500-NO_3B**
28	Fluoride (as F)	mg/L	-	APHA 4500-F-D
29	Sodium (as Na)	mg/L	-	APHA 3500-Na-B
30	Potassium (as K)	mg/L	-	APHA 3500-K-B
31	Chromium (as Cr^{+6})	mg/L	-	APHA 3500-Cr B
32	Boron (as B)	mg/L	-	APHA 4500-B-C
33	**Faecal Coliform**	**MPN/100ml**	**350**	**APHA 9221-E**
34	Total Coliform	MPN/100ml	-	APHA 9221-A,B,C
35	Bioassay Test	% Survival	-	APHA 8910 A-C
36				
37				
38				

Prepared by

मिलिंद कुमार निमजे/Milind Kumar Nimje
वैज्ञानिक 'ग'/प्रभारी प्रयोगशाला एवं पर्यावरण विश्लेषक
Scientist-'G' Lab Head & Environmental Analyst
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केन्द्रीय प्रदूषण नियंत्रण बोर्ड/Central Pollution Control Board

Laboratory Head

Central Pollution Control Board
Regional Directorate (Central)
"Parivesh Bhawan"
Paryavaran Parisar, E-5, Arera Colony, Bhopal
EPA Recognised Lab
Test Report : Fresh Water (Physico Chemical Parameter)

CPCB

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Project Name	NGT Case No.- 970/2024	Test Report No.	FW/24-25/65
Sample Description	Vijaypur Talab (Kund), Raigarh	Requisition No.	103
Date of sample collection	08.11.2024	Date	20.11.2024
Date of sample receipt	16.11.2024	Type of sample	Grab
Date of analysis	16.11.2024 to 18.11.2024	Sample collected by	Dr. A Chaturvedi, Sh. R Bandewar & CECB,RO Team

S.No.	Parameters	Unit	Result	Method
1	Temperature	°C	-	-
2	Odour	-	-	-
3	Appearance	-	-	-
4	Colour	Pt-Co Scale	-	APHA, 2120-B
5	Residual Chlorine	mg/L	-	APHA 4500-Cl-B
6	Dissolved Oxygen	mg/L	-	APHA 4500-O-C
7	pH	pH unit	-	APHA, 4500H+B
8	Specific Conductivity	µmho/cm	-	APHA 2510 B
9	Suspended Solids	mg/L	-	APHA 2540 D
10	Total Dissolved Solids	mg/L	-	APHA 2540 C
11	Total Solids	mg/L	-	APHA 2540 B
12	Fixed Dissolved Solid	mg/L	-	APHA 2540 E
13	COD	mg/L	-	APHA, 5220 B
14	BOD (3 days, 27°C)	mg/L	-	IS 3025, 1993
15	Chloride	mg/L	-	APHA, 4500-CL-B
16	Total Alkalinity	mg/L	-	APHA 2320-B
17	T. Hardness (as $CaCO_3$)	mg/L	-	APHA 2340-C
18	Ca Hardness (as $CaCO_3$)	mg/L	-	APHA 3500-Ca-B
19	Mg Hardness (as $CaCO_3$)	mg/L	-	APHA 3500-Mg-B
20	Oil & Grease	mg/L	-	APHA 5520-D
21	Total Kjehdal Nitrogen	mg/L	-	APHA 4500-Norg-C
22	Turbidity	N.T.U.	-	APHA, 2130-B
23	Phosphate (as P)	mg/L	-	APHA 4500-P-D
24	Sulphate (as SO_4)	mg/L	-	APHA 4500-SO_4-E
25	**Ammo. Nitrogen (as NH_3)**	**mg/L**	**3.21**	**APHA 4500-NH_3-F**
26	**Nitrite Nitrogen (as NO_2)**	**mg/L**	**0.033**	**APHA 4500-NO_2-B**
27	**Nitrate Nitrogen (as NO_3)**	**mg/L**	**0.31**	**APHA 4500-NO_3B**
28	Fluoride (as F)	mg/L	-	APHA 4500-F-D
29	Sodium (as Na)	mg/L	-	APHA 3500-Na-B
30	Potassium (as K)	mg/L	-	APHA 3500-K-B
31	Chromium (as Cr^{+6})	mg/L	-	APHA 3500-Cr B
32	Boron (as B)	mg/L	-	APHA 4500-B-C
33	**Faecal Coliform**	**MPN/100ml**	**210**	**APHA 9221-E**
34	Total Coliform	MPN/100ml	-	APHA 9221-A,B,C
35	Bioassay Test	% Survival	-	APHA 8910 A-C
36				
37				
38				

Prepared by:

मिलिंद कुमार निमजे / Milind Kumar Nimje
वैज्ञानिक-'सी', लैब प्रमुख एवं सरकारी विश्लेषक
Scientist 'C' Lab Head & Government Analyst
क्षेत्रीय निदेशालय / Regional Directorate

Laboratory Head

CPCB

Central Pollution Control Board
Regional Directorate (Central)
"Parivesh Bhawan"
Paryavaran Parisar, E-5, Arera Colony, Bhopal
EPA Recognised Lab
Test Report : Fresh Water (Physico Chemical Parameter)

F/LAB/06/TR-01

Project Name	NGT Case No.- 970/2024		Test Report No.	FW/24-25/64
Sample Description	Midstream of Kelo River, Raigarh at Chakrapath		Requisition No.	103
Date of sample collection	08.11.2024		Date	20.11.2024
Date of sample receipt	16.11.2024		Type of sample	Grab
Date of analysis	16.11.2024 to 18.11.2024		Sample collected by	Dr. A Chaturvedi, Sh. R Bandewar & CECB,RO Team

S.No.	Parameters	Unit	Result	Method
1	Temperature	°C	-	-
2	Odour	-	-	-
3	Appearance	-	-	-
4	Colour	Pt-Co Scale	-	APHA, 2120-B
5	Residual Chlorine	mg/L	-	APHA 4500-Cl-B
6	Dissolved Oxygen	mg/L	-	APHA 4500-O-C
7	pH	pH unit	-	APHA, 4500H+B
8	Specific Conductivity	µmho/cm	-	APHA 2510 B
9	Suspended Solids	mg/L	-	APHA 2540 D
10	Total Dissolved Solids	mg/L	-	APHA 2540 C
11	Total Solids	mg/L	-	APHA 2540 B
12	Fixed Dissolved Solid	mg/L	-	APHA 2540 E
13	COD	mg/L	-	APHA, 5220 B
14	BOD (3 days, 27°C)	mg/L	-	IS 3025, 1993
15	Chloride	mg/L	-	APHA, 4500-CL-B
16	Total Alkalinity	mg/L	-	APHA 2320-B
17	T. Hardness (as $CaCO_3$)	mg/L	-	APHA 2340-C
18	Ca Hardness (as $CaCO_3$)	mg/L	-	APHA 3500-Ca-B
19	Mg Hardness (as $CaCO_3$)	mg/L	-	APHA 3500-Mg-B
20	Oil & Grease	mg/L	-	APHA 5520-D
21	Total Kjehdal Nitrogen	mg/L	-	APHA 4500-Norg-C
22	Turbidity	N.T.U.	-	APHA, 2130-B
23	Phosphate (as P)	mg/L	-	APHA 4500-P-D
24	Sulphate (as SO_4)	mg/L	-	APHA 4500-SO_4-E
25	**Ammo. Nitrogen (as NH_3)**	**mg/L**	**0.24**	**APHA 4500-NH_3-F**
26	**Nitrite Nitrogen (as NO_2)**	**mg/L**	**0.012**	**APHA 4500-NO_2-B**
27	**Nitrate Nitrogen (as NO_3)**	**mg/L**	**0.053**	**APHA 4500-NO_3B**
28	Fluoride (as F)	mg/L	-	APHA 4500-F-D
29	Sodium (as Na)	mg/L	-	APHA 3500-Na-B
30	Potassium (as K)	mg/L	-	APHA 3500-K-B
31	Chromium (as Cr^{+6})	mg/L	-	APHA 3500-Cr B
32	Boron (as B)	mg/L	-	APHA 4500-B-C
33	**Faecal Coliform**	**MPN/100ml**	**63**	**APHA 9221-E**
34	Total Coliform	MPN/100ml	-	APHA 9221-A,B,C
35	Bioassay Test	% Survival	-	APHA 8910 A-C
36				
37				
38				

Prepared by:

मिलिन्द कुमार निमजे/Milind Kumar Nimje
Scientist-'C', Lab Head & Government Analyst
Central Pollution Control Board

Laboratory Head

Central Pollution Control Board
Regional Directorate (Central)
"Parivesh Bhawan"
Paryavaran Parisar, E-5, Arera Colony, Bhopal
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Test Report : Fresh Water (Physico Chemical Parameter)

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Project Name	**NGT Case No.- 970/2024**	**Test Report No.**	**FW/24-25/63**
Sample Description	**Manjhapara Talab, Raigarh**	**Requisition No.**	103
Date of sample collection	08.11.2024	**Date**	20.11.2024
Date of sample receipt	16.11.2024	**Type of sample**	Grab
Date of analysis	16.11.2024 to 18.11.2024	**Sample collected by**	Dr. A Chaturvedi, Sh. R Bandewar & CECB,RO Team

S.No.	Parameters	Unit	Result	Method
1	Temperature	°C	-	-
2	Odour	-	-	-
3	Appearance	-	-	-
4	Colour	Pt-Co Scale	-	APHA, 2120-B
5	Residual Chlorine	mg/L	-	APHA 4500-Cl-B
6	Dissolved Oxygen	mg/L	-	APHA 4500-O-C
7	pH	pH unit	-	APHA, 4500H+B
8	Specific Conductivity	µmho/cm	-	APHA 2510 B
9	Suspended Solids	mg/L	-	APHA 2540 D
10	Total Dissolved Solids	mg/L	-	APHA 2540 C
11	Total Solids	mg/L	-	APHA 2540 B
12	Fixed Dissolved Solid	mg/L	-	APHA 2540 E
13	COD	mg/L	-	APHA, 5220 B
14	BOD (3 days, 27°C)	mg/L	-	IS 3025, 1993
15	Chloride	mg/L	-	APHA, 4500-CL-B
16	Total Alkalinity	mg/L	-	APHA 2320-B
17	T. Hardness (as $CaCO_3$)	mg/L	-	APHA 2340-C
18	Ca Hardness (as $CaCO_3$)	mg/L	-	APHA 3500-Ca-B
19	Mg Hardness (as $CaCO_3$)	mg/L	-	APHA 3500-Mg-B
20	Oil & Grease	mg/L	-	APHA 5520-D
21	Total Kjehdal Nitrogen	mg/L	-	APHA 4500-Norg-C
22	Turbidity	N.T.U.	-	APHA, 2130-B
23	Phosphate (as P)	mg/L	-	APHA 4500-P-D
24	Sulphate (as SO_4)	mg/L	-	APHA 4500-SO_4-E
25	**Ammo. Nitrogen (as NH_3)**	**mg/L**	**6.6**	**APHA 4500-NH_3-F**
26	**Nitrite Nitrogen (as NO_2)**	**mg/L**	**0.018**	**APHA 4500-NO_2-B**
27	**Nitrate Nitrogen (as NO_3)**	**mg/L**	**0.54**	**APHA 4500-NO_3B**
28	Fluoride (as F)	mg/L	-	APHA 4500-F-D
29	Sodium (as Na)	mg/L	-	APHA 3500-Na-B
30	Potassium (as K)	mg/L	-	APHA 3500-K-B
31	Chromium (as Cr^{+6})	mg/L	-	APHA 3500-Cr B
32	Boron (as B)	mg/L	-	APHA 4500-B-C
33	**Faecal Coliform**	**MPN/100ml**	**920**	**APHA 9221-E**
34	Total Coliform	MPN/100ml	-	APHA 9221-A,B,C
35	Bioassay Test	% Survival	-	APHA 8910 A-C
36				
37				
38				

Prepared by:

Laboratory Head

CPCB

Central Pollution Control Board
Regional Directorate (Central)
"Parivesh Bhawan"
Paryavaran Parisar, E-5, Arera Colony, Bhopal
EPA Recognised Lab
Test Report : Fresh Water (Physico Chemical Parameter)

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Project Name	NGT Case No.- 970/2024	Test Report No.	FW/24-25/62
Sample Description	Kelo River Downstream of Raigarh at Binchkot	Requisition No.	103
Date of sample collection	08.11.2024	Date	20.11.2024
Date of sample receipt	16.11.2024	Type of sample	Grab
Date of analysis	16.11.2024 to 18.11.2024	Sample collected by	Dr. A Chaturvedi, Sh. R Bandewar & CECB,RO Team

S.No.	Parameters	Unit	Result	Method
1	Temperature	°C	-	-
2	Odour	-	-	-
3	Appearance	-	-	-
4	Colour	Pt-Co Scale	-	APHA, 2120-B
5	Residual Chlorine	mg/L	-	APHA 4500-Cl-B
6	Dissolved Oxygen	mg/L	-	APHA 4500-O-C
7	pH	pH unit	-	APHA, 4500H+B
8	Specific Conductivity	µmho/cm	-	APHA 2510 B
9	Suspended Solids	mg/L	-	APHA 2540 D
10	Total Dissolved Solids	mg/L	-	APHA 2540 C
11	Total Solids	mg/L	-	APHA 2540 B
12	Fixed Dissolved Solid	mg/L	-	APHA 2540 E
13	COD	mg/L	-	APHA, 5220 B
14	BOD (3 days, 27°C)	mg/L	-	IS 3025, 1993
15	Chloride	mg/L	-	APHA, 4500-CL-B
16	Total Alkalinity	mg/L	-	APHA 2320-B
17	T. Hardness (as $CaCO_3$)	mg/L	-	APHA 2340-C
18	Ca Hardness (as $CaCO_3$)	mg/L	-	APHA 3500-Ca-B
19	Mg Hardness (as $CaCO_3$)	mg/L	-	APHA 3500-Mg-B
20	Oil & Grease	mg/L	-	APHA 5520-D
21	Total Kjehdal Nitrogen	mg/L	-	APHA 4500-Norg-C
22	Turbidity	N.T.U.	-	APHA, 2130-B
23	Phosphate (as P)	mg/L	-	APHA 4500-P-D
24	Sulphate (as SO_4)	mg/L	-	APHA 4500-SO_4-E
25	**Ammo. Nitrogen (as NH_3)**	**mg/L**	**0.23**	**APHA 4500-NH_3-F**
26	**Nitrite Nitrogen (as NO_2)**	**mg/L**	**0.016**	**APHA 4500-NO_2-B**
27	**Nitrate Nitrogen (as NO_3)**	**mg/L**	**0.055**	**APHA 4500-NO_3B**
28	Fluoride (as F)	mg/L	-	APHA 4500-F-D
29	Sodium (as Na)	mg/L	-	APHA 3500-Na-B
30	Potassium (as K)	mg/L	-	APHA 3500-K-B
31	Chromium (as Cr^{+6})	mg/L	-	APHA 3500-Cr B
32	Boron (as B)	mg/L	-	APHA 4500-B-C
33	**Faecal Coliform**	**MPN/100ml**	**84**	**APHA 9221-E**
34	Total Coliform	MPN/100ml	-	APHA 9221-A,B,C
35	Bioassay Test	% Survival	-	APHA 8910 A-C
36				
37				
38				

Prepared by:

Laboratory Head