

**Investigation into Alleged Environmental Violations by
Central Coalfields Ltd in Dakra OCP:**

**Report of Committee appointed by Hon'ble National Green
Tribunal in *Sanjay Chauhan vs CCL & Ors (OA 38/2020/EZ)*
*vide order dt.22.06.2020***

Date of submission: 14 September 2020

1. INTRODUCTION

The North Karanpura coal belt in Jharkhand state straddles the districts of Ranchi, Chatra, Ramgarh and Hazaribagh and contains a large number of coal mines of various vintages and size, as well as some coal washeries and thermal power plants. In spite of the existence of multiple environmental regulations, there has been public concern at the extent of environmental pollution in this region.

The Hon'ble National Green Tribunal is currently hearing a case (OA No. 38/2020/EZ) in which the petitioner (Sanjay Chauhan, a resident of Dakra village of Ranchi district) has complained of non-compliance of environmental clearance (EC) conditions in the case of Dakra Opencast Coal Mining Project (OCP) of M/s Central Coalfields Ltd.

The Tribunal, vide its order dt.22.06.2020 constituted a 4-person committee to verify the factual position on the ground. The committee consisted of:

1. Dr. Sharachchandra Lele (Distinguished Fellow in Environmental Policy & Governance, ATREE, Bengaluru)
2. Shri. Rajeev Ranjan (Scientist E, representing Ministry of Environment, Forests and Climate Change (MOEFCC), Regional Office, Ranchi)
3. Dr. G. P. Singh (Scientist D, representing Central Pollution Control Board (CPCB), Regional Office, Kolkata), and
4. Shri. R. N. Kashyap (Regional Officer, Ranchi, representing Jharkhand State Pollution Control Board (JSPCB), which acted as the Nodal Agency).

Due to the COVID-19 pandemic and the consequent restrictions on travel, the committee's field visit was delayed, and the committee requested and was granted time till 16 September 2020 to submit its report. The committee conducted its visit to Dakra OCP on 3rd September 2020. This report presents the findings emerging observations made and discussions held with the petitioner and the respondent during the field visit, and perusal of related documents by the committee. We begin with a brief description of the coal mining project. We then summarise key points that emerged from recent inspection reports and/or notices issued by MOEFCC and

JSPCB, followed by our own field observations. Where we have observed significant non-compliance, we have given our estimates of the duration of non-compliance, and also added recommendations for how remediation may be carried for the immediate future. We end with a wider observation of the environmental trajectory of the region.

2. BASIC INFORMATION REGARDING THE DAKRA OCP

The Dakra Opencast Coal Mining Project (OCP) is located in village Bukbuka of Burmo block, Ranchi district of Jharkhand (Figure 1). The mine is one of the oldest mines in the North Karanpur region, and was subjected to the environmental clearance process in 2012. As per the EC issued on 03.05.2012, it has an approved capacity of 0.55 MTPA (normative) in a mining lease area of 249.72 ha.

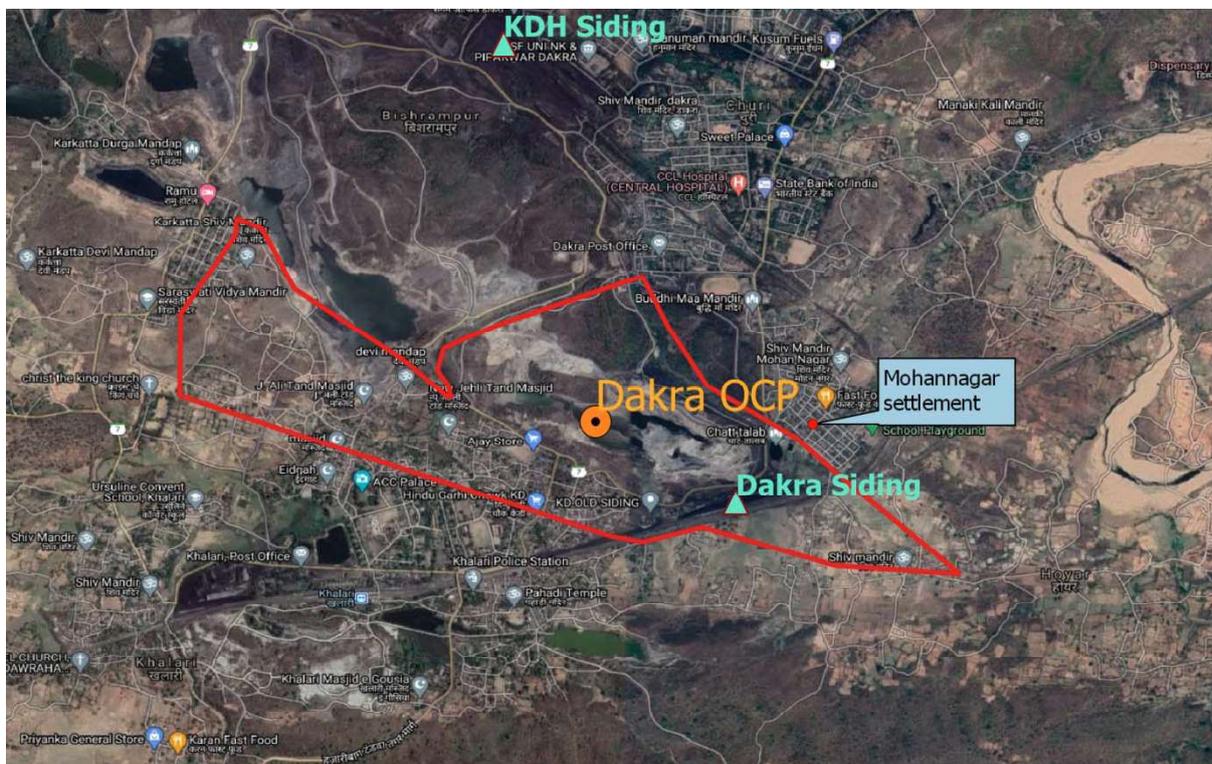


Figure 1. Map showing location of Dakra OCP, along with Dakra siding and nearby settlement

3. SUMMARY OF MOEFCC AND JSPCB REPORTS PRIOR TO THE NGT COMMITTEE'S FIELD VISIT

The MOEFCC's Ranchi office had conducted an inspection on 03.03.2020 and submitted a monitoring report on 05.05.2020 (Annexure 1). Based on this site inspection/monitoring report, MOEFCC-New Delhi issued a letter F. No. J-

11013/25/2020-IA-I(M) dt. 20.07.2020 in which the Ministry directed the Project Proponent to ascertain complete compliance as per the monitoring report. Project Proponent was also directed to submit the reason for non-compliance and the deviation from the various parameters listed in the submitted Environment Management Plan, before MOEFCC considers the matter for issuance of show cause notice under the provision of section 5 of E(P) Act, 1986 (Annexure 1).

In brief, the main issues of non-compliance/partial compliance raised in the monitoring report and the letter from MOEFCC-Delhi were:

- a) Non-functional oil and grease trap in location where HEMM (heavy earth moving machinery) was being washed;
- b) At some places catch drains, siltation ponds around OB dump and coal dump were required;
- c) Poor condition of approach road near railway siding and lack of proper 3-tier green belt development around the road; more efforts required for developing green belt in the project and railway siding areas.
- d) Poor management of coal dust-laden runoff from Dakra siding, resulting in risk of pollution to nallahs/ponds
- e) Improvements required in functioning of sprinklers at Dakra siding.

Similarly, Jharkhand State Pollution Control Board issued show cause notice twice to Dakra OCP vide memo no.B-86 dated 21.01.2019 and D-80 dated 01.02.2019 (Annexure-2).

4. OBSERVATIONS REGARDING CURRENT NON-COMPLIANCE AND RECOMMENDATIONS FOR THE FUTURE

4.1 Major issues:

- 1) Petitioner's complaint: *Non-construction of Coal Handling Plant (CHP) and consequent pollution (citing Specific Condition xi in the EC of 2012)***

during the process of transporting coal from the mine pit to the pit-top, to the crushing or feeder-breaker unit, and then to where it is loaded into rail wagons. Since the project was allowed to transport coal by road to the Dakra railway siding (presumably because of the short distance), **the project is required to minimise pollution from this transport and loading activity**—by ensuring metal topped road, high efficiency water sprinklers at transfer points, haulage roads and siding, etc. Furthermore, the EC Specific Condition (x) then requires that *“The environment of the area in and around Dakra Railway siding shall be improved by construction of a slope with retaining wall made of concrete/cement and with stone pitching. The Railway siding shall be provides with adequate storage facility for e coal and also with both fixed and mobile sprinkling arrangement. The area in and around the railway siding and along the main roads for mineral transportation shall be well maintained.”* In this regard, the Committee observed that:

- i. The approach road to the railway siding was in bad condition, creating the likelihood (and showing clear signs) of coal spillage from the dumpers. Road near the Dakra Railway siding had few pot holes and it was broken at places (see Figure 3) and it should be repaired urgently.



Figure 3. Approach road near Dakra siding, intersecting with a state highway

- ii. The Dakra railway siding itself was in only partial compliance with the CPCB guideline of 2015 and with the Specific Condition (x) in the EC. In

particular, first, the windscreens are temporary and collapsing (as also acknowledged by the Project Proponent in their written submission) (see Figure 7). Second, no permanent retaining wall as required by the EC has been constructed. Third, a thick layer of coal is piled up on the platform (see Figure 4). Fourth, the surface runoff from the siding is poorly handled: the constructed drain (Figure 5-left) is incomplete and the polluted runoff is spreading in low not reaching the settling tank constructed recently (see Figure 5-right). Project proponent has not developed either thick 3-tiered plantation or adequate wind barrier to control the fugitive dust from the railway siding in the direction of the residential area. Water spraying system was provided area feeder breaker/crusher at Dakra Railway siding but then also some coal dust emission occurred (see Figure 6).



Figure 4. Status of Dakra siding: coal piled up on platform



Figure 5. Channel constructed to carry coal dust-laden runoff from Dakra siding to siltation pond (left), but the water spreads in low lying area from mouth of channel (right)

- iii. Fixed water sprinklers should also be provided along the haul road from Mohan Nagar Chowk to Dakra Railway siding because there would be lot of coal dust on the roads in that area.



Figure 6. Fugitive emissions of coal dust from behind feeder breaker at Dakra siding



Figure 7. Runoff from western end of Dakra siding and green wind screens that have collapsed.

In short, while the EC does not require the project to construct a CHP, the conditions attached to permission to transport by road till siding and for loading at siding have not been adhered to, and there is no indication that they were being adhered to in the ~10 years of mine operation.

2) Green Belt

Petitioner's complaint: Development of green belt is not in compliance with EC conditions.

Requirements as per EC: Specific Condition (xv) specifies that *“the total area brought under plantation shall be not less than 78.06 ha of backfilled area, 65.56 ha area for ext. OB dumps, 14.5 ha is for green belt, 3.16 ha for embankment and 17.01 ha is for safety zone and other vacant areas in and around infrastructure & buildings, railway siding, etc. by planting native species The density of the trees shall be around 2500 plants per ha.”* It further requires a 3-tier green belt on both sides of approach road to the siding and at the railway siding itself (Specific Condition (ix)).

Observations by this Committee:

- a) The development of plantations on OB dump, backfilled area, etc. is reasonably satisfactory (see also observations in the MOEFCC's letter of July 2020—Annexure 1).
- b) However, **there is no 3-tier green belt on both sides of the approach road, nor is there a dense 3-tier green belt around the mine lease boundary, and there is inadequate green belt development at the Dakra railway siding,** although a major road/highway passes adjacent to the siding.
- c) There were no new plantations green belt developments in the Dakra project area for last couple of years. Project authorities informed that Dakra coal mine is going to be closed in a short time but the green belt is yet to be completed as per EC conditions and as per commitment in the EIA/EMP.

In short, in Dakra OCP, old OB dumps have almost stabilised with green belt developed in them. For new broken material/waste produced internal backfilling is done. One of the coal dump is inside the pit with adequate drains provided. As such there is no run off that is going outside the mine pit area. However, the runoff from coal heaps and coal dumps at Dakra Railway siding has to be managed properly as stated above.

3) Water Management and Prevention of Surface Runoff

Petitioner's complaint: That provisions for water management and prevention of surface runoff are inadequate and in particular no details or data from the monitoring of groundwater levels are being provided.

Requirements as per EC: The petitioner is mixing up two different EC conditions. One set of EC conditions pertains to controlling surface runoff and soil erosion by constructing catch drains, siltation ponds, garland drain, retaining wall/toe wall, etc. (Specific Conditions vi, vii, & viii). A separate set of conditions pertain to ensuring that the mining does not lead to depletion of groundwater in the region around the mine, and therefore requiring that no groundwater shall be used for the project and

rainwater harvesting structures shall be constructed (Specific Condition xvi), and that “regular monitoring of groundwater levels and quality shall be carried out by establishing a network of existing wells and construction of new piezometers” (Specific Condition xvii).

Observations by this Committee:

- a) Some catch drains were provided on one side of the Dakra railway siding but there were no siltation ponds. As a result water carrying coal dust spread in the nearby area (see photo 8). Siltation ponds should be constructed urgently so that coal dust settles in there before flowing to nearby areas. In the absence of such adequate catch drains/siltation ponds, coal dust from Dakra railway siding was flowing in the seasonal nallah there which would then mingle with Sonadaba nallah near Mohan Nagar Colony.



Figure 8. Retaining wall around Dakra OB dump (shown by arrow) is broken in some places

- b) Retaining wall was observed around the old O/B dumps of Dakra OCP. But at a few places, the wall was broken and it should be repaired urgently (see Figure 8).
- c) Coal dump was observed inside the Dakra Mine project area. Drains were made around it so that coal dust water goes inside the Dakra Mine sump area (see Figure 9-left).
- d) Water was observed in lower most portion of Dakra mine i.e. in mine sump (see Figure 9-right). Project authorities informed that, as per EC conditions sump water was utilized for water sprinkling on haul roads by water tankers.



Figure 9. Drains made around coal dump in Dakra OCP to ensure that water flows into mines sump (left); water stored in mine sump (right).

- e) There was no piezometer installed in the project for groundwater monitoring. However, the Project Proponent has carried out groundwater level monitoring using a network of open wells around the mine. The committee members visited one of the monitoring wells at Mohan Nagar colony and checked the monitoring logs. Furthermore the Project Proponent has submitted details of open well monitoring, which was done by CMPDI. Monitoring data from 2016 to 2020 are given below in Table 1.

Table 1. Readings from groundwater level monitoring in open wells around Dakra OCP, as submitted by Project Proponent

Sl. No	Village	Water Level (meter), BGL				
		Pre-2016	Post-2016	Pre-2018	Post-2018	Pre-2020
1*	Khalari Railway line, Burbuka	6.10	1.80	5.16	1.68	1.95
2*	Mohan Nagar, Dakra	11.55	2.45	2.56	1.78	1.90
3*	Dakra Colony	4.13	4.23	6.28	4.08	5.33
4#	Khalari	1.80	0.70	2.0	0.70	0.84
5#	Khalari Middle School	5.55	4.30	5.84	5.70	5.80
6#	Vishrampur	1.85	1.65	6.27	6.15	6.40
7#	Dakra	3.36	2.66	4.56	3.04	4.30

Note: * Sl. No. 1 to 3 within 100 m of mine lease boundary. #Sl No. 4 to 7 within 1-2 km of mine lease boundary.

In short, though piezometer have not been installed in the project, it is clear from the above that groundwater monitoring is being carried out. Whether the monitoring data indicate a secular decline in groundwater levels (after rainfall effects are factored out) and whether the extent of decline is a matter for further analysis by the competent authority.

4.2 Other observations:

There is an overall policy issue that needs to be highlighted. The focus of EC conditions is on various measures to be adopted towards pollution control (transport by rail, creation of green belts, use of sprinklers, creation of catch drains, etc.). But the only way to know whether these measures are having the desired outcomes is to carry out frequent and continuous monitoring of ambient environmental conditions at multiple locations most relevant to public health and ecosystem impacts. Currently, air and water quality, groundwater levels, are required to be monitored in just 4-5 locations. Several of these locations are within the mine lease area, where the pollution levels permitted are also higher. For instance, the standard for PM₁₀ in ambient air inside the mine lease area is 300 µg/m³ for Karanpura coal belt as per EPA Rules 1986, whereas the NAAQ standard for residential areas is 100 µg/ m³. Data submitted by the petitioner to this Committee, of 24-hour AAQ measurements done at 5 public locations in the Dakra area by a NABL-accredited lab, indicate very high levels of PM₁₀ (>300 µg/m³) and PM_{2.5} (>150 µg/m³) when the standard is 100 and 60 respectively. One of these monitoring sites was the Mohannagar colony right next to Dakra railway

siding. No such data are available publicly from any other independent source as a cross-check. **This gap in ambient environmental quality monitoring and linking it to enforcement needs to be addressed urgently at a policy level.**

Signed by:



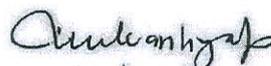
(Dr. Sharachchandra Lele)
Distinguished Fellow, ATREE



(Shri. Rajeev Ranjan)
Scientist E, MOEFCC, Ranchi



(Dr. G. P. Singh)
Scientist-D, CPCB, Kolkata



(Shri. R. N. Kashyap)
Regional Officer, JSPCB, Ranchi

ANNEXURES

1. Copy of MOEFCC's letter F. No. J-11013/25/2020-IA-I(M) dt. 20.07.2020 directing the Project Proponent to ensure full compliance with EC conditions, based on monitoring report.
2. Copy of show cause notices (2) regarding air pollution issued by JSPCB to Dakra mines vide memo D-80 dt. 01.02.2019 and memo B-56 dt.21.01.2019.

F.No. J-11013/25/2020-IA-I (M)
Government of India
Ministry of Environment, Forest and Climate Change
(I.A. Division)

Indira Paryavaran Bhavan
Jor Bagh Road, Aliganj
New Delhi-110 003
E-mail: shuruti.rai@nic.in
Dated: 20th July, 2020

To,

Project Officer,
Dakra OCP, M/s CCL
North Karanpura area,
P.O- Dakra, District Ranchi,
Jharkhand- 829210.

Sub: Dakra OCP (0.55 MTPA normative and 0.63 MTPA peak in an ML area of 249.72 ha) of M/s Central Coalfields Ltd., located in North Karanpura Coalfields, village Bukbuka, Block Burmo, District Ranchi, Jharkhand.- Non-Compliances- reg.

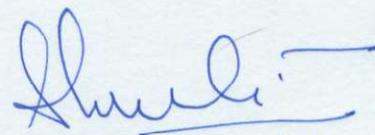
Ref: Ministry's EC letter No. J-11015/49/2009-IA.II(M) dated 03.05.2012.

This has reference to the Environmental Clearance (EC) granted to **M/s Central Coalfields Ltd.**, for project titled 'Dakra OCP (0.55 MTPA normative and 0.63 MTPA peak in an ML area of 249.72 ha) located in North Karanpura Coalfields, village Bukbuka, Block Burmo, district Ranchi, Jharkhand.' vide letter No **J-11015/49/2009.IA.II(M) dated 03.05.2012.**

2. The project was monitored for ascertaining compliance to the conditions stipulated in the aforesaid environmental clearance by Ministry's Regional Office at Ranchi on **03.03.2020**. The monitoring report has been submitted by Regional Office to the Ministry vide its letter dated **05.05.2020** (Copy enclosed). The same has been examined in the Ministry and observed there are non-compliances.

3. In view of the foregoing, the project proponent is hereby directed to ascertain complete compliance as per the Monitoring Report of RO. Further, PP is also directed to submit the reasons for non-compliance and the deviation with respect to various parameters listed in the environment management plan submitted at the time of seeking EC to the Ministry within 45 days of the receipt of this letter before considering the matter for issuance of Show-Cause Notice under the provision of section 5 of the Environment (Protection) Act, 1986.

This issues with the approval of Competent Authority.



(Dr. Shrutu Rai Bhardwaj)
Addl. Director/Scientist 'E'

Copy to:

1. The Addl. Principal Chief Conservator of Forests (Central), Ministry of Environment, Forest and Climate Change, Regional Office (ECZ), Bungalow No. A-2, Shyamali Colony, Ranchi - 83400
2. The Member Secretary (Coal), Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi-03

3. Deputy General Manager & HOD (Environment), M/s Central Coalfields Ltd., Darbhanga House, Ranchi. Jharkhand- 834001.

Ministry of Environment, Forest and Climate Change
(A Division)
New Delhi-110 002
Date: 20 July 2020

Project Officer,
M/s Central Coalfields Ltd.,
Darbhanga House,
Ranchi, Jharkhand - 834001

Sub: Dated 02.07.2020 M/s Central Coalfields Ltd. has submitted an application for clearance for the project titled 'M/s Central Coalfields Ltd. Darbhanga House, Ranchi, Jharkhand - 834001' in the area of 248.72 ha located in North Karanpur village, Block Barma, District Ranchi, Jharkhand - 834001.

Ref: Ministry's letter No. F.1012/493200-IA(I) dated 02.07.2020.
This has reference to the Environmental Clearance (EC) granted to M/s Central Coalfields Ltd. for project titled 'M/s Central Coalfields Ltd. Darbhanga House, Ranchi, Jharkhand - 834001' in the area of 248.72 ha located in North Karanpur village, Block Barma, District Ranchi, Jharkhand - 834001.

The project was notified for scrupulous compliance in the conditions stipulated in the above mentioned clearance by Ministry's Regional Office at Ranchi on 02.07.2020. The monitoring report has been submitted by Regional Office to the Ministry vide its letter dated 02.07.2020 (copy enclosed). The same has been examined in the Ministry and observed that there was non-compliance.

In view of the foregoing the project proponent is hereby directed to complete compliance as per the stipulating terms of the EC. Further, it is also directed to submit the reasons for non-compliance and the detailed report in respect of various parameters listed in the environment management plan submitted at the time of seeking EC to the Ministry within 45 days of the receipt of this letter before conducting the next set of show-cause notice under the provision of section 5 of the Environment Protection Act, 1986.

This is sent with the approval of Competent Authority.

(Dr. Shashi Kant Bhatnagar)
Addl. Director/240001/2

Copy to

1. The Addl. Principal Chief Conservator of Forests (Central), Ministry of Environment, Forest and Climate Change, Regional Office (RCS), Bungalow No. A-2, Shantipur Colony, Ranchi - 834001
2. The Member Secretary (Coal), India, Government of India, New Delhi-110 002



झारखण्ड राज्य प्रदूषण नियंत्रण पर्वद
JHARKHAND STATE POLLUTION CONTROL BOARD

T.A. DIVISION BUILDING (GROUND FLOOR), H.E.C., DHURWA, RANCHI -834004

Phone.: 0651-2400851/2400852/2400979/2401847, Fax-0651-2400850/138,

Web site : www.jspcb.nic.in; e-mail : ranchi@jspcb@gmail.com

Ref.No.

Ranchi, dated-

From,

Rajeev Lochan Bakshi
 Member Secretary

To,

The Project Officer,
 M/s Dakra OCP (including Dakra Siding),
 Dakra, CCL, Ranchi.

Sub:- 2nd notice to show cause under section 21 of the Air (Prevention & Control of Pollution) Act, 1981 and under section 25/26 of the Water (Prevention & Control of Pollution) Act, 1974.

Whereas, the Board is in receipt of ambient air quality test report of your mines including Railway Siding conducted by registered Private Laboratory indicating high value of PM₁₀ and PM_{2.5}.

Whereas, the Board is in receipt of ambient air quality test report of your area conducted by M/s CMPDIL indicating high value of PM₁₀ and PM_{2.5}.

Whereas, you were earlier granted conditional consent for the period from date of issue to 31.12.2019 vide reference No. JSPCB/HO/RNC/CTO-1747698/2018/1737 dated 01.11.2018 under section 21 of the Air (Prevention and Control of Pollution) Act, 1981 and under section 25/26 of the Water (Prevention & Control of Pollution) Act, 1974.

Whereas, you were granted opportunity to be heard in person on 28.01.2019 issued vide Letter No. B-86 dated 21.01.2019, which you did not avail.

The competent authority has, therefore, been pleased to grant 2nd opportunity to hear you in person on **07.02.2019 at 3.00 PM** in the Office Chamber of Member Secretary as to why your CTO under reference should not be revoked and an order for closure of your mines & railway siding be passed for the reasons as aforesaid.

Sd/-

(Rajeev Lochan Bakshi)
 Member Secretary

Memo No- D-80

Copy to Regional Officer, Regional Office, Ranchi for information and necessary action.

Ranchi, dated- 01.02.2019

JSB

211
5.2.19

(Rajeev Lochan Bakshi)
 Member Secretary

Chandan/Show Cause/RNC/20

5/2/19



झारखण्ड राज्य प्रदूषण नियंत्रण पर्वद
JHARKHAND STATE POLLUTION CONTROL BOARD

T.A. DIVISION BUILDING (GROUND FLOOR), H.E.C., DHURWA, RANCHI -834004

Phone.: 0651-2400851/2400852/2400979/2401847, Fax-0651-2400850/138.

Web site : www.jspcb.nic.in; e-mail : ranchijspcb@gmail.com

Ref.No. 83

Ranchi, dated- 21.1.19

From,

Rajeev Lochan Bakshi
 Member Secretary

To,

The Project Officer,
 M/s Dakra OCP (including Dakra Siding),
 Dakra, CCL, Ranchi.

Sub:- Notice to show cause under section 21 of the Air (Prevention & Control of Pollution) Act, 1981 and under section 25/26 of the Water (Prevention & Control of Pollution) Act, 1974.

Whereas, the Board is in receipt of ambient air quality test report of your mines including Railway Siding conducted by registered Private Laboratory indicating high value of PM₁₀ and PM_{2.5}.

Whereas, the Board is in receipt of ambient air quality test report of your area conducted by M/s CMPDIL indicating high value of PM₁₀ and PM_{2.5}.

Whereas, you were earlier granted conditional consent for the period from date of issue to 31.12.2019 vide reference No. JSPCB/HO/RNC/CTO-1747698/2018/1737 dated 01.11.2018 under section 21 of the Air (Prevention and Control of Pollution) Act, 1981 and under section 25/26 of the Water (Prevention & Control of Pollution) Act, 1974.

The competent authority has, therefore, been pleased to grant an opportunity to hear you in person on 28.01.2019 at 3.00 PM in the Office Chamber of Member Secretary as to why your CTO under reference should not be revoked and an order for closure of your mines & railway siding be passed for the reasons as aforesaid.

Sd/-

(Rajeev Lochan Bakshi)
 Member Secretary

Memo No- B - 86

Ranchi, dated- 21/1/19

Copy to Regional Officer, Regional Office, Ranchi for information and necessary action.

JLB

21/1/19

83
 21.1.19

(Rajeev Lochan Bakshi)
 Member Secretary

Show Cause/RNC/10