



सत्यमेव जयते

File No.: J-11015/10/1995-IA-II(M)  
Government of India  
Ministry of Environment, Forest and  
Climate Change  
IA Division

\*\*\*



Dated 31/12/2025



To,

Sh. Raj Kumar  
M/s. Mahanadi Coalfields Limited  
Project Office, Kulda Expansion OC Project ,P. O.: Basundhara,Dist.: SundergarhState: Orissa-770076  
E-mail: pokuldaexpansionmcl@gmail.com

**Subject:** **Kulda Expansion Opencast Project (having production capacity of 21 MTPA with increase in the ML area from 634.205 Ha to 921.305 Ha) by M/s Mahanadi Coalfields Limited, located at villages: Balinga, Tumulia, Siarmal, Kulda & Bankibahal; Tehsil: Himgir; District: Sundargarh; State: Odisha – Environment Clearance – regarding**

Sir/Madam,

This is with reference to your online application vide proposal no. IA/OR/CMIN/555625/2025 dated 19/10/2025 along with written submissions dated 29.11.2025 seeking for Environmental Clearance under the provisions of EIA notification 2006 and as amended therein for the project mentioned above.

2. The particulars of the proposal are as below :

(i) EC Identification No.	EC25A0101OR5638782N
(ii) File No.	J-11015/10/1995-IA-II(M)
(iii) Clearance Type	Fresh EC
(iv) Category	A
(v) Project/Activity Included Schedule No.	1(a) Mining of minerals
(vi) Sector	Coal Mining
(vii) Name of Project	KULDA EXPANSION OPENCAST PROJECT (21 Mty)
(viii) Location of Project (District, State)	Sundargarh, Odisha
(ix) Issuing Authority	MoEF&CC
(x) Applicability of General Conditions	No

3. M/s. Mahanadi Coalfields Limited has made an online application vide proposal no. IA/OR/CMIN/555625/2025 dated 19/10/2025 along with EIA/EMP report, Common Application Form and Form 1 seeking Environment Clearance (EC) for expansion of Kulda OCP of production capacity 21.0 MTPA with an increase in mine lease area from 634.205 Ha to

921.305 Ha for under the provisions of the EIA Notification, 2006 for the project mentioned above.

4. The proposed project activity is listed at schedule no. 1(a) Under Category “A” of the schedule of the EIA Notification, 2006 and do not attract the general condition of the EIA Notification, 2006.

5. The instant proposal was forwarded by MoEF&CC to SPCB for seeking comments on the basis Ministry’s O.M dated 14.01.2025 and SOP dated 08.10.2025. Demand Note was raised by SPCB on the project proponent on 03.11.2025. The payment was done by the project proponent on 04.11.2025. The comments from SPCB received vide no. 20019/IND-II-CTE-MISC-398 dated 11.11.2025.

6. The Proposal was considered in 35th EAC meeting held during 17-18th November, 2025. The written information was submitted on 29.11.2025. The MoM for the same may be seen using the web link: parivesh.nic.in.

#### Details submitted by the project proponent

7. Details of previous approvals in chronological order: PP submitted the following details of the previous approvals:

S. No.	Details of Letter No.	EC/ Expansion EC/Amendment in EC/ Validity Extension of EC	Capacity in (MTPA)	Area in Ha	Date	Status of implementation
1.	J/11015/10/95-IA. II (M)	EC	10.00	878.290	24/12/2002	Implemented
2.	<a href="#">J-11015/10/1995-IA. II (M)</a>	Expansion EC	14.00 (EC validity for one year)	634.205	22/03/2018	
3.	<a href="#">J-11015/10/1995-IA.II (M)</a>	EC validity extension	14.00 (EC validity for one year)	634.205	28/03/2019	
4.	J-11015/10/1995-IA.II(M)	EC validity extension	14.00 (Extension/ continuation of EC for 30 years or life of the mine whichever is earlier)	634.205	10/01/2020	
5.	J-11015/10/1995-IA.II(M)	Expansion EC (20%)	16.80 (under 7(ii) clause of EIA Notification, 2006 (Ministry OM dtd. 15 <sup>th</sup> September 2017))	634.205	02/03/2021	
6.	J-11015/10/1995-IA.II(M)	Expansion EC (40%)	19.60 (under 7(ii) clause of EIA Notification, 2006 (Ministry OM dtd. 15 <sup>th</sup> September 2017))	634.205	14/02/2022	
7.	<a href="#">J-11015/10/1995-IA. II(M)</a>	*Expansion EC (50%)	21.00 (under 7(ii) clause of EIA Notification, 2006 (Ministry OM dtd. 7 <sup>th</sup> May 2022)	634.205	24/05/2022	
8.	<a href="#">J-11015/10/1995-IA. II(M)</a>	Amendment in EC	21.00	634.205	09/01/2023	

S. No.	Details of Letter No.	EC/ Expansion EC/Amendment in EC/ Validity Extension of EC	Capacity in (MTPA)	Area in Ha	Date	Status of implementation
9.	<a href="#">J-11015/10/1995-IA-II(M)</a>	Amendment in EC	21.00 (Amendment in EC)	634.205	05/01/2024	
10.	<a href="#">J-11015/10/1995-IA-II(M)</a>	Amendment in EC	21.00 (Amendment in EC)	634.205	21/02/2025	

Note\* - The regularization of EC accorded vide letter dated 24.05.2022 as per the provisions of Ministry's OM dated 07.05.2022 has been apprised in the EAC in its 34<sup>th</sup> EAC meeting held on 29-30<sup>th</sup> October 2025 and the same has been recommended.

8. **Production details of the existing EC:** W.r.t the previous approvals, PP submitted the actual production details of the concerned mine and submitted that the mine became operational from 2007-08 onwards. CTO renewal has been obtained from the SPCB and the existing CTO is valid up to 31.03.2026. Details of the same are as follows:

Year	EC sanctioned capacity (MTPA)	Actual Production (MTPA)	Excess production beyond the EC sanctioned capacity
2007-08	10.0	0.15	--
2008-09	10.0	2.47	--
2009-10	10.0	3.43	--
2010-11	10.0	5.02	--
2011-12	10.0	5.54	--
2012-13	10.0	5.50	--
2013-14	10.0	5.27	--
2014-15	10.0	4.80	--
2015-16	10.0	8.02	--
2016-17	10.0	10.00	--
2017-18	14.0	10.07	--
2018-19	14.00	12.81	--
2019-20	14.00	13.62	--
2020-21	16.80	15.73	--
2021-22	19.60	18.49	--
2022-23	21.00	21.00	--
2023-24	21.00	21.00	--
2024-25	21.00	21.00	--

9. **Certified Compliance Report:** The project was inspected by the RO, MoEF&CC, Bhubaneswar on 16.05.2025 and CCR was issued vide letter no. 101-1014/2023/EPE dtd. 10.07.2025. Action taken report of the issued CCR dtd. 10.07.2025 was submitted by the project proponent on 09.08.2025.

10. **Environmental Site Settings:** The project area is covered under Survey of India Topo-sheet No: 64 N/12 & 64 N/16 on RF 1:50000 and is bounded by the geographical coordinates ranging from Latitude : 21o 42' 00" to 21o 44' 30" N; Longitude: 83o 43' 00" to 83o 46' 30" E.

Project does not fall in the Critically Polluted Area (CPA)/ Severely Polluted Area (SPA) as per CEPI Assessment 2018.

**Forest Area:** The project involved total 354.06 ha of forest land. The details of the approval already obtained or applied for is as follows:

S. No.	Obtained vide letter No.	Area (Ha)	Stage I/II	Validity
1.	8-176/1997-FC dtd. 08-08-2007	227.890*	Stage II	Co terminus with the validity granted under CBA (A&D) 1957.
2.	As per FC letter dtd. 10-07-2025	134.69	Stage I	
<b>Total</b>		<b>354.06</b>		

\*8.52 ha has been re-diverted from existing Kulda OCP to Basundhara Washery. A separate EC has been accorded for this

washery vide F.no. J-11015/435/2013-IA. II (M) dated 31st Oct 2019. This washery is yet to be established and will meet its coal requirement from Kulda OCP.

Total broken forestland as on date is 219.37 Ha and there is no violation of Van (Sanrakshan Evam Samvardhan) Adhinyam, 1980.

**Protected Area:** The project is not located within 10 km of any ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve/ tiger corridor/ elephant corridor etc.

As per the Wildlife Protection Act, 2022, schedule I species are found in the study area. A Site-Specific Wildlife Conservation Plan for Expansion of Kulda Opencast Coal Mine Project by MCL, was prepared by DFO, Sundargarh Division. For wild life conservation plan an amount of Rs. 1115.12 Lakh has been approved by CCF (WL-III), office of PCCF and payment has been made on 18.07.2025.

It is to be noted as per the report there is no wildlife corridor in the Division. There are 11 schedule I species in the core zone and 32 schedule I species in the buffer zone. King Cobra, Indian Python, Russel's Viper, Snake Eat, Indian Cobra, Checkered keel back, Monocellata Cobra, Malabar pied Hornbill, Peacock, King Vulture & Brahminy Kite are found in the core zone. While Pangolin, Tiger, Jungle cat, Wild Dog, Mouse deer, Indian Porcupine, Leopard, Indian Fox, flying squirrel, Sambhar, Black Panther, Indian Chameleon, King Cobra etc are found in the buffer zone.

**Mine Lease Details:** PP submitted the following details of the mine lease:

Acquired under	Govt. Order/ Notification	Area in ha.	Remarks
CBA(A&D) Act 1957	9(1) SO No.3055 dtd.29.10.1990	929.830	ML area of 921.305 ha is part of this land acquired area. Remaining 8.52 ha has been re-diverted from existing Kulda OCP to Basundhara Washery.

**Other Sensitive Receptors:** PP submitted the following details of the sensitive receptors within 5 km of the ML area:

Project site proximity to sensitive area	Distance in km (within 5 km from the ML area)		
	Habitation	Distance in km	Direction (w.r.t to mine boundary)
i. Habitation	Barpali I R&R site	0.5-1 Km	N
	Tumulia Village	3-4 Km	SW
	Sardega Village	4-5 Km	NW
ii. School	Schools	Distance in km	Direction (w.r.t to mine boundary)
	Bankibahal RR site Primary school	2.82	NE
	Barpali UP School Class up to 8	3.35	NE
	Sunajori Primary School	4.79	W
	Garjanbahal Primary School	4.22	SE
	Garjanbahal UP School	4.70	SE
	Garjanbahal High School	4.70	SE
	Karlikachhar Primary School	2.69	S
	Tumulia UP School	2.70	SW
	Tumulia High School	2.72	SW
	Tumulia +2 College	2.50	SW
	Tumulia Degree College	2.30	SW
	Prajapara Primary School	4.96	S
	Tikilipara UP School	4.20	N
Basundhara High School, Tikilipara	3.65	N	
Saraswati Shishu Mandir, Tikilipara	4.53	N	

Project site proximity to sensitive area	Distance in km (within 5 km from the ML area)		
		Basundhara DAV public School	3.22
	Kuisira Primary School	3.39	NE
iii. River/ Waterbody	Name of the water bodies	Distance in km	Direction
	Chattanjore stream	Within mine lease area	
	Basundhara River (HFL: 259 m)	0.07 Km	N
	Bhaina Stream	0.5 Km	SW
	Barjharia stream	3.16 Km	NW
iv. Forest	Forest	Distance	Direction
	Lalma RF	Adjacent	S
	Pandripani RF	100m	N
	Jatikhol RF	800m	SE
	Garjanpahar RF	1.6 km	SW
	Garjanjor RF	2.78 km	W
	Punjipahar RF	2.73 km	E
	Kalatpani RF	3.9 km	N
	Balijori RF	4.0 km	E
Jamakani RF	4.6 km	NW	
v. Archaeological Survey of India (ASI) protected site	No		
vi. Any other	Dispensary	Distance in km	Direction
	Basundhara Hospital	2.0 km	NW
	Homeopathy centre – Tumulia	3.0 km	SW
	Public health centre -Duduka	6.0 km	E

Sensitive receptors already diverted in the lease of 634.205 ha:

1. Nutan Primary School
2. Chattajore Stream
3. Balinga, Bankibahal, Kulda & Siarmal Villages

Required permissions regarding the above diversions have been obtained by the project.

Sensitive receptors proposed to be diverted in expansion area: Nil.

**Protection measures:**

- a. A total of 286 sprinklers {inclusive of the 195 sprinklers towards Sardega siding (80 existing +115 additionally installed) and 91 sprinklers from Bankibahal to Siarmal Chowk have been installed.
- b. Wind barrier of 1000 m x 10 m have been set up at around coal stocks of Kulda OCP.
- c. Concrete external coal transportation road of length 30 km from Bankibahal to Bedabahal has been completed.
- d. As a green belt development 92,500 plants have been planted in last 2 years:

Year	Area (Ha)	Number of Plants	Location
2023-24	22.4	56000	OB Dump (Within ML Area)
2024-25	8.6	21500	Safety Zone & OB Dump (Within ML Area)
2024-25	6.0	15000	Internal Dump (Over backfilled Area)
<b>Total</b>	<b>37.0</b>	<b>92500</b>	

**11. Details of ToR:**

Date of Application	Details	Date of Accord	ToR Validity
13 <sup>th</sup> October 2022	No: J-11015/10/1995/-IA-II(M)	13 <sup>th</sup> December 2022	Four years (12 <sup>th</sup> December 2026)

**12. Method of Mining and Mine Plan:** The Mining Plan and Mine Closure Plan of Kulda Expansion OCP (21.0 MTPA) for ML area of 921.305 Ha has been approved by MCL board vide letter no MCL/SBP/CS/BD-250/Exct/2022/12740 dated 17.08.2022.

i. Method of Mining to be adopted shall be Opencast. The Capacity of the mine applied for normative capacity peak capacity as per approved mining plan is 21.0 MTPA.

ii. Excavation of Coal is through Shovel-Dumper in OB and Surface miner in coal.

iii. Total Geological Reserve is 438.90 MT with 360.45 MT (including depleted reserves) as mineable reserves. Out of total mineable reserve, 339.56 MT (Remaining extractable reserve – 155.63 MT (as on 01.04.2025)) are available for extraction. Percentage of extraction is 77.37 % w.r.t. geological reserve.

iv. 03 major seams with maximum thickness ranging from 0.12 to 34.07 are workable. Overall Grade of Coal is Avg.-G12, Stripping ratio is 1.32 (as on 01.04.2025) while gradient is 50 - 80

v. Life of mine is 8 year as on 01.04.2025.

vi. The project has 02 OB dump (within ML area), one of 69.04 Ha. with 90 m height and 38.33 Mm<sup>3</sup> of OB and other is 109.89 Ha. OB dump site area in which OB shall be dumped with 31.94 Mm<sup>3</sup> in this project. Also, 1 internal OB dump (over backfilled area) in an area of 524.22 Ha. with 257.56 Mm<sup>3</sup> of OB is envisaged in the project.

vii. Total quarry area is 539.98 Ha. out of which backfilling will be done in 393.94 Ha and final mine void will be created in an area of 15.76 Ha. Depth of the mine void will be 150 m.

viii. Details of Land usage:

**A. Pre mining land use pattern:**

S. No.	Type of Land	Existing	Additional	Total
(a)	Agricultural	259.794	95.08	354.874
(b)	Forest	219.37*	134.69	354.06*
(c)	Waste land	146.521	26.18	172.701
(d)	Grazing	--	28.68	28.68
(e)	Surface water bodies	--	7	7
(f)	Settlement	--	0.78	0.78
(g)	Others (specify)	--	3.21	3.21
	<b>Mine Lease Area</b>	<b>625.685*</b>	<b>295.62</b>	<b>921.305</b>

\*8.52 Ha of existing forest land has been transferred to Basundhara Washery. A separate EC has been accorded for this washery vide F.no. J-11015/435/2013-IA. II (M) dated 31<sup>st</sup> Oct 2019. This washery is yet to established and will meet its coal requirement from Kulda OCP.

**B. Post mining land use pattern:**

S. No.	Category	Land use (in ha)					Total
		Plantation/ grass carpeting	Water body	Dip side slope & haul road	Undisturbed	Pubic/ Company use	
1	Excavation	393.94	15.76	130.28			539.98
2	Infrastructure including Safety zone (7.5m around mine boundary) and Embankment	60.718			16.191	125.484	202.393
3	External OB dump	178.932					178.932

S. No.	Category	Land use (in ha)					Total
		Plantation/ grass carpeting	Water body	Dip side slope & haul road	Undisturbed	Pubic/ Company use	
<b>Total</b>		<b>633.59</b>	<b>15.76</b>	<b>130.28</b>	<b>16.191</b>	<b>125.484</b>	<b>921.305</b>

ix. **Details of transportation:**

a. In pit to surface: Dumper/ Tipper

b. Surface to siding:

- 8.0 MTPA – CT Road to TRH (4.1 km); TRH to Sardega siding through closed conveyor belt (2 km).
- 4.0 MTPA – Coal Corridor to Kanika siding (30 km)
- 4.0 MTPA – Coal Corridor to Laikera Siding (12 km)
- 5.0 MTPA – Road sale to local consumers (30-60 km)

c. Siding to loading:

- 8.0 MTPA – Through Rapid loading system to wagons
- 4.0 MTPA – Through wharf wall loading
- 4.0 MTPA – Through wharf wall loading

d. Quantity being transported by Road/Rail/conveyer/ropeway:

- 16.0 MTPA = Rail
- 5.0 MTPA = Road

e. Proposed change in transportation means:

Name of the mine	Capacity of the mine in MTPA	Upcoming Coal evacuation rail arrangements with capacities	
		Barpalli Bulb Siding (to be commissioned by July 2028)	Sardega Siding
		90 MTPA	40 MTPA
<b>Kulda Opencast project</b>	21	21 MTPA	--
	Through Railway sidings: <b>21 MTPA</b>	Through 2.5 km closed conveyor only	Through 6.245 km closed conveyor only Standby arrangement if Barpalli bulb is put on stall due to maintenance.

x. **Details of reclamation:** Afforestation shall be done progressively covering an area of: 633.59 Ha. at the end of mining. This will include:

- Reclaimed OB dump of 178.932 Ha. (OB dump within ML area)
- Internal dump of 393.94 Ha. will be reclaimed with plantation/grass carpeting
- Green belt of 15.297 Ha. (includes safety zone)
- Density of tree plantation shall be 2500 nos. per Ha.
- Void of 15.76 Ha. at a depth of 150 m is proposed to be converted into water body.
- 45.421 Ha. (Infrastructure: 41.911 Ha + Embankment: 3.51 Ha) will also be reclaimed with plantation.

13. **Baseline Data:** The baseline study generation for this project has been conducted from Oct-Dec 2022 (post monsoon season). Details of the same are as follows:

Period	Post Monsoon: Oct 2022 to Dec 2022
AAQ parameters at 10 Locations (min and max)	<b>Air quality-10 Stations (Core zone-2, Buffer zone -8)</b> <b>Core Zone:</b> PM <sub>10</sub> = 61.5 to 147.4 µg/m <sup>3</sup> PM <sub>2.5</sub> = 31.6 to 86.7 µg/m <sup>3</sup> SO <sub>2</sub> = 17.4 to 34.3 µg/m <sup>3</sup> NO <sub>x</sub> = 21.1 to 38.7 µg/m <sup>3</sup> CO = 0.29 to 0.48 mg/m <sup>3</sup> <b>Buffer Zone:</b> PM <sub>10</sub> = 47.8 to 89 µg/m <sup>3</sup> PM <sub>2.5</sub> = 23.6 to 46.8 µg/m <sup>3</sup>

Period	Post Monsoon: Oct 2022 to Dec 2022			
	SO <sub>2</sub> = 7.0 to 24.7 µg/m <sup>3</sup> NO <sub>x</sub> = 10.0 to 27.4 µg/m <sup>3</sup> CO = 0.20 to 0.35 mg/m <sup>3</sup>			
Incremental GLC Level	The incremental increase in the values were projected to be 23.25 µg/m <sup>3</sup> for PM <sub>10</sub> , 2.94 µg/m <sup>3</sup> for PM <sub>2.5</sub> , 10.38 µg/m <sup>3</sup> for SO <sub>2</sub> , and 13.72 µg/m <sup>3</sup> for NO <sub>x</sub> <i>in the core zone</i> , while 2.97 µg/m <sup>3</sup> for PM <sub>10</sub> , 0.41 µg/m <sup>3</sup> for PM <sub>2.5</sub> , 0.84 µg/m <sup>3</sup> for SO <sub>2</sub> , and 1.28 µg/m <sup>3</sup> for NO <sub>x</sub> <i>in the buffer zone</i> , in the buffer zone <i>Note: the incremental GLC values have been provided for the maximum baseline readings in core and buffer zones</i>			
Ground water quality at 4 Locations	Core Zone			
	S. No.	Parameter	Minimum	Maximum
	1	pH at 25°C	6.85	7.12
	2	TDS (mg/L)	174	208
	3	Total Hardness as CaCO <sub>3</sub> (mg/L)	104	118
	4	Nitrate (mg/L)	1.31	2.08
	5	Chlorides (mg/l)	28.99	45.99
	6	Fluoride (mg/l)	0.1	0.1
	7	Calcium(mg/L)	19.2	25.7
	8	Sulphate(mg/L)	16.01	25.32
	9	Copper (mg/L)	0.02	0.02
	10	Manganese (mg/L)	0.05	0.21
	11	Iron (mg/L)	0.05	0.31
	12	Zinc(mg/L)	1.16	3.38
	13	Lead(mg/L)	0.005	0.005
	14	Cadmium (mg/L)	0.002	0.002
	15	Total Chromium (mg/L)	0.1	0.1
	16	Arsenic(mg/L)	0.005	0.005
	17	Selenium(mg/L)	0.005	0.005
	18	TSS (mg/L)	5	5
	Buffer Zone:			
	S. No.	Parameter	Minimum	Maximum
	1	pH at 25°C	6.69	6.87
	2	TDS (mg/L)	272	336
	3	Total Hardness as CaCO <sub>3</sub> (mg/L)	91	124
	4	Nitrate (mg/L)	23.6	32.2
	5	Chlorides (mg/l)	76.9	90.9
	6	Fluoride (mg/l)	0.1	0.1
	7	Calcium(mg/L)	20.8	35.3
	8	Sulphate(mg/L)	15.27	52.69
	9	Copper(mg/L)	0.02	0.02
	10	Manganese (mg/L)	0.05	0.05
	11	Iron(mg/L)	0.05	0.1
	12	Zinc(mg/L)	0.03	0.03
	13	Lead(mg/L)	0.005	0.005

Period	Post Monsoon: Oct 2022 to Dec 2022														
	14	Cadmium(mg/L)	0.002	0.002											
	15	Total Chromium (mg/L)	0.1	0.1											
	16	Arsenic(mg/L)	0.005	0.005											
	17	Selenium(mg/L)	0.005	0.005											
	18	TSS (mg/L)	5	5											
Surface water quality at 4 Locations	<b>Core Zone</b>														
	<b>Sl. No.</b>	<b>Parameter</b>	<b>Minimum</b>	<b>Maximum</b>											
	1	pH at 25°C	6.69	7.22											
	2	TSS (mg/L)	10	32											
	3	BOD (mg/L)	2.4	8.7											
	4	COD (mg/L)	5	30											
	5	TDS (mg/L)	59	392											
	6	Fluoride (mg/l)	0.1	0.2											
	7	Iron(mg/L)	0.1	0.17											
	8	Total Chromium (mg/L)	<0.1	<0.1											
	9	Nitrate (mg/L)	0.92	3.89											
	10	Chloride (mg/L)	21.99	22.49											
	11	Total Coliform (mg/L)	14	45											
	12	Total Hardness (mg/L)	28	58											
	<b>Buffer Zone</b>														
	<b>Sl. No.</b>	<b>Parameter</b>	<b>Minimum</b>	<b>Maximum</b>											
	1	pH at 25°C	6.78	7.25											
	2	TSS (mg/L)	7	16											
	3	BOD (mg/L)	<2	2.8											
	4	COD (mg/L)	<5	15											
	5	TDS (mg/L)	59	264											
	6	Fluoride (mg/l)	<0.1	<0.1											
	7	Iron(mg/L)	0.14	0.66											
	8	Total Chromium (mg/L)	<0.1	<0.1											
9	Nitrate (mg/L)	1.42	3.65												
10	Chloride (mg/L)	18.99	66.98												
11	Total Coliform (mg/L)	14	38												
12	Total Hardness (mg/L)	41	102												
Noise levels Leq (Day and Night) at 10 locations (Core zone-2, Buffer zone - 8)	<p style="text-align: center;"><b>Core zone:</b> 47.1 to 70.5 dB(A) for the daytime and 33.7 to 59.50 dB(A) for the Night time.</p> <p style="text-align: center;"><b>Buffer zone:</b> 46.00 to 50.80 dB(A) for the daytime and 33.30 to 40.20 dB(A) for the Night time.</p>														
Traffic assessment study findings	<p>A cumulative assessment of the coal transportation through Sardega route has been carried out, considering this total dispatch volume of 20.0 MTPA. Out of 20.0 MTPA, 12.0 MTPA of coal from Garjanbahal OCP is being transported to Sardega Siding and 8.0 MTPA of coal from the Kulda OCP. Traffic study has been conducted at CT Road towards Sardega Siding. The PCU/hr for this road was found to be 632.70, while the V/C ratio was 0.44, which categorizes LoS in 'good' category.</p> <p style="text-align: center;"><b>For the CT road towards Sardega Siding:</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Location</th> <th colspan="3">Traffic Assessment</th> </tr> <tr> <th>No of PCU's/hr</th> <th>V/C</th> <th>LoS</th> </tr> </thead> <tbody> <tr> <td>Road to Sardega Siding</td> <td>632.70 PCU/Hr @ 20.00 to 21.00 Hrs</td> <td>0.44</td> <td>C</td> </tr> </tbody> </table> <p>2 lane (Two Way) divided as per IRC: 106 -1990 - 1500 PCUs (width: approx. 12 meters)</p>				Location	Traffic Assessment			No of PCU's/hr	V/C	LoS	Road to Sardega Siding	632.70 PCU/Hr @ 20.00 to 21.00 Hrs	0.44	C
Location	Traffic Assessment														
	No of PCU's/hr	V/C	LoS												
Road to Sardega Siding	632.70 PCU/Hr @ 20.00 to 21.00 Hrs	0.44	C												

Period	Post Monsoon: Oct 2022 to Dec 2022																														
	<p align="center"><b>For the road towards Laikera Siding:</b></p> <p>Currently, 2.20 MTPA of coal from Garjanbahal OCP and 4.0 MTPA coal from Kulda OCP are being transported through Laikera Siding. Accordingly, a cumulative assessment of the coal transportation through Laikera siding road has been carried out, considering a total dispatch of 6.20 MTPA. The PCU/hr for this road was found to be 221.50, while the V/C ratio was 0.25, which categorizes LoS in the 'very good' category.</p> <table border="1"> <thead> <tr> <th rowspan="2">Location</th> <th colspan="3">Traffic Assessment</th> </tr> <tr> <th>No of PCU's/hr</th> <th>V/C</th> <th>LoS</th> </tr> </thead> <tbody> <tr> <td>Road to Laikera Siding</td> <td>221.50</td> <td>0.25</td> <td>B</td> </tr> <tr> <td colspan="4">2 lane (Two Way) undivided as per IRC: 106 -1990 – 900 PCUs/hr (width: 9 meters)</td> </tr> </tbody> </table> <p align="center"><b>For the road towards Kanika Siding:</b></p> <p>Currently, 2.0 MTPA of coal from Garjanbahal OCP and 4.0 MTPA coal from Kulda OCP are being transported to Kanika Siding. Accordingly, a cumulative assessment of coal transportation through Kanika Siding Road has been carried out, based on a total dispatch of 6.0 MTPA. The PCU/hr for this road was 205.15, while the V/C ratio was 0.14, which categorizes LoS as 'excellent'.</p> <table border="1"> <thead> <tr> <th rowspan="2">Location</th> <th colspan="3">Traffic Assessment</th> </tr> <tr> <th>No of PCU's/hr</th> <th>V/C</th> <th>LoS</th> </tr> </thead> <tbody> <tr> <td>Road to Kanika Siding</td> <td>205.15</td> <td>0.14</td> <td>A</td> </tr> <tr> <td colspan="4">2 lane (Two Way) divided as per IRC: 106 -1990 - 1500 PCUs (width:12 meters)</td> </tr> </tbody> </table>	Location	Traffic Assessment			No of PCU's/hr	V/C	LoS	Road to Laikera Siding	221.50	0.25	B	2 lane (Two Way) undivided as per IRC: 106 -1990 – 900 PCUs/hr (width: 9 meters)				Location	Traffic Assessment			No of PCU's/hr	V/C	LoS	Road to Kanika Siding	205.15	0.14	A	2 lane (Two Way) divided as per IRC: 106 -1990 - 1500 PCUs (width:12 meters)			
Location	Traffic Assessment																														
	No of PCU's/hr	V/C	LoS																												
Road to Laikera Siding	221.50	0.25	B																												
2 lane (Two Way) undivided as per IRC: 106 -1990 – 900 PCUs/hr (width: 9 meters)																															
Location	Traffic Assessment																														
	No of PCU's/hr	V/C	LoS																												
Road to Kanika Siding	205.15	0.14	A																												
2 lane (Two Way) divided as per IRC: 106 -1990 - 1500 PCUs (width:12 meters)																															
Flora and fauna	<p>It is to be noted as per the report-There is no wildlife Corridor in the Division. There are 11 schedule I species in the core zone and 32 schedule I species in the buffer zone. King Cobra, Indian Python, Russel's Viper, Snake Eat, Indian Cobra, Checkered keel back, Monocellata Cobra, Malabar pied Hornbill, Peacock, King Vulture &amp; Brahminy Kite are found in the core zone. While Pangolin, Tiger, Jungle cat, Wild Dog, Mouse deer, Indian Porcupine, Leopard, Indian Fox, flying squirrel, Sambhar, Black Panther, Indian Chameleon, King Cobra etc are found in the buffer zone.</p> <p>Prominent flora found in the region (Local name): Neem, Pipal, Babul, Sissoo, Mango, Mahua, Teak, Kusum, Jamun, Imli, Sal, Sirisa, Tendu, Ambada, Ashoka, Arjuna, Sagan, Kendu</p> <p>The biodiversity index ranges from 0.56 in core zone to 0.21 in Buffer zone.</p> <p>Note: Biodiversity index (D) ranges from 0 to 1; 0 represents infinite diversity while 1 represents no diversity.</p>																														
Water Requirement	<p>Source of Water: a) Surface Water – Nil b) Ground Water – 4412 KLD</p> <p>Ground Water Intersection: 8.0 to 8.5 m</p> <p>Water Requirement: Potable: 736 KLD Industrial: 3676 KLD</p> <p>Surface water NOC details: No surface water is being utilized. The potable water requirement is being met from the reservoir of Basundhara East old quarry of MCL. Industrial water demand is met from existing Kulda OCP mine sump water.</p> <p>The status of the CGWA NoC renewal for the project is provided below: Application No.: CGWA/NOC/MIN/ORIG/2020/9245 Application Code: 10710 Name of Project: Kulda Opencast Project</p> <p>Status: Renewal Application has been accepted &amp; scrutiny of application has been completed by CGWA. Payment of Rs. 64,82,400/- as one-year advance charges of groundwater abstraction have been demanded. Payment for the abstraction charges could not be done due to technical issues in NOCAP portal and the same has been taken up with CGWA pending facilitation of payment.</p> <p>Revival was accepted, and for the renewal of NoC, Internal EAC meetings were held on 08.07.2025 (231st meeting), 15.07.2025 (232nd meeting) &amp; 04.08.2025 (234th meeting).</p>																														

<b>Period</b>	<b>Post Monsoon: Oct 2022 to Dec 2022</b>
	Query raised and CGWA asked to revise the renewal application for 2024-26. All the queries and documents have been submitted as of now—approval awaiting from CGWA for NoC.

**14. Details of water requirement:** Total water demand for the project is 4412 KLD (Potable: 736 KLD, Industrial: 3676 KLD). Industrial water is being supplied from the mine sump stored water, while potable water requirements are met from the reservoir at the Basundhara East old quarry of MCL. The potable water is used, followed by treatment in the water treatment plant of 7.2 MLD (1.6 MGD) located on the mine premises.

Earlier, Chattajhore stream passing through the lease had been straightened with permission from Tehsildar, Hemgir vide letter no. 2609 dtd 17.12.2019. No, further diversions are proposed.

**15. Power Requirement and details of diversion of Hi-Tension/ Transmission Line:** The power required for the said project is 9.721 MW, which is sourced from the 220 kV Main sub-station at Garjanbahal. No diversion of Hi tension/transmission lines have been proposed.

**16. Public Consultation/ Hearing:**

The Project Proponent (PP) had requested the Odisha State Pollution Control Board (OSPCB) on 08.09.2023 to conduct the public hearing, following which the Collector, Sundargarh issued notices dated 21.06.2024 (No. 153/XV-13/2024) and 04.07.2024 (No. 167/XV-13/2024).

W.P.(C) No. 18034/2024 (Bantiraj Seth & Ors. v. UoI & Ors.): Subsequently, in W.P.(C) No. 18034/2024 (Bantiraj Seth & Ors. v. UoI & Ors.) before the Hon'ble High Court of Orissa, the Petitioners—residents of Tumulia and Sardega—challenged these notices, alleging that: (i) the EIA Report was not made available to the affected villagers, and (ii) the venue for the public hearing has been fixed at MCL stadium which hampered the public participation.

They also pointed out that the Collector had fixed the date/venue of the public hearing (Notice dated 21.06.2024) and authorised the Additional District Magistrate to preside over the hearing scheduled on 02.08.2024 at the MCL Stadium (Notice No. 167 dated 04.07.2024), relating to the proposed expansion of the Kulda Opencast Coal Mining Project from 634.205 ha to 921.305 ha.

By order dated 03.10.2024, the Hon'ble High Court of Orissa, in W.P.(C) No. 18034/2024 (Bantiraj Seth & Ors. v. UoI & Ors.) directed the Collector and other authorities to:

- reschedule the public hearing at Tumulia and Sardega,
- conduct hearings at all resettlement sites of displaced families, and
- ensure proper circulation of the EIA Report at Gram Panchayat offices.

In compliance, OSPCB conducted village-wise public hearings between 18.02.2025 and 20.02.2025 at the following locations:

S. No.	Gram Panchayat	Village	Venue	Date & Time
1.	Tumulia	Siarmal	R&R Colony, Chhatenpalli	18.02.2025, 10:00 AM
2.	Balinga	Balinga (Kuisira)	Kuisira Play Field	18.02.2025, 03:00 PM
3.	Balinga	Bankibahal	R&R Site, Bankibahal	19.02.2025, 10:00 AM
4.	Sumura	Sardega	Playfield near Sardega Primary School	19.02.2025, 03:00 PM
5.	Tumulia	Tumulia	Barpada Field	20.02.2025, 10:00 AM

**Brief of the Public Hearing Proceedings:**

Public Hearing	
Details of advertisement given	08.01.2025 – 'The New Indian Express' and 'Samaja'
Date of public hearing	Public Hearing was held on 18-02-2025, 19-02-2025 and 20-02-2025
Venue	At five villages namely Balinga (Kuisira) at Play field of Kuisira, Bankibahal at R&R site of Bankibahal, Sardega at Play field near Sardega Primary school, Tumulia at Barpada field Tumulia & Siarmal at R&R colony Chhatenpalli.
Presiding Officer	Addl. District Magistrate
Number of Person Attended Hearing	1300 nos.
Number of representations received in writing	174 Nos representation received during public hearing and 960 Nos of

from the district and outside of district, please give details:	representation received directly by SPCB Board.
Major issues raised	Dust Pollution along transport routes, ground water scarcity, shortage of drinking water facilities, excessing sprinkling causing slippery road surfaces, RoR issues, lag in R&R benefits, employment issues demand for separate service road, deforestation etc.

Meanwhile, W.P.(C) Nos. 5151, 5153 and 5154 of 2025 titled Bantiraj Seth & Ors. v. UoI & Ors., before the Hon'ble High Court of Orissa were filed challenging: Notice No. 571 dated 08.01.2025 issued by OSPCB on the ground that they violated the EIA Notification, 2006. The Petitioners sought quashing the said notice. The writ petitions were disposed of by Order dated 21.03.2025, wherein the Hon'ble High Court directed:

*“..11. Considering the facts and submissions, it is necessary to ensure that the affected villagers have a clear and accessible opportunity to raise their concerns before any decision on environmental clearance is made. The Collector, Sundargarh, shall depute a responsible officer to visit the affected villages between 2nd April 2025 and 4th April 2025 with prior intimation to the villagers and hold meetings at community centers or other easily accessible locations where villagers can submit their objections. Those unable to submit written objections shall be allowed to make oral representations, which shall be recorded and documented properly. The entire process shall be videographed, and a detailed report listing all objections without modification or omission shall be prepared. This report, along with the objections, shall be submitted to the Ministry of Environment, Forest and Climate Change within seven days. The Ministry shall then review the objections and prepare a written response addressing each substantive concern of the villagers. This Court is also equally mindful of the fact that the industrial development is need of the hour and time is the essence in completion of any project.*

*12. No final recommendation on environmental clearance shall be made until these objections have been fully considered, and a reasoned order addressing them is placed on record...”*

In compliance of the Order dated 21.03.2025, the ADM/Sub-Collector conducted village-level consultations during 02.04.2025–04.04.2025. Written/oral objections were recorded and videographed.

The proceedings held during 02.04.2025–04.04.2025 has been submitted to MoEF&CC on 11.04.2025 and 25.04.2025. MoEF&CC forwarded these compiled objections to MCL on 09.05.2025, directing preparation of a village-wise Action Plan.

**Review of Action Plan by the Special EAC:** The PP submitted the Action Plan on 02.06.2025.

Subsequently, a committee was constituted vide order no. 7584 dated 07.07.2025 by the Collector /DM, Sundargarh, for supervision of implementation of comprehensive action plan submitted by PP.

#### **Committee of Officers/Members**

S. No.	Name of the Officers/Members	Role
1	Sub Collector, Sadar, Sundargarh	Chairman
2	ACF, Sundargarh	Member
3	RO, SPCB Jharsuguda	Member
4	Project Officer, Kulda OCP	Nodal Officer-cum-Member Convenor
5	General Manager, MCL Basundhara Area	Member
6	Sarpanch of Balinga, Sumra, Tumulia, Gopalpur & San-Ghumunda G. P	Member

The above committee has been entrusted with the task –to meet regularly; to review the progress, to ensure inter agency coordination, to receive feedback from villagers and to recommend corrective measure wherever necessary on the PH Action Plan prepared by the Project.

In compliance with the Order dated 21.03.2025, the Action Plan was deliberated by the EAC in its meeting held on 23/07/2025 and 12/09/2025. After detailed deliberations, the Committee recommended that the final action plan shall be implemented in letter and spirit under the close supervision of the Monitoring Committee constituted by the District

Magistrate, Sundargarh, which shall convene at regular intervals to review and ensure effective compliance.

The salient features of the EAC approved action plan are presented below:

**a. Proposed Budget for the identified common issues across the villages of Balinga, Bankibahal, Siarmal, Tumulia, and Sardega:**

S. No.	Issues	Budget Y-1 (in Lakhs)	Budget Y-2 (in Lakhs)	Budget Y-3 (in Lakhs)	Total
1	Drinking Water	370.7	184	104	658.7
2	Pollution Control and Dust Suppression	1957.76	2311	2085	6353.76
3	Health Facilities and Medical Camps	677	642	622	1941
4	Afforestation and Green Cover	5800.91	1009.19	1105.86	7915.96
5	Education Support and Infrastructure	100	75	75	250
6	Separate Service Road	--	14400	--	14400
	<b>Total</b>	<b>8906.37</b>	<b>18621.19</b>	<b>3991.86</b>	<b>31519.42</b>

**b. Village-wise Identified Issues – Balinga, Bankibahal, Siarmal, Tumulia, and Sardega:**

S. N	Village	Issues	Physical Targets/Actionable intervention	Budget in Rs. lakhs	Yr 1 FY 2025-26	Yr 2 FY 2026-27	Yr3 FY 2027-28
1	Balinga	Non-payment of compensation despite Supreme Court orders; demand to increase R&R from 6L to 25L.	Out of 200 PDFs – 190 has been provided with all compensations. 8 cases have been processed for approval with PDF assistance @ Rs. 25 lakhs each.	200.00	75.00	125.00	0.00
		Employment not provided to displaced families despite legal orders	Out of total 200 eligible PDFs – 156 have been given employment and 34 has been provided with Monetary Compensation. 4 Nos of identified PDFs @ Rs. 10 lakhs each as per Odisha R&R policy, 2006 will be settled. (06 Cases – No claim has been received)	40.00	20.00	20.00	0.00
2	Bankibahal	RoR not issued for families near R&R colony. Families losing breadwinners in road accidents are not being	58 RoRs already issued to PDFs out of 68 PDFs at RR site; Balance 10 RoRs will be issued.	--	<b>Balance10 RoRs will be issued</b>	--	--

S. N	Village	Issues	Physical Targets/Actionable intervention	Budget in Rs. lakhs	Yr 1 FY 2025-26	Yr 2 FY 2026-27	Yr3 FY 2027-28
		rehabilitated.					
		Demand for relocation of staff and better employment access for locals.	Employment is being provided under MCL's R&R Policy, State Policy and other guidelines. Indirect employment is also being ensured through contractual work and other outsourcing parties. Training of the staff and motivating for departmental promotions.	--	--	--	--
3	Siarmal	FRA Pattas and RoRs not issued to many displaced families despite DLC approval. Only 10% resettled in R&R colony; majority still await rehabilitation.	The complete village of Siarmal has now been relocated. Out of 196 Eligible PDFs, 131 have been allotted plots and 45 have been paid Cash compensation in lieu of plots. There are 46 eligible cases in Siarmal village who have been issued FRA Pattas, out of which 23 cases have been settled and payment of Rs. 710.01 Lakhs has been done. 23 nos. of balance identified will be disposed off.	294.90	294.90	0.00	0.00
		Children denied school certificates due to non-issuance of RoR.	ADM, Sundargarh vide virtual EAC meeting held on 23.07.2025 assured no school children will be denied school certificates due to lack of RoR	--	--	--	--
		Hiked DAV school fees; Demand for displaced family concessions.	The issue of regularisation/subsidisation of school fees has been taken up by MCL and would be made uniform for all.	--	--	--	--
		Employment demands; non-compliance with ORRP 2006 and RFCTLARR.	Out of 210 cases, 108 PDFs have been provided employment till 30.04.2025, 92 have received cash compensation in lieu of employment. Balance left is 10 PDFs out of which 5 are death cases.5 PDFs will be provided with employment. The entire land has been acquired under the CBA, and the RFCTLARR Act is not applicable for this village	--	<b>Employment to 5 nos. PDF</b>	--	--
4	Sardega	Repeated	This point is not applicable in	--	--	----	

S. N	Village	Issues	Physical Targets/Actionable intervention	Budget in Rs. lakhs	Yr 1 FY 2025-26	Yr 2 FY 2026-27	Yr3 FY 2027-28
		emphasis on Gram Sabha approval under PESA before any project action	this case as, the land is acquired through CBA Act.				
		Dissatisfaction on incomplete R&R benefits, Employment and compensation.	100% Compensation has been paid to the villagers of Sardega with an amount of Rs. 1.54 Crs as per Odisha R&R policy 2006. Employment/Cash in lieu of employment has been provided to 131 PDFs out of 135 PDFs as on 30.04.2025. Balance 4 PDFs will be settled in three years. One case is forgery and hence kept pending.		<b>Employment to 1 PDF</b>	<b>Employment to 2 PDFs</b>	
		Houses in Masinadhipa Tola of Tikilipara village not incorporated in MCL survey list, Requests for CFR patta for Pandripani Reserve Forest	Masinadhipa Tola of Tikilipara village comes under forest land, which has been acquired by Basundhara Area in the year 1987. The tola is located outside the mine lease area. However, during survey of village Tikilipara (School Pada) no dwelling house were found in that Tola. Now several encroachers constructed houses.	--	--	--	--
5	Tumulia	No compensation, employment, or rehabilitation despite land transaction ban since 1989; no PAF/PDF list prepared. No steps taken under ORRP 2006 and RFCTLARR 2013	<b>1.Status of Compensation</b> Hon'ble Supreme Court of India has entrusted the work of preparation of the compensation role of Village Tumulia under the RFCTLARR Act. Accordingly, the Commission has prepared the compensation role of village Tumulia, including the land settled under the FRA Act 2006. The same under sub-judice before the Hon'ble High Court of Orissa. Payment of the Land Compensation can be made only after disposal of the Writ Petition by the Hon'ble High Court of Orissa. Out of	<b>36207.00</b>	<b>14500.00</b>	<b>21707.00</b>	<b>0.00</b>

S. N	Village	Issues	Physical Targets/Actionable intervention	Budget in Rs. lakhs	Yr 1 FY 2025-26	Yr 2 FY 2026-27	Yr3 FY 2027-28
			<p>a sanctioned compensation amount of Rs. 566.31 Crores for Tumulia Village, Rs. 204.24 Crores have been disbursed till Apr'2025. (35.97%).</p> <p><b>2. Status of the PAF/PDFs list</b></p> <p>For employment and other R&amp;R benefits of the remaining 04 villages i.e. Tumulia, Jhupurunga, Ratansara and Kiripsira village, the Hon'ble Supreme Court in its order Dt-03.01.2025 has directed the State Authorities to prepare the PAF list as per direction made in the order Dt-03.11.2022.</p> <p>Currently, Re-survey of village Tumulia has been completed. Publication of PAF/PDFs list of Tumulia by district authority is awaited.</p> <p><b>3. Status of Employment/Rehabilitation</b></p> <p>After the publication of the PAF/PDF list by district authority, employment/rehabilitation will be provided as per eligibility.</p> <p><b>4. Status of Resettlement benefits</b></p> <p>After the publication of the PAF/PDF list by the district authority, one-time resettlement benefits (@25 Lakhs/ PDFs) will be provided as per the direction made in the Hon'ble Supreme Court order dated 03.11.2022.</p>				
		Violation of PESA Act and lack of Gram Sabha consent for forest clearance	This point is not applicable in this case as; the land is acquired through CBA Act. While Gram Sabha has been conducted by the Project for which NoC under FRA had been issued on 21.06.2021.	--	--	--	--

Total budget for addressing village specific issues: **Rs. 36741.90 Lakhs**

**VILLAGEWISE SUMMARY OF EXPENDITURES/BUDGET PROVISION FOR PUBLIC HEARING ISSUES FOR KULDA OCP**

<b>HEADWISE &amp; VILLAGE WISE COST IN TOTAL LAKHS</b>						
<b>Villages à</b>	<b>Balinga</b>	<b>Bankibahal</b>	<b>Siarmal</b>	<b>Sardega</b>	<b>Tumulia</b>	<b>Total</b>
<b>Forest Recreation /Afforestation</b>	1749.6	1749.6	1233.58	1233.58	1949.6	7915.96
<b>Pollution Control / Blasting</b>	1293.13	1293.13	1229.5	1229.5	1308.5	6353.76
<b>Health improvement &amp; Safety</b>	381.2	381.2	381.2	381.2	416.2	1941
<b>Education</b>	50	50	50	50	50	250
<b>Community Infrastructure</b>	2880	2880	2880	2880	2880	14400
<b>Drinking water Supply / Ground Recharge</b>	99.14	257.14	73.14	67.14	162.14	658.7
<b>Subtotal (A)</b>	<b>6453.07</b>	<b>6611.07</b>	<b>5847.42</b>	<b>5841.42</b>	<b>6766.44</b>	<b>31519.42</b>
<b>R&amp;R</b>	240	0	294.9	0	36207	36741.90
<b>Subtotal (B)</b>	240	0	294.9	0	36207	36741.90
<b>Grand total (A+B)</b>	<b>6693.07</b>	<b>6611.07</b>	<b>6142.32</b>	<b>5841.42</b>	<b>42973.44</b>	<b>68261.32</b>

**Bifurcation of activities under Major heads**

<b>S. No.</b>	<b>Major Heads</b>	<b>Sub activities</b>	<b>Total in Rs. lakhs</b>
1	Forest Recreation/Afforestation	Internal Plantation:	1548.07
		Avenue Plantation:	3953.80
		Compensatory Afforestation:	1099.09
		Green barrier:	200.00
		Wildlife Conservation Plan:	1115.00
2	Pollution Control	Mobile fog cannons:	2630.00
		Mech. Road Sweepers:	514.00
		Manual Road Cleaning:	58.50
		Fixed Mist Sprinklers:	15.00
		Smog Towers:	18.00
		Sensor-Based Dust Suppression:	100.00
		High-pressure Mobile Mist sprinklers:	150.00
		CAAQMs:	240.00
		Routine Environment Monitoring Cost:	900.00
		ETPs:	78.26
		CWQMS:	40.00
		STP:	40.00
		River Conservation Plan:	1500.00
		Blasting-related mitigation:	40.00
Road Safety:	30.00		
3	Health Improvement	Healthcare upgradation:	1806.00
		Epidemiology Study:	45.00
		Health Camps:	55.00
		Crop Compensation:	35.00
4	Education	Renovation and upgradation of peripheral educational	250.00

S. No.	Major Heads	Sub activities		Total in Rs. lakhs
		institutions		
5	Community Infra.	Service road:	14400.00	14400.00
		Drinking water supply:	115.00	658.70
6	Drinking water Supply	Drinking Water infrastructure:	211.00	
		Rainwater harvesting:	332.70	
A	<b>Subtotal</b>			<b>31519.42</b>
7	<b>R&amp;R</b>	For Balinga village:	240.00	36714.90
		For Siarmal village:	294.90	
		For Tumulia village:	36207.00	
B	<b>Subtotal</b>			<b>36714.90</b>
C	<b>Grand total</b>			<b>68261.32</b>

*c. Action Plan on Additional Points Suggested by SPCB Odisha (Letter dated 26.08.2025):*

S. No.	ADDITIONAL POINTS PROPOSED BY SPCB	ACTION PLAN
<b>For Air Pollution Control Measures</b>		
1	The mine shall maintain adequate free board with proper tarpaulin covering in trucks during transportation of coal from mines in order to avoid spillages of coal at the roads causing dust nuisance. The mine shall install a sensor-based HD IP camera at the exit gate to monitor vehicle overloading and inadequate tarpaulin covering.	<ul style="list-style-type: none"> <li>•Tarpaulin covering is strictly enforced for trucks transporting coal, at the exit gates of MCL mines. Only after ensuring that the trucks are fully covered with tarpaulin, gate passes are being issued to the trucks for moving out of the mines.</li> <li>•Care is taken for loading coal, taking consideration of truck's payload capacity to avoid overloading.</li> <li>•For this, weighbridges have been installed in the mines, which provide accurate weight measurements crucial for ensuring the safety of both the transportation and handling of coal.</li> <li>•For monitoring all these systems, 77, IP Cameras have been installed at the critical points of Kulda OCP covering the complete Coal dispatch circuit.</li> <li>•Further, integration of i3MS (Integrated Mines &amp; Minerals Management System) developed by the Govt. of Odisha has significantly helped restrict truck overloading through a combination of digital tracking, real-time verification, and regulatory enforcement mechanism through RTO. The e-pass system ensures that only trucks with valid permits and approved load limits can move coal. These passes are digitally linked to transport schedules, routes, and weighbridge data.</li> </ul>
2	The mine shall provide additional 05 nos. of truck mounted mobile fog canon for proper fugitive dust suppression, within and outside the mine lease coal transportation road and at siding transportation road. It shall maintain short sprinkling frequency during the dry season to avoid emission of road dust during plying of vehicles.	The project has 11 nos. of truck mounted mobile fog cannons. The list of the same is provided along with locations Additional 5 nos. will be procured for proper fugitive dust suppression by September 2026, within and outside the mine lease coal transportation road and at siding transportation road. Hourly/Two hourly sprinkling frequency during the dry season will be ensured depending upon the location to avoid emission of the road dust during plying of vehicles.

S. No.	ADDITIONAL POINTS PROPOSED BY SPCB	ACTION PLAN
3	The mine shall install sensor based fixed type water sprinklers at the coal transportation road from Kalobahal chowk to Bankibahal Chowk. The mine shall take necessary steps to avoid theft of the sprinklers at the site.	<ul style="list-style-type: none"> <li>•At present four mobile fog cannons have been deployed from Kalobahal Chowk to Bankibahal.</li> <li>•The project also has provisioned for 125 nos. of additional timer based fixed type sprinklers from Bankibahal to Barpalli i.e. nearer to Kalobahal Chowk.</li> <li>•It is to highlight here that the median of the road towards Kalobahal Chowk is yet to be constructed by State PWD.</li> <li>•After construction of the median, the mine will further explore installing sensor-based mist water sprinklers from Barpalli to Kalobahal Chowk.</li> <li>•Security Guards with CCTV cameras shall be deployed for monitoring &amp; avoiding theft at the site.</li> </ul>
4	The coal stockyards shall be provided with fixed rain gun type water sprinklers at all be stockyards with 100 m sprinkling span.	At present the coal stock yards of Kulda has been provisioned with 06 nos. of static fog cannons of 100 metre throw and 20 nos. of 30 mtr throw rain guns. The mine will replace the existing 30 mtr throw rain guns with 100 mtr throw rain guns at a total cost of Rs. 20 lakhs within a period of 06 months.
5	The mine shall construct of truck silo loading system for road sale trucks in order to avoid fugitive dust emission during loading of coal through pay loaders.	<ul style="list-style-type: none"> <li>•For road sale a 5.0 Mty Automatic Truck Loading SILO System (ATLS) has been provisioned and will be developed by Dec'26.</li> <li>•The pipe conveyor of 4.245 km length from the mine towards siding and further loading through existing RLS of 20.0 Mty will be developed by December 2026 as per the EC condition of Kulda OCP vide EC letter dated 21.02.2025. MEL (Macmet Engineering Ltd) Crew JV, Kolkata based has been selected as the L1 Bidder and work will be awarded by September 2025.</li> </ul>
6	In pit conveyor system up to RLS and truck silo loading system shall be constructed to avoid fugitive dust emission during the plying of vehicles.	
7	In order to avoid traffic congestion, the mine shall develop the truck parking with all basic facilities for the drivers.	<ul style="list-style-type: none"> <li>•A truck parking area of 4.57 ha at a cost of Rs.15.87 Crs is already being developed near Kulda OCP in Basundhara Area with all basic facilities for the drivers.</li> <li>• Maintenance of these facilities will be continuously done to avoid traffic congestion.</li> </ul>
8	The mine shall take necessary steps to properly clean and lift the deposited coal dust to avoid fugitive dust emission during the plying of vehicles in the coal transportation road outside the mine lease area.	<ul style="list-style-type: none"> <li>•Care is being taken to avoid coal spillage from the coal laden trucks. However, the coal dust, if any deposited-on coal transportation road shall be lifted with the help of scraper immediately to avoid fugitive dust emission during the plying of vehicles.</li> <li>•4 no. mechanical road sweepers also have been deployed to avoid fugitive dust emissions outside the lease area.</li> </ul>
9	The mine shall install online CAAQMS near the coal transportation road for monitoring the road dust generated	•1 CAAQMS will be installed near CT road to monitor the coal dust generated during the plying

S. No.	ADDITIONAL POINTS PROPOSED BY SPCB	ACTION PLAN
	during the plying of vehicles.	of vehicles by June 2026.
10	The mine shall undertake avenue plantation on both side of the coal transportation road to arrest fugitive dust emissions generated during plying of heavy vehicles.	•A total of 1,35,000 Plants will be planted as part of the avenue plantation along different transportation routes for which work has been already awarded to OFDC & CGRVVNL.
11	The primary source of water pollution is the discharge of surface run-off water into the nearby nallah. Therefore, the mine shall conduct a surface run-off study for both the mine area and the coal transportation road through a reputed institute/agency and based on the findings, develop appropriate infrastructure to restrict such discharges and facilitate the treatment of run-off water for subsequent reuse.	<p>A scheme has been submitted in compliance to Stage I FC conditions by the project proponent in respect to mitigative measures to minimize soil erosion and choking of stream in the Mining lease area of Kulda OCP of Mahanadi Coalfield Limited, Basundhara Area at a cost of Rs. <b>63.01</b> lakhs to be executed within 3 years. As per the scheme, to de-silt the running water / runoff it is proposed to take the following measures.</p> <p>a) Providing Garland drain around the OB Dump-1 and 2, Coal stock yard.</p> <p>b) Providing grass strip of 1.5m width on the upper side of the Garland drain,</p> <p>c) Planting of Vetivera (<i>Chrysopogon zizanioides/ Vetiveria zizanioides</i>) in two rows by grass slips / seeds.</p> <p>d) Providing Siltation tanks to Garland drain discharge- Six Numbers</p> <p>•Apart from above, Basundhara River conservation plan has already been prepared and approved by State Water Works Department for a cost of Rs. 261 Cr. At present DPR is under preparation at Water works department Sundergarh for year wise execution of work on deposit basis.</p>
12	The mine shall install vehicle body washing facility with wastewater treatment and treated water recirculation facility at the exit gate to avoid carry the coal dust to the Coal transportation road/public road.	The existing wheel washing system will be developed to full body wash systems departmentally with wastewater treatment and treated water recirculation facility at the mine exit gate by Mar 2026 to avoid carry the coal dust to the Coal transportation road/public road.
13	The mine shall take necessary steps to rejuvenate the Basundhara Nallah to its originality.	Basundhara river conservation plan has already been prepared and approved by State Water Works Department for a cost of Rs. 261 Cr. At present DPR is under preparation at Water works department Sundargarh for year wise execution of work on deposit basis.

**17. Project Cost and EMP Cost:** The capital cost of the existing project is Rs.622.21 Crores and Capital Cost for implementing EMP is Rs.1349.08 Lakhs (while recurring cost estimated is Rs. 512.70 Lakhs).

S. No.	Description of Item	Proposed Expenditure in lakhs	
		Capital Cost (Budget)	Recurring Cost (Estimated)
i.	Dust suppression cost	478.49	204.70
ii.	ETP & STP	176.23	6.00
iii.	Garland and Storm water drainage	183.60	---
iv.	Compensatory afforestation cost	211.01	10.00

S. No.	Description of Item	Proposed Expenditure in lakhs	
		Capital Cost (Budget)	Recurring Cost (Estimated)
v.	Arboriculture including avenue plantation	114.50	93.40
vi.	Rainwater Harvesting	22.80	---
vii.	Peripheral Village community development	127.45	---
viii.	Environment data generation	35.00	35.60
ix.	Consent	---	84.00
x.	Others including CAAQMS AMC	---	79.00
	<b>Total</b>	<b>1349.08</b>	<b>512.70</b>

18. **Details Solid and Hazardous Waste:** The details of solid and hazardous waste generation along with its mode of treatment/disposal is furnished as below:

S. No.	Type of Waste	Source	Quantity Tons per annum	Mode of Treatment & Disposal
1	Domestic waste	Administrative building & residential area	539.04	Municipal solid waste collection and disposal
2	Plastic Waste	Colonies, office premise, regional stores & workshops	26	Waste segregation and selling to authorized recyclers.
3	e-waste	Administrative buildings	0.22	Auctioned to authorized recyclers by SPCB
4	Batteries waste	HEMM workshop	3.605	Auctioned to authorized recyclers by SPCB
5	Biomedical waste	Area Dispensary	3.65	Waste Segregation & Incineration
6	Filters	HEMM Workshop	0.98	Handed over to CHTDSF authorized by SPCB
7	Used Oil	HEMM Workshop	4.05	Auction to recyclers authorized by SPCB.
8	Oily Sludge	ETP	1193.06	Handed over to CHTDSF authorized by SPCB.
9	Oil & grease	HEMM Workshop	0.12	Auction to recyclers authorized by SPCB.

19. **Plantation:** 393.94 ha of Backfilled quarry area which shall be reclaimed with plantation. 15.297 Ha (includes safety zone etc.) of green belt will be created. Details of plantation is given below:

S. No.	Category	Plantation proposed in expansion phase (ha)
1.	Backfilled area reclaimed with plantation	393.94
2.	OB dumps (within ML area)	178.932
3.	Infrastructure, greenbelt & others	60.718
	<b>Total</b>	<b>633.59</b>

20. **Employment Details:** The total manpower required for the project is 935. Apart from the above-mentioned direct employment potential, the proposed mining project will generate secondary and tertiary employment for the local people.

21. **Rehabilitation & Resettlement issues:** A total of 572 PAFs (1972 project-affected persons) was involved during the R&R of the project.

S. No.	Particulars	Nos.
<b>Resettlement</b>		
1.	No. of PAFs eligible for plot at R&R site/ Cash compensation	507
2.	PAF's opted for plot at R&R site/ Cash compensation	445

S. No.	Particulars	Nos.
3.	Balance	62
<b>Employment</b>		
1.	No. of persons eligible for employment	414
2.	No. of persons provided employment/ cash compensation in lieu of employment	385
3.	Balance	29

22. **Legal issues/ Violation:** PP reported that there is no legal issue/violation w.r.t i) Environment (Protection) Act, ii) Air(P&CP) Act, Water (P&CP) Act, Forest Conservation Act, Wildlife Protection Act, CRZ Notification, MMDR Act, Factories Act. Further, there is no court case pending on the project. However, the details of the litigation on the project are tabularized below:

S. No.	Name of the Court/ Tribunal	Name of the Specific Court/Bench	Case Category	Status of the court case	Prayer/Issues involved	Orders/directions of the court, if any & its relevance with the proposed project
1.	Odisha High Court	Single Bench	Writ Petition W.P (C) No. 18034 of 2024	Disposed of on 03.10.2024	The EIA Report has not been circulated among the inhabitants of the affected villagers. The venue for the public hearing was fixed at a place far away from the concerned village, which is at a distance of almost 10 km from the concerned villagers. The said venue is also fixed at the office of M.C.L.	The High Court of Odisha, vide order dated October 3, 2024, directed the SPCB to reschedule the public hearing at multiple locations. <b>Relevance with the proposed project:</b> The matter is related to the conduct of PH for the expansion of Kulda opencast project from 634.205 ha to 921.305 ha keeping the capacity same i.e. 21 MTPA.
2.	Odisha High Court	Single Bench	Writ Petition W.P.(C) No. 5151 of 2025	Disposed of on 21.03.2025	The Petitioners contend that neither they nor have the affected villagers been given a fair and meaningful opportunity to participate in the public hearing.	The Collector, Sundargarh, shall depute a responsible officer to visit the affected villages from 2nd April 2025 to 4th April 2025 with prior intimation to the villagers and hold meetings at community centers or other easily accessible locations where villagers can submit their objections. Those unable to submit written objections shall be allowed to make oral representations, which shall be recorded and
3.	Odisha High Court	Single Bench	Writ Petition W.P.(C) No. 5154 of 2025	Disposed of in terms of the order passed today in W.P.(C) No.5151 of 2025.	Filed by Madhusmita Kalo & Others; related to the same PH matter.	

S. No.	Name of the Court/ Tribunal	Name of the Specific Court/Bench	Case Category	Status of the court case	Prayer/Issues involved	Orders/directions of the court, if any & its relevance with the proposed project
						documented properly. The entire process shall be videographed, and a detailed report listing all objections without modification or omission shall be prepared. This report, along with the objections, shall be submitted to the Ministry of Environment, Forest, and Climate Change within seven days. No final recommendation on environmental clearance shall be made until these objections have been fully considered and a reasoned order addressing them has been placed on record. <b>Relevance with the proposed project:</b> The matter is related to the conduct of PH for the expansion of Kulda opencast project from 634.205 ha to 921.305 ha keeping the capacity same i.e. 21 MTPA.
4.	Odisha High Court	Single Bench	Writ Petition W.P.(C) No. 5155 of 2025	Adjourned.	Filed by Apurva Patel & Others; related to same PH issue.	Nobody appears on behalf of the Petitioner at the time of call.

**23. Comments of State Pollution Control Board, Odisha as per Ministry's OM dated 14.01.2025 and SOP dated 08.10.2025:**

**Recommendations / Comments**

The CTE for Expansion of Lease Area from existing 634.205 Ha to 921.305 Ha without Production enhancement of Kulda Expansion Opencast Project of MCL may be integrated with the EC subject to following conditions.

**Environmental safeguards**

1. Extensive plantation/Green belt shall be developed along the roads and boundary line of the Mines. A minimum 7.5 m width Green Belt along the boundary of each processing plants shall be maintained. However, the greenbelt may be designed scientifically depending upon the requirement and local and mix species of plants may be selected for the green belt.
2. Displacement of Hamlets Habitations may be done in compliance with the provisions under Rules prescribed by State

and/or Central Government.

3. No beneficiation of coal shall be carried out without prior Environmental Clearance & Consent to Establish and Consent to Operate.

4. No mining activities shall be allowed within 50m of Basundhara River & Chittajhor Nallah except maintaining Green Belt.

#### **5. Carbon Footprint**

In Order to reduce Carbon Footprint of the Mines followings are recommended

i. Provision of belt conveyors/pipe conveyors for internal transportation of coal (Lumpy) from Quarry pit to Mineral Stack yard.

ii. Replacement of Diesel operated Transportation vehicles with Electric operated vehicles (EV) / Hydrogen based Tippers/Trucks for transportation of Minerals both internal as well as to the destinations along with other internal domestic transportation.

iii. Implementation of Advance Carbon Sequestration Technologies/methods to proceed towards Net Zero emissions.

#### **6. Circular Economy**

The OB being generated by Mines contains Sandstone, Shaly sandstone with other materials & gets dumped without exploring its further use. So the Mines may be asked to

i. Explore the feasibility of utilization of other materials available in the OB to further use in its downstream

ii. Shale may be used for Raw materials for ceramics (Bricks, Tiles and Pottery), Sub-base materials for Roads etc to preserve natural soil.

iii. Remaining wastes shall be used in back filling the quarry pit properly maintain the topography of the site as feasible as possible.

iv. Mine has to maintain Zero discharge during dry season, Low & moderate rain condition.

v. Mine needs to furnish an action plan for balance of natural water i.e. withdrawal vs Ground water recharge to maintain the ground water Table & adequate flow in surrounding Streams/Rivers.

vi. The mine shall take adequate steps to rejuvenate the Basundhara River and action plan shall be submitted to the Board prior to go for expansion.

vii. The mine shall provide adequate numbers of CAAQMS at appropriate locations for monitoring of air quality and shall be connected to the SPCB, Odisha server through RTDAS portal.

#### **Water Pollution**

1. Mines has to ensure that natural streams i.e. Chattajhor exist within the Mines Lease area & passes adjacent to it, should be properly protected & maintained from any contamination. In no case any wash out/Mine effluent shall be allowed to discharge into local streams & ultimately to Basundhara River.

2. The natural streams that pass within Mine Lease area or adjacent to Lease boundary should not be diverted/obstructed without prior permission from the competent authority.

3. Mine has to develop proper storm drains at all its internal roads, haul roads terminating at guard ponds/Mine pit to avoid discharge of any untreated blackish runoff to nearby land/water bodies.

4. Mine has to carry out complete study & preparation of action plan for proper runoff management system of Mines by reputed agencies / In-house shall be submitted to the Board for proper implementation.

5. Run-off Outlets of the Mines shall be properly identified & demarcated along with the receiving body.

6. Run off from Mines area other than leading to Mines pit should be properly channelized & terminated at Masonry Guard Ponds (impervious bottom) with spill way provision at opposite end of Inlet followed by Fabric Filtration system for proper settling, Treatment & Filtration prior to discharge during heavy rains.

7. Guard Ponds should be designed to hold the runoff during low & moderate rains (Zero discharge) & in case heavy rain the overflow shall pass through spillway followed by Fabric Filtration system. The Guard ponds should be equipped with Coagulant dosing facilities at Inlet end & Pumping facilities at outlet end to recycle/reuse the runoff for dust suppressions/ Plantation/wheel washing systems etc.

8. The proponent shall obtain requisite permission from CGWA and Water Resource Department of state for dewatering of mine drainage water during mining operation.

9. Mines have to provide properly designed Retaining wall of adequate height with garland drain terminating at Guard Pond all along the side of OB Dumps, Topsoil Dumps, Ore & fines dumps to prevent any wash out & subsequent contamination of nearby water bodies.

10. Mine shall provide diversion drains wherever required at lease boundary to avoid entry runoff from outside to Mining area in order to avoid contamination of runoff.

11. Mines shall regularly monitor the water quality of the Streams flowing within (Chattajhor Nallah) & adjacent of the

lease area & analysis reports shall be submitted to the Board at least twice a year. Mine has to monitor the groundwater quality of the area at least twice a year.

12. Mines have to ensure efficient functioning of Wheel washing systems to avoid carryover of the mud/dust from the Mines area to public roads. The wash effluent of wheel washing systems shall be 100% recycled through settling Tanks.

**Air Pollution**

1. Mines must provide adequate capacity Truck Parking Plaza equipped with Run-off management & treatment system within its Lease area on war foot basis to avoid any parking & congestion in Public Roads.
2. The mine shall not store the coal beyond the incubation period of coal to avoid coal fire in stock yard as well as coal seam. The mine shall take adequate preventive measures for spontaneous fire in the coal seam as well as stock yard and an action plan regarding this shall be submitted at the time of consent to operate application.
3. Mine has to submit the Transportation Management Plan to avoid any Parking of Trucks/Tippers, etc on roads prior to go for expansion so that traffic should not be suffered.
4. Mines must explore the possibility of provision of Belt / Pipe Conveyors for transportation of Coal from Quarry Pit to Mineral Stack Yard within Lease Boundary to minimize internal transportation through Haul Roads & to reduce air Pollution.
5. Mine needs to provide sensor based fixed type sprinklers along major haul roads & ensure proper water sprinkling on internal haul roads & Transportation Roads for control of road dust emission during plying of transportation vehicles.
6. Mine has to engage mechanized road sweeping systems (Vacuum type) at main paved roads, paved parking zones, etc. to maintain roads dust free
7. Mine must provide Truck Loading Silos to minimize fugitive dust emissions during loading process.
8. Mine must deploy adequate nos. of Fixed/mobile Fog cannons at all dust prone areas, Loading/Unloading areas prior to enhance the production of the mines for effective control of fugitive dust emissions in order to maintain AAQ within the Limit.
9. Mines have to explore the possibilities of converting all Kachha (Earthen) Transportation Roads to Polymer Roads for efficient management of Road dust nuisance. A proposal should be furnished to the Board within 15 days for Trial implementation.
10. The mine shall carry out plantation at inactive dumps and other vacant areas.
11. Mine has to ensure adequate dust control measures at Road (Kachha) connecting from its Exit Gate to Main Road to avoid fugitive road dust emissions during Transportation of its Iron ore in order to prevent adverse impact on its surroundings & on Human settlements.

**Solid & Hazardous Wastes Management**

1. The Mines area should be declared as single use plastic free area.
2. The Garbage/solid wastes to be generated from the Mines should be collected & disposed off in accordance with the provision under Solid Waste Management Rule 2022.
3. Hazardous wastes shall be disposed off in accordance with the Provisions under Hazardous and other Wastes (Management and Trans-Boundary Movement) Rules, 2016 and its amendments thereof.
4. Mine has to furnish its complete OB Management plan for its expansion so that Haphazard OB dumps & subsequent Pollution problem can be avoided.

24. **Written Submissions:** PP submitted the following details during the information:

**I. PP to submit the latest Routine Environmental Monitoring data to show the present air, water and noise quality level.**

Parameters	Type of Station	Baseline Stations (Period: Oct-22 to Dec 22)		REM Stations (Period: Oct-24 to Sep 25)		Standard permissible limit		
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	
Ambient Air Quality (AAQ)	<b>In Buffer Zone:</b>							NAAQS Standards
	Number of Location	9 locations		9 locations				
	Zone	Buffer-Zone		Buffer-Zone				
	Unit- $\mu\text{g}/\text{m}^3$	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	

<b>PM<sub>10</sub></b>	89.00	46.90	96.00	33.00	<b>100</b>
<b>PM<sub>2.5</sub></b>	46.80	23.10	57.00	16.00	<b>60</b>
<b>SO<sub>2</sub></b>	24.70	6.20	26.76	7.67	<b>80</b>
<b>NO<sub>x</sub></b>	27.40	6.20	45.01	9.52	<b>80</b>

**In Core Zone:**

Type of Station	Core-Zone		Core-Zone		Coal Mine GSR 742 (E)
Number of Location	2 Locations		7 Locations		Standards
<b>PM<sub>10</sub></b>	147.40	61.50	188.00	74.00	<b>250</b>
<b>PM<sub>2.5</sub></b>	86.70	31.60	75.00	32.00	<b>--</b>
<b>SO<sub>2</sub></b>	34.30	17.40	46.98	9.59	<b>120</b>
<b>NO<sub>x</sub></b>	38.70	21.10	40.78	12.25	<b>120</b>

**Ground Water Quality**

**In Buffer Zone:**

Number of Location	2 locations		2 Locations		Indian Drinking Standards (IS-10500):2012
Unit- mg/L except pH	Maximum	Minimum	Maximum	Minimum	Acceptable Standards
<b>pH</b>	6.87	6.69	7.95	6.42	<b>6.5-8.5</b>
<b>Chlorides</b>	90.90	76.90	76.87	12.00	<b>250</b>
<b>Flourides</b>	0.10	0.01	1.01	0.37	<b>1.0</b>
<b>TDS</b>	336.00	272.00	404.00	70.00	<b>500</b>
<b>Total Hardness</b>	124.00	91.00	280.00	39.22	<b>200</b>
<b>Nitrates</b>	32.20	23.60	40.85	2.05	<b>45</b>
<b>Arsenic</b>	BQL (QL=0.005)	BQL (QL=0.005)	BQL (QL=0.005)	BQL (QL=0.005)	<b>0.01</b>
<b>Cadmium</b>	BQL (QL=0.002)	BQL (QL=0.002)	BQL (QL=0.002)	BQL (QL=0.002)	<b>0.003</b>
<b>Aluminium</b>	0.07	BQL (QL=0.02)	BQL (QL=0.02)	BQL (QL=0.02)	<b>0.03</b>
<b>Zinc</b>	0.03	0.03	0.13	0.08	<b>5.00</b>

**In Core Zone:**

Number of Location	2 locations		2 locations		Indian Drinking Standards (IS-10500):2012
Unit- mg/L except pH	Maximum	Minimum	Maximum	Minimum	Acceptable Standards
<b>pH</b>	7.12	6.85	7.94	6.96	<b>6.5-8.5</b>
<b>Chlorides</b>	45.99	28.99	104.92	18.00	<b>250</b>
<b>Fluorides</b>	0.10	0.01	1.02	0.41	<b>1.0</b>
<b>TDS</b>	208.00	174.00	470.00	210.00	<b>500</b>
<b>Total Hardness</b>	118.00	104.00	293.58	119.21	<b>200</b>
<b>Nitrates</b>	2.08	1.31	19.82	2.23	<b>45</b>
<b>Arsenic</b>	BQL (QL=0.005)	BQL (QL=0.005)	BQL (QL=0.005)	BQL (QL=0.005)	<b>0.01</b>
<b>Cadmium</b>	BQL (QL=0.002)	BQL (QL=0.002)	BQL (QL=0.002)	BQL (QL=0.002)	<b>0.003</b>
<b>Aluminium</b>	BQL (QL=0.02)	BQL (QL=0.02)	BQL (QL=0.02)	BQL (QL=0.02)	<b>0.03</b>
<b>Zinc</b>	3.38	1.16	0.14	0.04	<b>5.00</b>

**Surface Water Quality**

**In Buffer Zone:**

Number of Location	2 locations		2 locations		Standards IS:2296-1982 Tolerance
Parameters (Unit- mg/L except pH)	Maximum	Minimum	Maximum	Minimum	
<b>pH</b>	7.25	6.94	7.05	6.54	<b>6.5-8.5</b>

<b>BOD</b>	2.80	2.00	2.20	2.20	<b>3</b>
<b>DO</b>	7.80	6.90	6.90	6.10	<b>4</b>
<b>Fluoride</b>	0.10	0.10	0.60	0.31	<b>1.5</b>
<b>Total Hardness</b>	102.00	41.00	115.23	15.91	<b>--</b>
<b>TSS</b>	16.00	12.00	76.00	26.00	<b>--</b>
<b>Chlorides</b>	66.98	18.99	85.66	5.87	<b>600</b>
<b>Total Coliform</b>	38	14	130	26	<b>1500</b>
<b>Nitrate</b>	3.65	2.62	5.21	4.1	<b>50</b>
<b>Zinc</b>	0.05	BQL (QL=0.02)	0.25	0.09	<b>15</b>
<b>Arsenic</b>	BQL (QL=0.005)	BQL (QL=0.005)	BQL (QL=0.005)	BQL (QL=0.005)	<b>0.2</b>
<b>Cadmium</b>	BQL (QL=0.002)	BQL (QL=0.002)	BQL (QL=0.002)	BQL (QL=0.002)	<b>0.01</b>

**In Core Zone:**

Number of Location	2 locations		2 locations		Standards IS:2296-1982 Tolerance
	Maximum	Minimum	Maximum	Minimum	
<b>Parameters (Unit- mg/L except pH)</b>					
<b>pH</b>	7.22	6.78	7.16	6.60	<b>6.5-8.5</b>
<b>BOD</b>	2.40	2.00	2.30	2.10	<b>3</b>
<b>DO</b>	7.60	7.20	6.80	6.10	<b>4</b>
<b>Fluoride</b>	0.10	0.10	0.65	0.38	<b>1.5</b>
<b>Total Hardness</b>	58.00	28.00	75.50	23.87	<b>--</b>
<b>TSS</b>	10.00	7.00	69.00	22.00	<b>--</b>
<b>Chlorides</b>	22.49	21.99	77.88	7.83	<b>600</b>
<b>Total Coliform</b>	45	14	63	12	<b>1500</b>
<b>Nitrate</b>	1.42	0.92	5.06	1.62	<b>50</b>
<b>Zinc</b>	0.05	BQL (QL=0.02)	0.14	0.09	<b>15</b>
<b>Arsenic</b>	BQL (QL=0.005)	BQL (QL=0.005)	BQL (QL=0.005)	BQL (QL=0.005)	<b>0.2</b>
<b>Cadmium</b>	BQL (QL=0.002)	BQL (QL=0.002)	BQL (QL=0.002)	BQL (QL=0.002)	<b>0.01</b>

**Noise Quality**

**In Buffer Zone:**

Time period(Day/night)	Number of Location				Standards
	2 locations		2 locations		
<b>Leq (Day) in dB(A)</b>	50.80	46.00	65.40	48.60	<b>55</b>
<b>Leq (Night) in dB(A)</b>	40.20	33.30	60.90	37.80	<b>45</b>

**In Core Zone:**

Time period(Day/night)	Number of Location				Standards
	2 locations		2 locations		
<b>Leq (Day) in dB(A)</b>	70.50	47.10	68.40	49.30	<b>75</b>
<b>Leq (Night) in dB(A)</b>	59.50	33.70	65.80	39.30	<b>70</b>

**Inference of above comparison**

The comparison indicates minor variations between the baseline values recorded during Oct–Dec 2022 and the REM values observed from Oct 2024–Sep 2025. Overall, the ambient air quality monitoring results remained within the prescribed limits, with only a few deviations (maximum values approaching the standards). These deviations can be attributed to specific local conditions prevailing on the respective sampling days, as well as differences in the sampling periods, which may reflect seasonal and temporal variations in air quality.

<b>Traffic assessment</b>	Traffic survey was conducted between 01-05-25 to 15-05-25. A cumulative assessment of the coal transportation through Sardega route has been carried out, considering this total dispatch volume of 20.0 MTPA. Out of 20.0 MTPA, 12.0 MTPA of coal from Garjanbahal OCP is being transported to Sardega Siding and 8.0 MTPA of coal from the Kulda OCP. Traffic study has been conducted at CT Road towards Sardega Siding. The PCU/hr for this road was found to be 632.70, while the V/C ratio was 0.44, which categorizes LoS in 'good' category.			
	<b>For the CT road towards Sardega Siding:</b>			
	<b>Location</b>	<b>Traffic Assessment</b>		
		<b>No of PCU's/hr</b>	<b>V/C</b>	<b>LoS</b>
Road to Sardega Siding	632.70 PCU/Hr @ 20.00 to 21.00 Hrs	0.44	C	
2 lane (Two Way) divided as per IRC: 106 -1990 - 1500 PCUs (width: approx. 12 meters)				
<b>For the road towards Laikera Siding:</b>				
Currently, 2.20 MTPA of coal from Garjanbahal OCP and 4.0 MTPA coal from Kulda OCP are being transported through Laikera Siding. Accordingly, a cumulative assessment of the coal transportation through Laikera siding road has been carried out, considering a total dispatch of 6.20 MTPA. The PCU/hr for this road was found to be 221.50, while the V/C ratio was 0.25, which categorizes LoS in the 'very good' category.				
<b>Location</b>	<b>Traffic Assessment</b>			
	<b>No of PCU's/hr</b>	<b>V/C</b>	<b>LoS</b>	
Road to Laikera Siding	221.50	0.25	B	
2 lane (Two Way) undivided as per IRC: 106 -1990 – 900 PCUs/hr (width: 9 meters)				
<b>For the road towards Kanika Siding:</b>				
Currently, 2.0 MTPA of coal from Garjanbahal OCP and 4.0 MTPA coal from Kulda OCP are being transported to Kanika Siding. Accordingly, a cumulative assessment of coal transportation through Kanika Siding Road has been carried out, based on a total dispatch of 6.0 MTPA. The PCU/hr for this road was 205.15, while the V/C ratio was 0.14, which categorizes LoS as 'excellent'.				
<b>Location</b>	<b>Traffic Assessment</b>			
	<b>No of PCU's/hr</b>	<b>V/C</b>	<b>LoS</b>	
<b>Road to Kanika Siding</b>	<b>205.15</b>	<b>0.14</b>	<b>A</b>	
2 lane (Two Way) divided as per IRC: 106 -1990 - 1500 PCUs (width:12 meters)				

## II. Proposal for Green Belt and Wind Barrier to Mitigate Air Pollution Impact on Kund Basti:

Kund village, located approximately 1560 m from the Kulda mining lease boundary, lies in the downwind direction towards the south west direction of the active quarry. For preventing the residents from being exposed to fugitive dust, noise, and particulate dispersion a protective environmental barrier is proposed along the quarry-facing boundary.

In view of the prevailing wind patterns and the proximity of Kund Village to the Kulda Opencast Coal Mine, it is proposed to establish a green belt (27.69 ha earmarked in the Kulda OCP working Plan) and wind barrier along the downwind direction of the mining operations. This strategic intervention aims to minimize the dispersion of particulate matter and other airborne pollutants toward the habitation zone. The plantation will use a three-tier structure consisting of:

1. Tier 1: Ground shrubs for surface dust interception
2. Tier 2: Medium-height trees for mid-level dust filtering
3. Tier 3: Tall canopy species for vertical dust blocking
4. Native species selected for dust tolerance and fast growth will be used.

The proposed green belt will serve as a natural buffer, enhancing dust suppression through multi-layered vegetation. Species selection will prioritize native, fast-growing, and dust-tolerant varieties to ensure ecological compatibility and long-term sustainability. Additionally, a wind barrier [Modular steel mesh or perforated sheets designed to reduce wind velocity and trap particulate matter of 1246 meters (8 m height)] , as submitted will be reinforced with engineered structures and vegetation to further arrest fugitive emissions.

## III. PP to submit the timeline with budgetary provision for pending partially complied conditions pointed out by

**IRO, MoEF&CC:**

S. No.	Activities under partially complied conditions	Timelines	Budget Crs	Whether Covered in EIA EMP Budget	Whether Covered in PH Budget																													
1	Implementation of pipe conveyor from inpit up to Sardega siding to eradicate coal transportation by Diesel tippers	Dec 2026	520.40 (Awarded)	No	No																													
2	Third party Audit for compliance of EC condition for the year 2024 and 2025 shall be submitted	Mar 2026	0.10	No	No																													
3	A 6 – lane bypass road including service road from north boundary of Siarmal mine towards Taparia shall be constructed	Jan 2027	356.80 (Awarded)	No	No																													
4	Retaining walls along the OB dumps shall be constructed <i>(Covered in EMP budget)</i>	Sep 2026	2.53	Yes	No																													
5	Conservation Plan Basundhara River shall be implemented <i>(Covered in PH Budget)</i>	Dec 2026	15.00	No	Yes																													
6	Avenue plantation of 1,00,000 nos. of plants along the Duduka-Kanika coal transportation road <i>(Covered in PH Budget)</i>	Oct 2026	14.73 (Awarded)	No	Yes																													
7	Plantation of 30,000 nos. along the Bankibahal-Bedabahal coal transportation road and 15,000 nos. along the Bankibahal-Taparia coal transportation road <i>(Covered in PH Budget)</i>	Oct 2026	6.91 (Awarded)	No	Yes																													
8	R&R site/ cash compensation shall be provided to the remaining eligible PAFs (62 nos.) and employment shall be given to the remaining eligible PAPs (29 nos.) <i>(Covered in PH Budget)</i>	Nov 2026	367.15	No	Yes																													
9	Greenbelt of 7.5 m shall be developed all along the mine boundary	Oct 2026	10.73	Yes	No																													
10	Plantation shall be carried out as follows: <i>(Covered in PH Budget)</i>	Year wise from 2025-26 till Oct 2027	66.01	Yes	Yes																													
	<table border="1"> <thead> <tr> <th rowspan="2">Year</th> <th colspan="2">Internal Plantation (within ML area)</th> <th colspan="2">External Plantation (Outside ML area)</th> </tr> <tr> <th>Plants (nos.)</th> <th>Area (ha)</th> <th>Plants (nos.)</th> <th>Area (ha)</th> </tr> </thead> <tbody> <tr> <td>2025-26</td> <td>14,226</td> <td>5.69</td> <td>60,000</td> <td>1.50</td> </tr> <tr> <td>2026-27</td> <td>1,50,000</td> <td>60.00</td> <td>95,000</td> <td>Avenue</td> </tr> <tr> <td>2027-28</td> <td>2,01,000</td> <td>80.40</td> <td>2,40,000</td> <td>13.00</td> </tr> <tr> <td><b>Total</b></td> <td><b>3,65,226</b></td> <td><b>146.09</b></td> <td><b>3,95,000</b></td> <td><b>14.50 + Avenue RKM</b></td> </tr> </tbody> </table>	Year	Internal Plantation (within ML area)		External Plantation (Outside ML area)		Plants (nos.)	Area (ha)	Plants (nos.)	Area (ha)	2025-26	14,226	5.69	60,000	1.50	2026-27	1,50,000	60.00	95,000	Avenue	2027-28	2,01,000	80.40	2,40,000	13.00	<b>Total</b>	<b>3,65,226</b>	<b>146.09</b>	<b>3,95,000</b>	<b>14.50 + Avenue RKM</b>				
Year	Internal Plantation (within ML area)		External Plantation (Outside ML area)																															
	Plants (nos.)	Area (ha)	Plants (nos.)	Area (ha)																														
2025-26	14,226	5.69	60,000	1.50																														
2026-27	1,50,000	60.00	95,000	Avenue																														
2027-28	2,01,000	80.40	2,40,000	13.00																														
<b>Total</b>	<b>3,65,226</b>	<b>146.09</b>	<b>3,95,000</b>	<b>14.50 + Avenue RKM</b>																														
11	Project proponent shall obtain the renewed ground water clearance from CGWA for water being utilized for the said project.	Jan 2026	--	No	No																													

**Deliberations and Observation of the Committee:**

**25. The Committee noted the following:**

i. MoEF&CC originally accorded EC to M/s Mahanadi Coalfields Limited for Kulda Expansion Opencast Project for the production capacity of 10 MTPA within the ML area of 878.290 Ha vide EC letter dated 24.12.2002. Later EC expansion was granted for the increased production capacity of 14 MTPA within the reduced ML area of 634.205 Ha. vide letter dated 22.03.2018 with the EC validity of one year. Then EC validity expansion was granted for the same vide letter dated 28.03.2019. Another validity expansion of EC was granted vide letter dated 10.01.2020. Later PP obtained EC expansion as per the provisions of 7(ii) for 20% (16.80 MTPA) and 40% (19.60 MTPA) increase in production capacity as per OM dated 10.09.2017 and another 50% (21 MTPA) increase in production capacity as per Ministry's OM dated 07.05.2022 vide EC letters dated 02.03.2021, 14.02.2022 and 25.05.2022 respectively. Ministry further accorded EC amendments for the said project vide EC letters dated 09.01.2023, 05.01.2024 and 21.02.2025 respectively.

Committee observed that the EAC has also recommended the regularization of EC expansion obtained as per the provisions of Ministry's OM dated 07.05.2022 and the same is under process by the Ministry.

ii. The instant proposal is submitted by M/s Mahanadi Coalfields Limited for Kulda Expansion Opencast Project (having production capacity of 21 MTPA with increase in the ML area from 634.205 Ha to 921.305 Ha), located at villages: Balinga, Tumulia, Siarmal, Kulda & Bankibahal; Tehsil: Himgir; District: Sundargarh; State: Odisha.

iii. The proposal was forwarded by MoEF&CC to SPCB for seeking comments on the basis Ministry's O.M dated 14.01.2025 and SOP dated 08.10.2025. The comments from SPCB vide no. 20019/IND-II-CTE-MISC-398 dated 11.11.2025. Committee opined that the PP shall comply with all the conditions prescribed by the SPCB vide letter dated 11.11.2025 (also mentioned in para 35.4.18 above).

iv. The above-mentioned ECs have been implemented.

v. The proponent accorded ToR for the said project vide letter no. J-11015/10/1995/-IA-II(M) dated 13.12.2022.

vi. The EAC took into consideration the project site through KML file on the Google Earth presented by the project proponent along with DSS of the project site on PARIVESH.

vii. The project does not fall in the Critically Polluted Area (CPA)/ Severely Polluted Area (SPA), as per CEPI assessment 2018.

viii. The project involves total 354.06 Ha. of forestland out of which, PP has accorded Stage – II forest clearance for 227.890 Ha. (including 8.52 Ha. which is part of Basundhara Washery) of forestland vide letter dated 08.08.2007 and Stage – I forest clearance for 134.69 Ha. of forestland vide letter dated 10.07.2025. Total broken forestland as on date is 219.37 Ha. and there is no violation of Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980.

ix. Committee observed that 8.52 Ha. of forestland on which Stage – II forest clearance has been accorded is part of Basundhara Washery for which a separated EC vide letter dated 31.10.2019 has been accorded. This washery is yet to be established and will meet its coal requirement from Kulda OCP.

x. Committee observed that the grazing land of 28.68 Ha. is involved in the said project. Committee opined that the PP shall not carry out any mining activities on the same till the time alternate grazing land is allotted as per the rules of the State Government.

xi. The project is not located within 10 km of any ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve/ tiger corridor/ elephant corridor etc. PP submitted that Wildlife Conservation Plan for expansion of Kulda Opencast Coal Mine Project has been prepared by DFO, Sundargarh Division and a payment of Rs. 1115.12 Lakh as approved by CCF (WL-III), office of PCCF has been made by the PP.

xii. Committee observed that 929.830 Ha. of lease area has been acquired by the PP under CBA (A&D) Act 1957. Out of the total acquired area, 921.305 Ha. is the mine lease area of the said project and remaining 8.52 Ha. has been re-diverted from existing Kulda OCP to Basundhara Washery.

xiii. Committee deliberated on the Certified Compliance Report obtained by the PP from the Ministry's RO vide letter dated 10.07.2025 and the action taken report was submitted on the same vide letter dated 09.08.2025. Committee observed that there are a few partially complied conditions and a non-complied condition. PP has submitted a time bound action plan for the same. Committee opined that the same shall be implemented as committed by the PP.

xiv. The Mining Plan and Mine Closure Plan of Kulda Expansion OCP (21.0 MTPA) for ML area of 921.305 Ha. has been approved by MCL board vide letter no MCL/SBP/CS/BD-250/Exct/2022/12740 dated 17.08.2022.

xv. Method of Mining to be adopted shall be Opencast. Excavation of Coal is through Shovel-Dumper in OB and Surface miner in coal. Total Geological Reserve is 438.90 MT with 360.45 MT (including depleted reserves) as mineable reserves. Out of total mineable reserve, 339.56 MT (Remaining extractable reserve – 155.63 MT (as on 01.04.2025)) are available for extraction. Percentage of extraction is 77.37 % w.r.t. geological reserve. Life of mine is 8 year as on 01.04.2025.

xvi. The project has 02 OB dump (within ML area), one of 69.04 Ha. with 90 m height and 38.33 Mm<sup>3</sup> of OB and other is 109.89 Ha. OB dump site area in which OB shall be dumped with 31.94 Mm<sup>3</sup> in this project. Also, 1 internal OB dump (over backfilled area) in an area of 524.22 Ha. with 257.56 Mm<sup>3</sup> of OB is envisaged in the project.

xvii. Committee deliberated on the method of transportation of coal being used for the said mine and further proposed to be used. Committee observed that from pit to surface the coal is being transported by dumpers and tippers. From surface to siding the coal is being transported to different railway sidings. 8 MTPA is being transported to Sardega railway siding through 4.1 km. of coal transportation road and 2 km of closed conveyor belt. 4 MTPA is being transported Kanika railway siding through 30 km coal corridor. 4 MTPA is being transported to Laikera siding through 12 km. coal corridor and remaining 5 MTPA is being transported to local consumers through road sale, up to the distance of 30-60 km. The coal is being loaded from sidings through either rapid loading system or wharf wall loading. Committee observed that the Barpalli bulb siding is under construction right now. And once the same is commissioned, the entire 21 MTPA of coal will be transported from the Barpalli bulb railway siding (which is proposed to be commissioned by July 2028) and till the railway siding the coal will be transported using closed conveyor belt up to the distance of 2.5 km. However, only 10% of the total coal production shall be allowed to be transported by road up to the distance 100 km. Committee opined that the PP shall take all necessary mitigation measures for the road transportation proposed in the instant project. PP shall develop thick plantation on both the sides of the coal transportation roads and the conveyor belt. The coal proposed to be transported by road shall be done through tarpaulin covered trucks. Water sprinkling shall be done on continuous basis for dust suppression. Regular maintenance shall be carried out of all the roads being used for transportation of coal.

xviii. The baseline data for the said project has been collected during October – December 2022 (post monsoon season). Committee opined that since it's almost 3 years that the Baseline data was collected and asked the PP to submit the regular environmental monitoring data. PP submitted the same. Committee during the appraisal observed that the village named Kund Basti is having high AAQ parameters and asked the PP to accordingly take the mitigation measures. PP submitted that Kund village, located approximately 1560 m from the Kulda mining lease boundary, lies in the downwind direction towards the south west direction of the active quarry. For preventing the residents from being exposed to fugitive dust, noise, and particulate dispersion a protective environmental barrier is proposed along the quarry-facing boundary. Accordingly the greenbelt along with the wind barrier will be installed in the downwind direction for the same.

xix. The total water required for the said project is 4412 KLD (Potable: 736 KLD, Industrial: 3676 KLD). Industrial water is being supplied from the mine sump stored water, while potable water requirements are met from the reservoir at the Basundhara East old quarry of MCL. The potable water is used, followed by treatment in the water treatment plant of 7200 KLD located on the mine premises. The application for renewal of CGWA NoC has been submitted and the approval is awaited. Further PP submitted that no water body is proposed to be diverted in the said project.

xx. The power required for the said project is 9.721 MW, which is sourced from the 220 kV Main sub-station at Garjanbahal. No diversion of Hi tension/ transmission lines have been proposed.

xxi. The Committee noted that the Project Proponent (PP) requested the Odisha State Pollution Control Board (OSPCB) on 08.09.2023 to conduct the Public Hearing (PH) for the proposed expansion of the Kulda Opencast Coal Mining Project, following which PH notices dated 21.06.2024 and 04.07.2024 were issued but later challenged before the Hon'ble High

Court of Orissa in W.P. (C) No. 18034/2024. By Order dated 03.10.2024, the Court directed that the hearing be rescheduled at Tumulia and Sardega, extended to all resettlement sites, and that the EIA report be circulated in all project-affected Gram Panchayats. In compliance, a fresh advertisement was issued on 08.01.2025 in The New Indian Express and Samaja, and OSPCB conducted village-wise hearings from 18.02.2025 to 20.02.2025, presided over by the Additional District Magistrate, at Balinga (Kuisira), Bankibahal, Sardega, Tumulia, and Siarmal. The hearings recorded attendance of about 1300 persons, received 174 representations during the proceedings and 960 representations directly at the SPCB, and highlighted key issues such as dust pollution, groundwater scarcity, inadequate drinking water supply, excessive road sprinkling, RoR issues, delays in R&R benefits, employment concerns, demand for a separate service road, and loss of tree cover. Subsequent petitions—W.P.(C) Nos. 5151, 5153, and 5154 of 2025—resulted in the High Court's Order dated 21.03.2025, directing village-level meetings from 02.04.2025 to 04.04.2025, videography of the entire process, and submission of a detailed objection report, which the ADM/Sub-Collector submitted to MoEF&CC on 11.04.2025 and 25.04.2025; MoEF&CC thereafter forwarded the compiled objections to MCL on 09.05.2025 for preparation of a village-wise Action Plan.

The Committee noted that the Project Proponent (PP) submitted the village-wise Action Plan on 02.06.2025, which was subsequently examined by the EAC in its meetings held on 23.07.2025 and 12.09.2025. The Committee further noted that, independent of the Action Plan and as part of the district-level oversight mechanism, the District Magistrate constituted a separate Monitoring Committee through Order No. 7584 dated 07.07.2025, comprising district officials, SPCB representatives, MCL officers, and Sarpanches of the affected Gram Panchayats. The Committee observed that the issues raised during the Public Hearing and the village-level consultations have been substantively addressed in the Action Plan, supported by a budget allocation of 68,261.32 lakhs. It emphasized that the Action Plan must be implemented in letter and spirit, with the Monitoring Committee providing continuous oversight, and directed the PP to submit implementation status reports to the Regional Office along with the six-monthly compliance reports.

xxii. The capital cost of the existing project is Rs. 622.21 Crores and Capital Cost for implementing EMP is Rs. 1349.08 Lakhs, while the recurring cost of implementing EMP is Rs. 512.70 Lakhs. The same shall be implemented in a time bound manner effectively and the compliance of the same shall be submitted to the Ministry's RO along with the six-monthly compliance report.

xxiii. Committee deliberated on the details of plantation and observed that, the plantation will be carried out in a total of 633.59 Ha. by the end of mine life. Total plantation carried out till 31.03.2025 is in 118.918 Ha. of the ML area. Remaining is proposed to be completed by the end of the mine life in progressive manner. A 7.5 m. wide greenbelt, consisting of at least 3 tiers around mine boundary will be developed as greenbelt/ cover as per CPCB/ MoEF&CC, New Delhi guidelines. Local and native species will be planted with a density of 2500 trees per hectare. Total no. of 9,04,028 saplings will be planted and nurtured in 633.59 hectares in 08 years (balance life of mine + Post closure period). Committee also deliberated on the drone video played during the meeting and found the plantation to be inadequate. Committee opined that the plantation on the OB dumps shall be done with the native species.

xxiv. A total of 572 PAFs (1972 project-affected persons) were involved during the R&R of the project. Resettlement of the 62 nos. of remaining PAFs and employment to 29 nos. of remaining persons eligible for employment shall be provided at the earliest possible.

xxv. Committee during the presentation of the drone video observed that, a large number of trees are proposed to be cut down of the Lalma forest, in order to carry out the mining activities. Committee opined that prior permission from the competent authority for the tree felling shall be obtained.

xxvi. Biodiversity study shall be carried out for the Lalma forest which is proposed to be cut down and the said study shall also include the details of carbon sequestration from the forest. The said study shall be completed within 15 months from the date of grant of EC and the report shall be submitted to the ministry.

xxvii. Committee observed that there are no legal issue/ violation w.r.t i) Environment (Protection) Act, ii) Air (P&CP) Act, Water (P&CP) Act, Forest Conservation Act, Wildlife Protection Act, CRZ Notification, MMDR Act, Factories Act.

xxviii. Committee opined that the PP shall align its activities with the sustainable development goals.

xxix. The Committee noted that the EIA reports are in compliance of the ToR issued for the project, reflecting the present environmental status and the projected scenario for all the environmental components.

xxx. The EAC noted that the Project Proponent has given an undertaking that the data and information given in the application and enclosures are true to the best of his knowledge and belief and no information has been suppressed in the EIA/EMP reports. If any part of data/information submitted is found to be false/ misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.

#### **Recommendations of the Committee:**

26. Based on the discussions held and the documents submitted, the EAC **recommended** the proposal of Environment Clearance for “*Kulda Expansion Opencast Project (having production capacity of 21 MTPA with increase in the ML area from 634.205 Ha to 921.305 Ha) by M/s Mahanadi Coalfields Limited, located at villages: Balinga, Tumulia, Siarmal, Kulda & Bankibahal; Tehsil: Himgir; District: Sundargarh; State: Odisha*”, under the provisions of EIA Notification, 2006 (as amended), subject to the compliance of the following specific conditions in addition to the general/Standard EC conditions (**Annexure-I**).

27. The MoEF&CC has examined the proposal in accordance with the provisions contained in the Environment Impact Assessment (EIA) Notification, 2006 & further amendments thereto and based on the recommendations of the EAC hereby accords Environmental Clearance to **M/s Mahanadi Coalfields Limited** for “*Kulda Expansion Opencast Project (having production capacity of 21 MTPA with increase in the ML area from 634.205 Ha to 921.305 Ha), located at villages: Balinga, Tumulia, Siarmal, Kulda & Bankibahal; Tehsil: Himgir; District: Sundargarh; State: Odisha*” subject to compliance of the Specific Environmental safeguard Conditions in addition to the standard EC conditions (**Annexure-I**).

28. The proponent shall obtain all necessary clearances/approvals that may be required before the start of the project. The Ministry or any other competent authority may stipulate any further condition for environmental protection. The Ministry or any other competent authority may stipulate any further condition for environmental protection.

29. The Environmental Clearance to the aforementioned project is under provisions of EIA Notification, 2006. It does not tantamount to approvals/consent/permissions etc. required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes, as applicable, to the project.

30. The PP is under obligation to implement commitments made in the Environment Management Plan, which forms part of this EC.

31. Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

#### **32. General Instructions:**

(i) The project proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days indicating that the project has been accorded environment clearance and the details of MoEF&CC website where it is displayed.

(ii) The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn must display the same for 30 days from the date of receipt.

(iii) The project proponent shall have a well laid down environmental policy duly approved by the Board of Directors (in case of Company) or competent authority, duly prescribing standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions.

(iv) Action plan for implementing EMP and environmental conditions along with responsibility matrix of the project proponent (during construction phase) and authorized entity mandated with compliance of conditions (during operational phase) shall be prepared. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Six monthly progress of implementation of action plan shall be

reported to the Ministry/Regional Office along with the Six-Monthly Compliance Report.

(v) Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

(vi) The Regional Office of this MoEF&CC shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

(vii) Validity of EC is as per the provision of EIA Notification, 2006 and its subsequent amendment.

33. This issue with an approval of the Competent Authority.

Yours faithfully,  
**(Sundar Ramanathan)**  
**Scientist 'F'**  
Tel: 011- 20819378  
Email- r.sundar@nic.in

### **Copy To**

1. The Secretary, Ministry of Coal, Shastri Bhawan, New Delhi.
2. The Deputy Director General of Forests, Regional office (EZ), Ministry of Environment & Forests, A-31, Chandershekharpur, Bhubaneswar- 751023 (Odisha).
3. The Secretary, Department of Environment & Forests, Government of Orissa, Secretariat, Bhubaneswar (Odisha).
4. The Member Secretary, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, Delhi – 32.
5. The Chairman, Orissa State Pollution Control Board, Parivesh Bhawan, A/118, Nilkanthanagar, Unit VIII, Bhubaneswar - 751012 (Odisha).
6. District Collector, Sundargarh, Government of Odisha.
7. PARIVESH Portal

**Annexure 1**

### **Specific EC Conditions for (Mining Of Minerals)**

#### **1. Specific Conditions**

<b>S. No</b>	<b>EC Conditions</b>
<b>1.1</b>	The forestland of 134.69 Ha on which stage – I forest clearance has been accorded shall not be disturbed until the stage – II forest clearance is accorded for the same as per the provisions of Van (Sanrakshan Evam Samvardhan) Adhinyam, 1980.
<b>1.2</b>	Project proponent shall comply with all the conditions prescribed by the SPCB in its comments received vide letter no. 20019/IND-II-CTE-MISC-398 dated 11.11.2025.
<b>1.3</b>	Project proponent shall provide the alternate grazing land in place of the 28.68 Ha. of grazing land is involved in the said project, as per the rules of the State Government.
<b>1.4</b>	The Wildlife Conservation Plan for the Kulda Expansion Project shall be implemented in a time bound manner.
<b>1.5</b>	Project proponent shall comply with the non-conformities as mentioned in the certified compliance report as per the action plan given below:

S. No	EC Conditions									
S. No.	Activities under partially complied conditions	Timelines	Budget Crs	Whether Covered in EIA EMP Budget	Whether Covered in PH Budget					
1	Implementation of pipe conveyor from inpit up to Sardega siding to eradicate coal transportation by Diesel tippers	Dec 2026	520.40 (Awarded)	No	No					
2	Third party Audit for compliance of EC condition for the year 2024 and 2025 shall be submitted	Mar 2026	0.10	No	No					
3	A 6 – lane bypass road including service road from north boundary of Siarmal mine towards Taparia shall be constructed	Jan 2027	356.80 (Awarded)	No	No					
4	Retaining walls along the OB dumps shall be constructed <i>(Covered in EMP budget)</i>	Sep 2026	2.53	Yes	No					
5	Conservation Plan Basundhara River shall be implemented <i>(Covered in PH Budget)</i>	Dec 2026	15.00	No	Yes					
6	Avenue plantation of 1,00,000 nos. of plants along the Duduka-Kanika coal transportation road <i>(Covered in PH Budget)</i>	Oct 2026	14.73 (Awarded)	No	Yes					
7	Plantation of 30,000 nos. along the Bankibahal-Bedabahal coal transportation road and 15,000 nos. along the Bankibahal-Taparia coal transportation road <i>(Covered in PH Budget)</i>	Oct 2026	6.91 (Awarded)	No	Yes					
8	R&R site/ cash compensation shall be provided to the remaining eligible PAFs (62 nos.) and employment shall be given to the remaining eligible PAPs (29 nos). <i>(Covered in PH Budget)</i>	Nov 2026	367.15	No	Yes					
9	Greenbelt of 7.5 m shall be developed all along the mine boundary	Oct 2026	10.73	Yes	No					
10	Plantation shall be carried out as follows: <i>(Covered in PH Budget)</i>	Year wise from 2025-26 till Oct 2027	66.01	Yes	Yes					
						Year	Internal Plantation (within ML area)	External Plantation (Outside ML area)		
							Plants (nos.)	Area (ha)	Plants (nos.)	Area (ha)
						2025-26	14,226	5.69	60,000	1.50
						2026-27	1,50,000	60.00	95,000	Avenue
						2027-28	2,01,000	80.40	2,40,000	13.00
<b>Total</b>	<b>3,65,226</b>	<b>146.09</b>	<b>3,95,000</b>	<b>14.50 + Avenue RKM</b>						
11	Project proponent shall obtain the renewed	Jan 2026	--	No	No					

S. No	EC Conditions						
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;"></td> <td style="text-align: center;">ground water clearance from CGWA for water being utilized for the said project.</td> <td style="width: 20%;"></td> <td style="width: 20%;"></td> <td style="width: 20%;"></td> <td style="width: 20%;"></td> </tr> </table>		ground water clearance from CGWA for water being utilized for the said project.				
	ground water clearance from CGWA for water being utilized for the said project.						
1.6	After commissioning of Barpalli Bulb railway siding (i.e, by July 2028), entire coal shall be transported through the Barpalli railway siding and only 10% of the total coal production shall be allowed to be transported by road to the local consumers up to a distance of 100 km.						
1.7	Road transportation of coal shall be done with all the precautionary measures. Coal shall be transported through tarpaulin covered trucks, regular water sprinkling shall be done on the coal transportation road, regular maintenance of the trucks/ tippers shall be carried out, regular maintenance of the dust suppression machinery shall be carried out. Also, thick plantation shall be carried out by planting the saplings of not less than 4 feet height on both the sides of the coal transportation road within 3 years after the date of grant of EC.						
1.8	Project proponent shall carryout regular maintenance of the potholes on roads, repair and maintenance of roads, scrapping of material fallen on roads, and removal of scraps from mining areas. Along with this, PP shall make sure that all the pollution control equipments are in good working condition and maintenance of those equipments is regularly carried out.						
1.9	Thick plantation shall be carried out within 3 years after the date of grant of EC around the Kund Basti village to mitigate the high parameters of the Ambient Air Quality.						
1.10	No OB dumping shall be done outside the mine lease area.						
1.11	Project proponent shall not divert any river, nallah or any other water body for carrying out the mining operations in the said mine.						
1.12	NOC from CGWA shall be obtained for the total water requirement of 4412 KLD.						
1.13	The budget proposed for Public Hearing and Public Consultation through written representations (for next 3 years) is Rs. 68261.32 Lakhs. The budget proposed shall be kept in a separate account. The Project Proponent (PP) shall implement the final village-wise Action Plan prepared in compliance with the directions of the Hon'ble High Court of Orissa vide Order dated 21.03.2025 in the matter of W. P. (C) 5151 of 2025 titled Bantiraj Seth & Anr. v. Union of India & Ors. PP shall submit the progress report regarding the implementation of action plan to concerned RO along with the six monthly compliance report. PP shall strengthen the existing Primary Health Centre (PHC) & Community Health Centre (CHC) in the study area for better public health. Compliance status in this regard shall be submitted along with the six monthly compliance to the concerned Regional Office of MoEF&CC.						
1.14	The Project Proponent shall ensure strict compliance with the Action Plan under the supervision of the District-level Monitoring Committee constituted by the Collector/DM, Sundargarh vide Order No. 7584 dated 07.07.2025. The PP shall submit village-wise progress reports, including details of physical works, timelines, expenditure, and corrective actions, to the Ministry's Regional Office every six months.						
1.15	Project proponent shall implement the protective measure proposed in Environment Management Plan (EMP) in a time-bound manner. The budget earmarked for the same is Rs. 1349.08 Lakhs (Capital) and Rs 512.70 Lakhs (recurring) and should be kept in separate accounts and audited						

S. No	EC Conditions
	annually. The implementation status along with the amount spent with documentary proof shall be submitted to the concerned Regional Office for the activities carried out during the previous year.
1.16	R&R for the 62 nos. of remaining PAFs and 29 nos. of remaining persons eligible for employment shall be completed.
1.17	Biodiversity study including carbon sequestration study shall be carried out for the Lalma forest for the part where the trees are proposed to be cut down, through a NABET accredited consultant. The said study shall be completed within 15 months from the date of grant of EC and the study report shall be submitted to the Ministry.
1.18	By the end of the mine life, the PP shall develop plantation in a total of 633.59 Ha. A 7.5 m wide greenbelt, consisting of at least 3 tiers plantation by the saplings of not less than 4 feet height around mine boundary will be developed within 3 years after the date of grant of EC as greenbelt/cover as per CPCB/ MoEF&CC, New Delhi guidelines. Local and native species will be planted with a density of 2500 trees per hectare. Total no. of 9,04,028 saplings will be planted and nurtured in 633.59 hectares in 08 years (balance life of mine + Post closure period). Plantation shall also be developed on the OB dumps. Apart from this, PP shall also carryout community plantation and shall distribute 50,000 plant saplings mostly fruit bearing species to the villagers to plant and nurture the same every year with incentive till the life of mine. Compliance in this regard shall be submitted to the Ministry's Regional Office along with the six-monthly compliance report.
1.19	PP shall carry out a survey of the impact of blasting in the nearby area/villages by involving a reputed institute and take remedial measures as proposed by the respective institute. Further, provide compensation if any for any damage caused. PP must give crop compensation to the farmers in case there is decrease in the production due to the mining activities. Compliance status in this regard shall be submitted along with the six monthly compliance to the concerned Regional Office.
1.20	PP shall create a "Public Grievance Redressal and Monitoring System" for resolving any issues related to the pollution of mines and complaint has to resolve as soon as possible not beyond 30 days. In this regard, adequate awareness to be spread among the public to address their grievance to company with simple and easy manner and for which company needs to devise the mechanism. The same shall be reported to IRO within 3 months. A logbook to be maintained by PP on "Public Grievance Redressal and Monitoring System.
1.21	PP shall emphasize for using and developing Renewable Energy for its consumption in its utilities/machinery/equipment instead of using electricity from Grid/generated from Thermal Power Plants. PP shall install at least 5 MW solar power generation units. Compliance status in this regard shall be submitted to the concerned Regional Office along with the six monthly compliance report and also be uploaded on the web portal of the company.
1.22	Project proponent shall ensure that all types of plastic waste generated from the plant shall be stored separately in isolated area and disposed of strictly adhering to the Plastic Waste Management Rules 2016 (as amended). In pursuant to the Ministry's OM dated 18/07/2022. PP shall also create awareness among the people working in the project area as well as in its surrounding area on the ban on Single Use Plastic (SUP) in order to ensure compliance of Ministry's Notification published by the Ministry on 12/08/2021. A report along with photograph on the measures taken shall also be included in the six monthly compliance report being submitted by PP.

S. No	EC Conditions
1.23	Hon'ble Supreme Court in an Writ Petition(s) Civil No. 114/2014, Common Cause v/s Union of India & Ors vide its judgement dated 8th January, 2020 has directed the Union of India to impose a condition in the mining lease and a similar condition in the environmental clearance and the mining plan to the effect that the mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. Compliance of this condition after the mining activity is over at the cost of the mining lease holders/Project Proponent". The implementation report of the above said condition shall be sent to the Regional Office of the MoEF&CC.
1.24	Third-party audit (by NEERI/CIMFR/IIT/NITs) for air & water quality shall be carried out annually to keep a check on the same. PP shall implement the recommendations of the audit and submit the outcome of the audit to the concerned RO of MoEF&CC.
1.25	Project proponent is advised to implement the 'Ek Ped Maa Ke Naam' Campaign which was launched on 5th June 2024 on the occasion of the World Environment Day to increase the forest cover across the Country. This plantation drive is other than Green belt development. The action in this regard shall be submitted concerned RO in six monthly report.

#### Standard EC Conditions for (Mining of minerals)

#### 1. Statutory Compliance

S. No	EC Conditions
1.1	The Environmental clearance shall be subject to orders of Hon'ble Supreme Court of India, Hon'ble High Courts, NGT and any other Court of Law, from time to time, and as applicable to the project.
1.2	The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
1.3	Solid/ hazardous waste generated in the mines needs to addressed in accordance to the Solid Waste Management Rules, 2016/Hazardous & Other Waste Management Rules, 2016.
1.4	The maximum production at any given time shall not exceed the limit as prescribed in the EC.
1.5	Validity of EC is as per life of the mine mentioned in EC letter or 30 years as per EIA Notification, 2006 and its amendments therein.

#### 2. Air Quality Monitoring And Mitigation Measure

S. No	EC Conditions
2.1	Project proponent shall obtain requisite consent from State Pollution Control Board for amalgamated mine with a production capacity of 21 MTPA.
2.2	Adequate ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely particulates, SO <sub>2</sub> and NO <sub>x</sub> . Location of the stations shall be decided based on the meteorological data, topographical features and

S. No	EC Conditions
	environmentally and ecologically sensitive receptors in consultation with the State Pollution Control Board.
2.3	The Ambient Air Quality monitoring in the core zone shall be carried out to ensure the Coal Industry Standards notified vide GSR 742 (E) dated 25th September, 2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly reported to the Ministry/Regional Office and to the CPCB/SPCB.
2.4	Effective control measures such as regular water sprinkling/rain gun/ Fog cannon /mist sprinkling etc., shall be carried out in critical areas prone to air pollution with higher level of particulate matter all through the coal transport roads, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled regularly. It shall be ensured that the ambient air quality parameters conform to the norms prescribed by the Central/State Pollution Control Board.
2.5	Major approach roads shall be black topped and properly maintained.
2.6	Vehicular emissions shall be kept under control and regularly monitored. All the vehicles engaged in mining and allied activities shall operate only after obtaining 'PUC' certificate from the authorized pollution testing centres.
2.7	PP should Install Wind breaker/shield arrangement along the railway siding for reducing the dust propagation in upwind direction. PP should plant tree saplings of not less than 4 feet height along with wind shield to make it more environment friendly.
2.8	The raw coal shall be stacked properly at earmarked site (s) within stockyards fitted with wind breakers/shields. Adequate measures shall be taken to ensure that the stored mineral does not catch fire.
2.9	PP shall submit an action plan for using and developing Renewable Energy for its consumption in its utilities/machinery/equipment instead of using electricity from Grid/ generated from Thermal Power Plants. PP shall install atleast 5 MW additional solar power generation units.
2.10	PP shall install the weather monitoring system along with two CAAQMS shall be installed in which all the parameters like PM10, PM2.5, SO2, NOX shall be monitored.

### 3. Water Quality Monitoring And Mitigation Measures

S. No	EC Conditions
3.1	The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25th September, 2000 and as amended from time to time by the Central Pollution Control Board.
3.2	The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No.J-20012/1/2006-IA.11 (M) dated 27th May, 2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.

S. No	EC Conditions
3.3	The project proponent shall not alter major water channels around the site. Appropriate embankment shall be provided along the side of the river/nallah flowing near or adjacent to the mine. The embankment constructed along the river/nallah boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the river front side, stabilized with plantation so as to withstand the peak water pressure preventing any chance of mine inundation.
3.4	Garland drains (of suitable size, gradient and length) around the critical areas i.e. mine shaft and low lying areas, shall be designed keeping at least 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine sites. The sump capacity shall also provide adequate retention period to allow proper settling of silt material of the surface runoff
3.5	The water pumped out from the mine, after siltation, shall be utilized for industrial purpose viz. watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly before monsoon and maintained properly.
3.6	Industrial wastewater from coal handling plant and mine water shall be properly collected and treated so as to conform to the standards prescribed under the Environment (Protection) Act, 1986 and the Rules made thereunder, and as amended from time to time. Oil and grease trap shall be installed before discharge of workshop effluent. Sewage treatment plant (STP) of adequate capacity shall be installed for treatment of domestic wastewater.
3.7	An integrated surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations shall be prepared, considering the presence of any river/rivulet/pond/lake etc., with impact of mining activities on it and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the provisions of the approved Mining Plan/ EIA-EMP submitted to this Ministry and the same should be done with due approval of the concerned State/GoI Authority. The construction of embankment to prevent any danger against inrush of surface water into the mine should be as per the approved mining plan and as per the permission of DGMS.
3.8	The project proponent shall take all precautionary measures to ensure reverian/ riparian ecosystem in and around the coal mine upto a distance of 5 km. A revarian /riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.
3.9	Industrial effluent and domestic wastewater shall be treated in the Effluent treatment Plant (ETP) and Sewage Treatment Plant (STP). After treatment, treated water shall be reused for plantation.

#### 4. Noise And Vibration Monitoring And Prevention

S. No	EC Conditions
4.1	Adequate measures shall be taken for control of noise levels as per Noise Pollution Rules, 2016 in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with personal protective equipments (PPE) like ear plugs/muffs in conformity with the prescribed norms and guidelines in this regard. Adequate awareness programme for users to be conducted. Progress in usage of such accessories to be monitored.
4.2	The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure

S. No	EC Conditions
	of the workmen at vulnerable points in the mine premises, and report in this regard shall be submitted to the Ministry/RO on six-monthly basis.

### 5. Mining Plan

S. No	EC Conditions
5.1	Project proponent shall obtain star rating as per the guidelines of Ministry of Coal.
5.2	Mining shall be carried out under strict adherence to provisions of the Mines Act 1952 and subordinate legislations made there-under as applicable.
5.3	No change in mining method, calendar programme and scope of work shall be made without obtaining prior approval of the Ministry of Environment, Forest and Climate Change (MoEF&CC).
5.4	Mining shall be carried out as per the approved mining plan (including Mine Closure Plan) abiding by mining laws related to coal mining and the relevant circulars issued by Directorate General Mines Safety (DGMS).
5.5	Environmental conditions of mining place shall be rendered ergonomic and air breathable with adequate illumination in conformance with DGMS standards.
5.6	No mining shall be carried out in forest land without obtaining Forestry Clearance as per Van (Sanrakshan Evam Samvardhan) Adhiniyam, Act 1980 and also adhering to the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 read with provisions of Indian Forest Act, 1927.

### 6. Land Recalvation

S. No	EC Conditions
6.1	Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1:50,000 scale or as notified by Ministry of Environment, Forest and Climate Change (MOEF&CC) from time to time shall be submitted to MOEFCC/Regional Office (RO).
6.2	Post-mining land be rendered usable for agricultural/forestry purposes and shall be handed over to the respective State Government, as specified in the Guidelines for Preparation of Mine Closure Plan, issued by the Ministry of Coal dated 27th August, 2009 and subsequent amendments.
6.3	The final mine void depth should preferably be as per the approved Mine Closure Plan, and in case it exceeds 40 m., adequate engineering interventions shall be provided for sustenance of aquatic life therein. The remaining area shall be backfilled and covered with thick and alive top soil. Post-mining land be rendered usable for agricultural/forestry purposes and shall be diverted. Further action will be treated as specified in the guidelines for Preparation of Mine Closure Plan issued by the Ministry of Coal dated 27th August, 2009 and subsequent amendments.
6.4	The entire excavated area, backfilling, external OB dumping (including top soil) and afforestation

S. No	EC Conditions
	plan shall be in conformity with the “during mining”/”post mining” land-use pattern, which is an integral part of the approved Mining Plan and the EIA/EMP submitted to this Ministry. Progressive compliance status vis-a-vis the post mining land use pattern shall be submitted to the MOEFCC/RO.
6.5	Further, it may be ensured that as per the time schedule specified in mine closure plan it should remain live till the point of utilization. The topsoil shall temporarily be stored at earmarked site(s) only and shall not be kept unutilized. The top soil shall be used for land reclamation and plantation purposes. Active OB dumps shall be stabilized with native grass species to prevent erosion and surface run off. The other overburden dumps shall be vegetated with native flora species. The excavated area shall be backfilled and afforested in line with the approved Mine Closure Plan. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forest and Climate Change/ Regional Office.
6.6	The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.

#### 7. Public Hearing And Human Health Issues

S. No	EC Conditions
7.1	Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored weekly. The report on the same shall be submitted to this ministry & it's RO on six-monthly basis.
7.2	The project proponent shall undertake occupational health survey for initial and periodical medical examination of the personnel engaged in the project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS circulars. Besides regular periodic health check-up, 20% of the personnel identified from workforce engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any, as amended time to time.
7.3	Personnel (including outsourced employees) working in core zone shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.
7.4	Skill training as per safety norms specified by DGMS shall be provided to all workmen including the outsourcing employees to ensure high safety standards in mines.
7.5	Effective arrangement shall be made to provide and maintain at suitable points conveniently situated, a sufficient supply of drinking water for all the persons employed.
7.6	The project proponent shall follow the mitigation measures provided in this Ministry's OM No.Z11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.

S. No	EC Conditions
7.7	PP should conduct epidemiology study for analysis of the distribution, patterns and determinants of health and disease conditions in defined populations.

### 8. Corporate Environment Responsibility

S. No	EC Conditions
8.1	The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental/forest/wildlife norms/conditions. The company shall have defined system of reporting infringements/deviation/violation of the environmental/forest/wildlife norms/conditions and/or shareholders/stake holders.
8.2	A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.
8.3	Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.

### 9. Miscellaneous

S. No	EC Conditions
9.1	The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
9.2	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
9.3	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
9.4	The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
9.5	The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

S. No	EC Conditions
9.6	The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.
9.7	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
9.8	The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
9.9	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change.
9.10	Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
9.11	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
9.12	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
9.13	The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
9.14	The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Trans-boundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.