



Government of India
Ministry of Environment, Forest and Climate Change
(Impact Assessment Division)

To,

The Project Officer
KULDA EXPANSION OCP MAHANADI COALFILEDS LIMITED
Project Office, Kulda Expansion OC Project, P. O.-Basundhara, Dist.-
Sundergarh, State-Orissa,,Sundargarh,Orissa-770076

Subject: Grant of Environmental Clearance (EC) to the proposed Project Activity under the provision of EIA Notification 2006-regarding

Sir/Madam,

This is in reference to your application for Environmental Clearance (EC) in respect of project submitted to the Ministry vide proposal number IA/OR/CMIN/416510/2023 dated 31 Jan 2023. The particulars of the environmental clearance granted to the project are as below.

1. EC Identification No.	EC25A001OR160276
2. File No.	J-11015/10/1995-IA-II(M)
3. Project Type	Expansion
4. Category	A
5. Project/Activity including Schedule No.	1(a) Mining of minerals
6. Name of Project	KULDA EXPANSION OPENCAST PROJECT (21 Mty)
7. Name of Company/Organization	KULDA EXPANSION OCP MAHANADI COALFILEDS LIMITED
8. Location of Project	Orissa
9. TOR Date	N/A

The project details along with terms and conditions are appended herewith from page no 2 onwards.

Date: 26/12/2025

(e-signed)
Sundar Ramanathan
Scientist F
IA - (Coal Mining sector)

Note: A valid environmental clearance shall be one that has EC identification number & E-Sign generated from PARIVESH. Please quote identification number in all future correspondence.

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Subject: Kulda Expansion Opencast Project (having production capacity of 21 MTPA within the ML area of 634.205 Ha) by M/s Mahanadi Coalfields Limited, located at villages: Balinga, Tumulia, Siarmal, Kulda & Bankibahal; Tehsil: Hemgir; District: Sundargarh; State: Odisha - For environment clearance dated 24/05/2022 issued under O.M. No. IA3-22/10/2022-IA.III dated 07/05/2022 [Availed total 50% relaxation of OM under clause 7(ii) of EIA Notification, 2006] - regarding.

M/s. Mahanadi Coalfields Limited has made an online application vide proposal no. IA/OR/CMIN/416510/2023 dated 31/01/2023 along with copy of EIA/EMP report seeking regularization of EC dated 24.05.2022 issued under O.M. No. IA3-22/10/2022-IA.III dated 07/05/2022 [Availed total 50% relaxation of OM under clause 7(ii) of EIA Notification, 2006].

2. The proposal was initially considered in the 40th meeting of EAC (Coal) held on 16th February 2023–17th February 2023. The proposal was deferred for want of additional information. The proponent submitted the ADS reply vide letter dated 07.08.2023. Subsequently, the proposal was again considered in the 48th EAC (Coal) held on 28th Aug 2023 for reconsideration. The proposal was again deferred, and ADS raised on 19th September 2023. Afterwards, the project sought an amendment to the EC dated 24.05.2022, which MoEF&CC granted on 05th Jan 2024 and 21st Feb 2025. The reply of ADS was submitted to MoEF&CC vide letter dated 10th April 2025 and 10th Oct 2025. The project was further listed for reconsideration in the 34th EAC meeting held on 30th October 2025. The MoM for the same may be seen using the web link: parivesh.nic.in.

Details submitted by the project proponent

3. **Previous Approvals:** PP submitted the details of previous approvals in the chronological order as follows:

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.	J-11015/10/1995-IA II(M)	Expansion EC	14.00	634.205	22/03/2018	Implemented
3.	J-11015/10/1995-IA. II(M)	EC validity extension	14.00	634.205	28/03/2019	Implemented
4.	J-11015/10/1995-IA.II(M)	EC validity extension	14.00	634.205	10/01/2020	Implemented
5.	J-11015/10/1995-IA.II(M)	Expansion EC (under 7(ii) clause of EIA Notification, 2006 (Ministry OM dtd 15 th September 2017)	16.80	634.205	02/03/2021	Implemented
6.	J-11015/10/1995-IA.II(M)	Expansion EC (under 7(ii) clause of EIA Notification, 2006 (Ministry OM dtd 15 th September 2017)	19.60	634.205	14/02/2022	Implemented
7.	J-11015/10/1995-IA. II(M)	Expansion EC (under 7(ii) clause of EIA Notification,	21.00	634.205	24/05/2022	Being implemented

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
		2006 (Ministry OM dtd 07.05.2022)				
8.	J-11015/10/1995-IA. II(M)	Amendment in EC	21.00	634.205	09/01/2023	Being implemented
9.	J-11015/10/1995-IA-II(M)	Amendment in EC	21.00	634.205	05/01/2024	Being implemented
10.	J-11015/10/1995-IA-II(M)	Amendment in EC	21.00	634.205	21/02/2025	Being implemented

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 OSPCB, 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
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	--
Total		183.93	--

In pursuance to the OM dated 07/05/2022, certified compliance report of the EC granted for 40% expansion, along with EIA/EMP report, for the additional capacity of 10% was submitted on PARIVESH portal on 01.03.2023 by the project proponent. Based on these documents, Ministry has to ascertain the adequacy of the proposed environmental safeguards and stipulate necessary conditions, if required, which shall be monitored as a part of the EC compliance monitoring.

Details of the proposal, as ascertained from the proposal documents and as revealed from the discussion held during the meeting, are given as under:

4. **Certified Compliance Report:** In compliance to the Ministry's O.M dated 07.05.2022 the project was earlier inspected by IRO, MoEF&CC, Bhubaneswar office on 24.01.2023 and CCR obtained on 31.01.2023. As the report's validity has been lapsed, the project was again inspected by the RO, MoEF&CC, Bhubaneswar on 16.05.2025 and CCR was issued vide letter no. 101-1014/2023/EPE dated 10.07.2025. Action taken report of the issued CCR dated 10.07.2025 was submitted by the project proponent on 09.08.2025.

5. **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: 21°42'00" to 21°44' 30" N; Longitude: 83° 43'00" to 83°46'30"

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

Mining Lease: PP submitted the following details of 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	The ML area of 634.205 ha is part of this land acquired area; the rest of the area is kept for future expansion of the mine.

Forest Area: The project involved total 227.890 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	----
	Total	227.890		

Total broken forestland is 219.37 Ha and there is no violation of Van (Sanrakshan Evam Samvardhan) Adhiniyam, 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.

PP further submitted that for the existing project, an amount of Rs. 43,182,750.00/- has been deposited for the implementation of the regional wildlife management plan submitted on 13.08.2014 & 04.08.2015.

As per the Wildlife Protection Act, 2022, schedule I species are found to be present in the study area. A "Site Specific Wildlife Conservation Plan for Expansion of Kulda Opencast Coal Mine Project by MCL, located in IB Valley Coal Field (Basundhara Area)" was prepared by DFO, Sundargarh Division."

Also, it is to be noted as per the report, there is no wildlife Corridor in the Division. However, movement of elephant is very erratic around the Zone of Impact. Better presence of elephant is felt near to Garjan Pahad RF in Hemgir range. Movement of wildlife like Fox, Wild boar, Rabbit, Jungle Cat, Jungle fowl etc was reported by forester as well as surveyors. However, there is sparse presence & movement in this area.

As per site specific wildlife conservation plan an amount of Rs. 1115.12 Lakh has been approved by CCF (WL-III), office of PCCF.

Other Sensitive Receptors (within 5km radius of the ML area)

Project site proximity to sensitive area	Distance in km (within 5 km from the ML area)		
i. Habitation	Habitation	Distance in km	Direction (w.r.t to mine boundary)
	Barpali I R&R site	0.5-1 Km	N
	Chatenpalli R&R site (Siarmal village displaced)	20 Km	NE
	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
	Basundhara DAV public School	3.22	N
	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
	Homeopathy center – Tumulia	3.0 km	
	Public health center -Duduka	6.0 km	

6. Method of Mining and Mining Plan –

The Mining Plan (including Mine Closure Plan) was approved MCL Board in its 248th board meeting vide minutes No. MCL/SBP/CS/BD248/Exct/2022/12600, dated 20.06.2022. Further Addendum Mining Plan & Mine Closure Plan approved by Board vide letter no. MCL/SBP/CS/CR-06/2024-25/14284, dated 24-08-24. Further 2nd Addendum Mining Plan & Mine Closure Plan approved by Board vide letter no. MCL/SBP/CS/BD-281/Exct/2025/14879, dated 08-07-25.

- 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. (19.60 MTPA to 21.0 MTPA i.e. Phase III 50%)
- ii. Excavation of Coal is through Shovel-Dumper in OB and Surface miner in coal.
- iii. Total Geological Reserve is 245.71 Mt with 200.66 Mt (including depleted reserves) as mineable reserves. Out of total mineable reserve, 199.08 (Remaining reserve – 15.15 Mt (as on 01.04.2025)) are available for extraction. Percentage of extraction is 81.02 % w.r.t. Geological reserve.
- iv. 03 major seams with maximum thickness ranging from 1.84 to 34.07 are workable. Overall Grade of Coal is D to G (Avg.- G12), Stripping ratio is 0.57 (As on 01.04.2025), while gradient is $2.75^0 - 8^0$
- v. Life of mine is 1 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 Mm³ of OB and other is 91.462 ha OB dump site area in which OB shall be dumped in future expansion project. Also, 1 internal OB dump (over backfilled area) in an area of 211.47 ha with 93.50 Mm³ of OB is envisaged in the project.
- vii. Total quarry area is 321.91 ha out of which backfilling will be done in 211.47 ha and final mine void will be created in an area of 17.64 ha. The depth of the mine void will be 175 m. This mine shall be further expanded. On closure of the mine after further expansion, the final depth of the mine will be 40m by filling OB from nearby mines and fly ash from neighbouring thermal power plants.
- viii. Land-use details:

A. Pre-mining:

S. No.	Type of Land	Within ML	Total
(a)	Agricultural	259.794	259.794
(b)	Forest	227.890	227.890
(c)	Waste land	146.521	146.521
(d)	Grazing	--	--
(e)	Surface water bodies	--	--
	Total	634.205	634.205

B. Post mining:

S. No.	Category	Land use (area in ha)					Total
		Plantation/ grass carpeting	Water body	Dip side slope & haul road	Undis- turbed	Built-up area	
1	Excavation Area	211.47	17.64	92.80	-	-	321.91
2	OB dump Area (External)	160.502	-	-	-	-	160.502

S. No.	Category	Land use (area in ha)					
		Plantation/ grass carpeting	Water body	Dip side slope & haul road	Undis- turbed	Built-up area	Total
3	Infrastructure	25.23	-	-	-	100.927	126.157
4	Embankment	3.51	-	-	-	14.049	17.559
5	Other area, including safety zone & Road/ stream Diversion	8.077	-	-	-	-	8.077
	Total	408.789	17.64	92.80	-	114.976	634.205

7 Details of transportation:

- (i) In-pit to surface: Through dumpers and tippers
- (ii) Surface to siding: Through CT Road to TRH; TRH to Sardega siding through closed conveyor belt.
- (iii) Siding to loading: Through Rapid Loading system & wharf wall loading.

Name of the mine	Capacity of the mine in MTPA	Production target for FY 2024-25 MTPA	Coal evacuation rail arrangements with existing capacities			Road sale
			Sardega Siding	Kanika Siding	Laikera Siding	
			40 MTPA	8 MTPA	6.67 MTPA	--
Kulda Opencast project	21	21	8 MTPA	4 MTPA	4 MTPA	5 MTPA
	Through Railway sidings: 16 MTPA		Towards Sardega siding through road (4.1 km) and belt conveyor (2 km) Addl. 4.245 Km belt is to be constructed.	Through dedicated concrete coal corridor of 30 km and afterwards through wharf wall loading onto the wagons at siding	Through dedicated concrete coal corridor of 12 Km and afterwards through wharf wall loading onto the wagons at siding	Through road (30-60 km)

- (iv) Quantity being transported by rail/ road/ conveyor/ ropeway:

Name of the mine	Capacity of the mine in MTPA	Through Rail in MTPA	Through Road in MTPA
Kulda Opencast project	21	16	5

- (v) Proposed changes in Transportation

Name of the mine	Capacity of the mine in MTPA	Coal evacuation rail arrangements with existing capacities	
		Barpalli Bulb Siding (To be commissioned in June 2027)	Sardega Siding
		90 MTPA	40 MTPA
Kulda Opencast project	21	21 MTPA	--
	Through Railway sidings: 21 MTPA	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.

8. Details of reclamation: The reclamation plan includes i) Afforestation shall be done progressively covering an area of: 408.789 ha at the end of mining. This will include:

- a. Reclaimed external OB dump (in ha): 160.502 ha (OB dump within ML area)
- b. Internal dump (in ha): 211.47 ha will be reclaimed with plantation/grass carpeting.

- c. Green belt (in ha): 8.077 ha (includes safety zone)
- d. Density of tree plantation (in no of plants): 2500 nos. per ha.
- e. Void (in ha) at a depth of (in m) which is proposed to be converted into water body: 17.64 ha, Depth 175 m – This mine shall be further expanded. On closure of the mine after further expansion, the final depth of the mine will be 40m by filling OB from nearby mines and fly ash from neighbouring thermal power plants.
- f. Others in ha (such as excavation area along ML boundary, along roads and infrastructure, embankment area and in township located outside the lease etc): 28.74 ha (Infrastructure: 25.23 ha + Embankment: 3.51 ha).

9. **Baseline data:**

Period	Post Monsoon: Oct 2022 to Dec 2022			
AAQ parameters at 10 Locations (min and max)	Air quality-10 Stations (Core zone-2, Buffer zone -8) Core Zone: PM ₁₀ = 61.5 to 147.4 µg/m ³ PM _{2.5} = 31.6 to 86.7 µg/m ³ SO ₂ = 17.4 to 34.3 µg/m ³ NO _x = 21.1 to 38.7 µg/m ³ CO = 0.29 to 0.48 mg/m ³ Buffer Zone: PM ₁₀ = 47.8 to 89 µg/m ³ PM _{2.5} = 23.6 to 46.8 µg/m ³ SO ₂ = 7.0 to 24.7 µg/m ³ NO _x = 10.0 to 27.4 µg/m ³ CO = 0.20 to 0.35 mg/m ³			
Incremental GLC Level	The incremental increase in the values were projected to be 23.25 µg/m ³ for PM ₁₀ , 2.94 µg/m ³ for PM _{2.5} , 10.38 µg/m ³ for SO ₂ , and 13.72 µg/m ³ for NO _x <i>in the core zone</i> , while 2.97 µg/m ³ for PM ₁₀ , 0.41 µg/m ³ for PM _{2.5} , 0.84 µg/m ³ for SO ₂ , and 1.28 µg/m ³ for NO _x <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 ₃ (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 ₃ (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
	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	Core Zone/			
	S. No.	Parameter	Minimum	Maximum
	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 Chromiu (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																						
	Buffer Zone																									
	Sl. No.	Parameter	Minimum	Maximum																						
	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)	Core zone: 47.1 to 70.5 dB(A) for the daytime and 33.7 to 59.50 dB(A) for the Night time. Buffer zone: 46.00 to 50.80 dB(A) for the daytime and 33.30 to 40.20 dB(A) for the Night time.																									
Traffic assessment study findings	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. For the CT road towards Sardega Siding: <table><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><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></table> 2 lane (Two Way) divided as per IRC: 106 -1990 - 1500 PCUs (width: approx. 12 meters) For the road towards Laikera Siding: 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. <table><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><tr><td>Road to Laikera Siding</td><td>221.50</td><td>0.25</td><td>B</td></tr></table> 2 lane (Two Way) undivided as per IRC: 106 -1990 – 900 PCUs/hr (width: 9 meters) For the road towards Kanika Siding: 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,				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 Laikera Siding	221.50	0.25	B
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 Laikera Siding	221.50	0.25	B																							

	while the V/C ratio was 0.14, which categorizes LoS as ‘excellent’.															
	<table><tr><td rowspan="2">Location</td><td colspan="3">Traffic Assessment</td></tr><tr><td>No of PCU’s/hr</td><td>V/C</td><td>LoS</td></tr><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></table>	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 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	This is a running mine. For present Kulda OCP an amount of Rs. 43,182,750.00/- has deposited for the implementation of Regional Wild Life Management Plan (RWLMP) to the Forest Department.															
Water Requirement	Source of Water: a) Surface Water – Nil b) Ground Water – 4141 KLD Ground Water Intersection: 8.0 to 8.5 m Water Requirement: Potable: 721 KLD Industrial: 3420 KLD 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 M/s MCL. The same arrangement will continue for the expansion project till Integrated Water Supply Scheme is implemented. Industrial water demand is met from existing Kulda OCP mine sump water. 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 Status: Renewal Application has been accepted & scrutiny of application has been completed by CGWA. Payment of Rs. 64,82,400/- as one-year advance charges of groundwater abstraction has 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. 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) & 04.08.2025 (234th meeting). 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.															

10. Water Requirement: Total water demand for the project is 4141 KLD (Potable: 721 KLD, Industrial: 3420 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. 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.

11. 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.

12. Solid and Hazardous Waste:

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

S. No.	Type of Waste	Source	Quantity: Tons per annum	Mode of Treatment & Disposal
2	Plastic Waste	Colonies, office premises, regional stores & workshops	26	Waste segregation and selling to authorised recyclers.
3	e-waste	Administrative buildings	0.22	Auctioned to authorised recyclers by SPCB
4	Batteries waste	HEMM workshop	3.605	Auctioned to authorised recyclers by SPCB
5	Biomedical waste	Area Dispensary	3.65	Waste Segregation & Incineration
6	Filters	HEMM Workshop	0.98	Handed over to CHTDSF, authorised by SPCB
7	Used Oil	HEMM Workshop	4.05	Auction to recyclers authorised by SPCB.
8	Oily Sludge	ETP	1193.06	Handed over to CHTDSF, authorised by SPCB.
9	Oil & grease	HEMM Workshop	0.12	Auction to recyclers authorized by SPCB.
10	Overburden	Quarry area	51448133	Backfilling

13. Status of implementation of action plan as per the Public Consultation held on 10.01.2018 for the EC dated 22.03.2018:

Details of advertisement given	New Indian Express (English), Dharitri (Odiya), Date of Advertisement: 07.12.2017
Date of public consultation	10.01.2018
Venue	Stadium Field near Jagannath Mandir, Basundhara Area.
Presiding Officer	1. Sri Bhaskar Chandra Turuk, ADM, Sundargarh 2. Sri Niranjan Mallick, Regional Officer, SPCB
Number of Person Attended Hearing	Total 300 people attended the meeting.
Number of representations received in writing from the district and outside of district, please give details:	A total of 300 people attended the meeting, out of which 285 representations were received as per the PH proceedings. 61 written representations were obtained within the district.
Major issues raised	Enhancing mitigative measures on Air pollution, Water pollution, Drinking water Employment.

Action Plan as per MoEF&CC O.M. dated 30.09.2020: -

As life of the project is only 1 year (as on 01.04.2025), the project has incurred majority of its expenditure in the following heads as per issues raised in the public hearing dtd 10.01.2018. Further, the project is in the process of expanding its lease area (ToR obtained by MoEF&CC vide dtd 13.12.2022), for which a public hearing was held from 18.02.2025 to 20.02.2025. A fresh action plan has been prepared by the project for an amount of Rs. 682.61 Crs, which will be implemented in the expansion phase of the project.

S. No.	Area of Focus	Expenditure Rs. in lakhs
1.	Air pollution/Water Pollution control measures	4100.00
2.	Plantation	2335.00
3.	Skill development initiatives/Employment	832 .00
4.	Drinking water supply	2453.35
Total		9720.35

Apart from the above, for Infrastructure development (Construction of Roads, & railway infra.), an expenditure of **Rs. 2590.25 Crs** has been incurred for eco-friendly dispatch of coal. Compliance of the earlier PH held on 10.01.2018 is provided below:

S. No.	Issues raised by the Public	Action taken by the project along with budgetary provisions till date					
1.	Air Pollution due to coal dust.	a. Various control measures like deploying of Fog cannons (mobile and fixed), mechanical road sweeper, wheel washing system, instant shower system, vertical greenery etc. has been taken up inside and outside the project.					
		b. Besides the above, infrastructure projects such as the doubling of the Sardega rail line and the Barpali bulb loop (90 Mty) are in the pipeline.					
		c. The control measures have been significantly increased and the details with expenditure are as follows:					
		S. No.	Air Quality Control Measures	Capacity/ Quantity	Commissioned period	Investment In Rs.	Remarks
		Air Quality Control Measures					
		1.	Mobile fog cannons (40 m throw)	11	2020-2024	440 Lakhs	Operational
		2.	Mobile water sprinklers	19	2018-2023	2280 Lakhs	Operational
		3.	Fixed mist Sprinklers	250	2019-2024	50 Lakhs	Operational
		4.	Trolley-mounted Fog Cannons	8	2020-2023	70 Lakhs	Operational
		5.	Mechanical Road Sweepers	4	May 2023	272 Lakhs	Operational
		6.	Wheel Washing Units	3	Oct 2022	108 Lakhs	Operational
		7.	Instant Shower Systems	3	May 2018	60 Lakhs	Operational
		8.	Weighbridge/Boom barrier	17/3	2010-2023	145 Lakhs	Operational
		9.	Wind Barrier System	1	Oct 2024	500 Lakhs	Operational
		10.	Plantation up to 2024-25	427373	2018-2024	2335 Lakhs	Completed
		Apart from above, the following implemented infrastructures further have led to the significant reduction in fugitive emissions due to transportation of coal.					
		Sl. No.	Name of Infrastructure	Capacity/ Quantity	Commissioned on	Investment In Rs.	Remarks
		Rail & Road Infrastructure					
		1	Jharsuguda - Sardega Railway line (Single line)	53.1 Km	April 2018	1129 Cr.	Completed
		2	Sardega Spur siding	20.0 Mty	April 2018	17.99 Cr	Completed
		3	Concrete road to Sardega Spur siding.	6.0 Km	March 2019	19.50 Cr	Completed.
4	Transport Road from Siarmal to Bankibahal	2.7 Km	January 2020	16.36 Cr	Completed		
5	Strengthening & widening of Transport Road from Dudka to Kanika siding	25 Km	July 2020	209.40 Cr	Completed		
6	RLS with surge bin adjacent to Sardega siding	20 Mty	Dec 2024	403.66 Cr.	Completed		

S. No.	Issues raised by the Public	Action taken by the project along with budgetary provisions till date					
		7	Coal corridor road from Bankibahal to Bhedabahal	31 Km	2023-2024	676.00 Cr.	Completed
		8	Duduka to Toparia Road	22.2 Km	2023-2024	118.34 Cr.	Completed
2	Water Pollution : Pollution due to Coal Dust	1. Garland drains (6632m x 1.5m x 1.5m) and Berm (4809m x 1.5m x 1.5m) has been provided all around the mine boundary and External dump with a cost of 30 lakhs. 2. Catch drains (3349m x 1m x 1m) has been provided at coal stocks and internal dump at a cost of Rs. 15 lakhs. 3. The water so collected in the catch drains is channelized into the mine sump (capacity - 21 lakhs cum) of Kulda OCP, which is further utilized for industrial purposes like dust suppression and firefighting, green belt development etc. 4. The drains are cleaned and de-silted pre-monsoon and post-monsoon, annually twice. 5. A retaining wall along the external OB dump of (500m X 0.40m X 2m) for Rs. 71 lakhs have been completed on 30.06.2021 which arrest the surface runoff of OB dumps. 6. An ETP of capacity 450 KLD has been provided for the workshop, and the treated water is directed into the mine sump, ensuring zero discharge. The oil and grease traps are also operational and working efficiently. The monitoring report of the effluent of ETP is being submitted to the IRO, MoEF&CC, regularly. The Cost of Modification of ETP is 59.00 Lakhs.					
3	Drinking Water Supply to peripheral villages	1. Most of the villages have been shifted to the R&R sites constructed by MCL, which have tap water provisions with Overhead tanks. 2. Further, artificial water harvesting ponds have been constructed to cater for the needs of local people. 3. Drinking water supply is being done for far peripheral villages during the summer (90 days) through water tankers after treatment of mine water through water treatment plant established in the mine. 4. As per requirement MCL is supplying drinking water to all the nearby villages in consultation with district administration. 5. A total of Rs. 253.85 Lakhs has been spent on supplying the drinking water to the peripheral villages in last 8 years.					
4	Employment for unemployed youth	Employment for unemployed youth		Provided		To be provided	
		Direct Employment		345 nos.		35 nos. are under process	
		Indirect employment		489 nos. have been employed.		61 nos.	
		(Skill development Initiatives)		Under various programs as detailed below:			
		1. Under the ‘CCDP-Utthan’ Comprehensive Community Development Programme, 6174 families living in 40 villages of Sundargarh, Jharsuguda, Angul and Sambalpur districts have been given training on livelihood and skill development for five and half years commencing from 2018-19. Training has been given for cattle development, goat development, backyard poultry farming, fodder development programme, Agri horticulture development programme, awareness creation and capacity building programme etc. Beneficiaries: 6174 families; Expend. ₹ 20.29 Crore. 2. Multi-Skill Training Programme: A MoU was signed between MCL and Central Institute of Petrochemicals Engineering & Technology, Centre for Skilling & Technical Support, Bhubaneswar. Under this project, a six-month multi-skill training on electrical,					

S. No.	Issues raised by the Public	Action taken by the project along with budgetary provisions till date
		mechanical, plumbing, and agricultural tools is being given to the unemployed youths among the project-affected families. Expenditure: Rs. 41.45 Lakhs. 3. Ahaar Mandal & Desi Beej Ghar Programme: In association with Project 'Ahaar Mandal', an initiative of promoting organic farming among the rural community of Hemgir block, Sundargarh district, under CSR of MCL: Beneficiaries: 200 SC & ST farmers of 10 villages-₹ 25 Lakhs. 4. Desi Beej Ghar: The project to provide support for cultivation & preservation of indigenous seeds and create an eco-system for marketing the product to fellow farmers through seed bank. The project was implemented in the Hemgir block, Sundargarh district. Overall, 200 farmers have been provided training on mechanisms for the preservation of indigenous seeds. Beneficiaries: 200 farmers ₹ 22.53 lakhs. Besides this, there are scopes of indirect employment in the mines. The villagers are being employed in various departments of Kulda OCP for looking after day-to-day work on a contract basis.

EMP Budget: Total Capital Costs is Rs. 622.21 crores (including additional 319.25 Crs for expansion), Cost for implementing EMP is Rs. 1349.08 Lakhs (capital) while recurring cost estimated was Rs.365.74 Lakhs.

S. No.	Description of Item	Existing (Rs. in Lakh)			
		Capital Cost (Budget)	Recurring Cost (Estimated)	Expenditure against Capital Cost As on date	Recurring Cost (actual)
i.	Dust suppression cost	478.49	23.93	6357	381.42
ii.	ETP & STP	176.23	8.82	59.00	3.54
iii.	Garland and Storm water drainage	183.60	9.18	95.20	4.76
iv.	Compensatory afforestation cost	211.01	10.56	67.51	4.05
v.	Arboriculture including avenue plantation	114.50	5.73	1648.23	98.89
vi.	Rainwater Harvesting	22.80	1.14	1.56	0.08
vii.	Peripheral Village community development	127.45	6.38	1788.23	107.29
viii.	Environment data generation	35.00	300	48.14	413.04
	Total	1349.08	365.74	10064.87	1013.07

14. Plantation: 211.47 ha of Backfilled quarry area, which shall be reclaimed with plantation. 8.077 ha (includes safety zone, etc.) of green belt will be created, 64.45% w.r.t ML area (634.205 ha) will be brought under green cover. Details of the plantation already done and further proposed to be carried out is given below:

S. No.	Category	Plantation proposed in ha	Plantation done in ha
1.	Backfilled area reclaimed with plantation	211.47	61.88
2.	Embankment	3.510	3.510
3.	Safety Zone & Green belt area	8.077	15.297
4.	OB dumps (within ML area)	160.502	9.800
5.	Infrastructure	25.23	41.911
	Total	408.789	132.398

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

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

16. Project Cost: The capital cost of the existing project is Rs.622.21 Crores and the capital cost for environmental protection measures is proposed as Rs. 1349.08 Lakhs. The annual recurring cost towards the environmental protection measures is proposed as Rs. 365.74 Lakhs.

17. Details of pending litigation: As on date, no Court cases is pending for the existing project.

18. Written Submission: PP submitted the following during the meeting:

PP submitted the following during the meeting:

i. PP to provide a plantation programme for at least 2 years and not less than 20,000 Saplings.

Reply: Currently, Kulda OCP has a 1-year mine life with a post-closure phase of 3 years. As per the MP&MCP and EIA EMP, the current scenario is presented herewith.

Sl. no.	Particulars	Actual achieved. in ha as on 30.09.2025	As per approved Mining Plan in ha
1	Total excavated area	321.91	321.91
2	Backfilled Area*	161.67	211.47
3	OB dumping	69.04	160.502
4	Plantation in the Backfilled area	65.39	211.47

**Backfilling is still undergoing and yet to obtain RL level, hence the part which has been completely technically reclaimed has been planted, i.e. 65.39 ha*

Accordingly, the plantation programme for Kulda OCP is provided below in the table.

S. no.	Year	Internal Plantation (within ML area)		External Plantation (Outside ML area)	
		Plants (nos.)	Area (ha)	Plants (nos.)	Area (ha)
1	2025-26	14,226	5.69	60,000	1.50

S. no.	Year	Internal Plantation (within ML area)		External Plantation (Outside ML area)	
		Plants (nos.)	Area (ha)	Plants (nos.)	Area (ha)
2	2026-27	1,00,000	40.00	95,000	Avenue
3	2027-28	1,00,000	40.00	40,000	8.00
4	2028-29	1,51,000	60.40	2,00,000	5.00
	Total	3,65,226	146.09	3,95,000	14.50 + Avenue RKM

ii. PP to revisit the ATR to CCR, obtained vide F.No.101-1014/2023/EPE dtd 10.07.2025 from IRO, MoEF&CC.

Reply: The following summary is presented below based on the CCR obtained from IRO vide F.No.101-1014/2023/EPE dtd 10.07.2025 from RO, MoEF&CC. Details are submitted in the para 34.6.3 mentioned above.

EC letter no.	Total conditions	Complied /Being complied	Partially complied/non-compliances	Total conditions	Complied /Being complied	Assured to comply
<i>As per IRO's letter vide no. 101-1014/2023/EPE dated 10.07.2025 communicated to project.</i>				<i>As per project's ATR submitted on 09.08.2025 Self assessment</i>		
21.02.2025	7	3	4	7	6	1
05.01.2024	8	5	3	8	7	1
09.01.2023	5	5	0	5	5	0
24.05.2022	6	6	0	6	6	0
14.02.2022	101	73	28	101	93	8
02.03.2021	82	79	3	82	82	0
10.01.2020	9	9	0	9	9	0
22.03.2018	69	66	3	69	68	1
Total	287	246	41	287	276	11
Compliance %: 85.71				Compliance %: 96.00 (approx.)		

Observation and deliberation of the EAC:

19. Committee after deliberations noted the following:

- M/s Mahanadi Coalfields Limited (MCL) has originally obtained the EC for the said project vide letter dated 24.12.2002, for the production capacity of 10 MTPA within the ML area of 878.290 Ha. Later EC expansion was granted for the production capacity of 14 MTPA within the reduced ML area of 634.205 Ha vide letter dated 22.03.2018 and its validity extension was granted vide letter dated 28.03.2019 and 10.01.2020. Later another EC expansion was granted for the increased production capacity of 16.80 MTPA, 19.60 MTPA and 21 MTPA (to avail 50% dispensation as per Ministry's OM dated 07.05.2022) within the existing lease area of 634.205 Ha vide letter dated 02.03.2021, 14.02.2022 and 24.05.2022 respectively.
- The above-mentioned project is implemented and the mine is under operation.
- The instant proposal is for reconsideration of EC obtained vide letter dated 24.05.2022 to avail 50% dispensation as per Ministry's OM dated 07.05.2022. PP applied for the same by delay of more than one month beyond the prescribed time limit of six months. The delay took place due to collection of baseline data in October 2022 – December

2022 (post monsoon). Said aspect was also deliberated in the 40th EAC meeting held on 16-17 February 2023.

- iv. The proposal was initially considered in the 40th meeting of EAC (Coal) held on 16th February 2023–17th February 2023. The proposal was deferred for want of additional information. The proponent submitted the ADS reply vide letter dated 07.08.2023. Subsequently, the proposal was again considered in the 48th EAC (Coal) held on 28th Aug 2023– Reconsideration for EC. The proposal was again deferred, and ADS raised on 19th September 2023. Afterwards, the project sought an amendment to the EC dated 24.05.2022, which MoEF&CC granted on 05th Jan 2024 and 21st Feb 2025. The reply of ADS dtd 19th September 2023 was submitted to MoEF&CC vide letter dtd. 10th April 2025, and subsequently ADS dtd 17th April 2025 was raised by MoEF&CC. For which reply has been submitted by PP vide letter dtd 10th Oct 2025.
- v. 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.
- vi. Project does not fall in the Critically Polluted Area (CPA)/ Severely Polluted Area (SPA), as per CEPI Assessment 2018.
- vii. The project involves total 227.80 Ha of forestland and Stage – II forest clearance has been obtained vide letter no. 8-176/1997-FC, dated 08.08.2007. Total broken forestland is 219.37 Ha and there is no violation of Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980.
- viii. 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, there is no wildlife Corridor in the Division. However, movement of elephant is very erratic around the Zone of Impact. Better presence of elephant is felt near to Garjan Pahad RF in Hemgir range. Movement of wildlife like Fox, Wild boar, Rabbit, Jungle Cat, Jungle fowl etc was reported by forester as well as surveyors. PP submitted that, an amount of Rs. 43,182,750.00/- has been deposited for the implementation of the regional wildlife management plan submitted on 13.08.2014 & 04.08.2015.

A “Site Specific Wildlife Conservation Plan for Expansion of Kulda Opencast Coal Mine Project by MCL, located in IB Valley Coal Field (Basundhara Area)” was prepared by DFO, Sundargarh Division.” As per site specific wildlife conservation plan an amount of Rs. 1115.12 Lakh has been approved by CCF (WL-III), office of PCCF. The same is yet to be deposited by the PP. Committee opined that, the amount approved shall be deposited by the PP with the wildlife division as the earliest and timely implementation of SSWLCP shall be ensured.

- ix. The Mine plan and the mine closure plan for the said has been approved by the board of M/s MCL vide letter dated 20.06.2022. Further Addendum Mining Plan & Mine Closure Plan approved by Board vide letter dated 24-08-2024 and 2nd addendum Mining Plan & Mine Closure Plan approved by Board vide letter dated 08-07-2025.
- x. 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. (19.60 MTPA to 21.0 MTPA i.e. Phase III 50%). Excavation of Coal is through Shovel-Dumper in OB and Surface miner in coal.
- xi. Total Geological Reserve is 245.71 Mt with 200.66 Mt (including depleted reserves) as mineable reserves. Out of total mineable reserve, 199.08 (Remaining reserve –

15.15 Mt (as on 01.04.2025) are available for extraction. Percentage of extraction is 81.02 % w.r.t. Geological reserve. Life of mine is 1 year as on 01.04.2025.

- xii. The project has 02 OB dump (within ML area), one of 69.04 ha with 90 m height and 38.33 Mm³ of OB and other is 91.462 ha OB dump site area in which OB shall be dumped in future expansion project. Also, 1 internal OB dump (over backfilled area) in an area of 211.47 ha with 93.50 Mm³ of OB is envisaged in the project.
- xiii. Total quarry area is 321.91 ha out of which backfilling will be done in 211.47 ha and final mine void will be created in an area of 17.64 ha. The depth of the mine void will be 175 m. This mine shall be further expanded. On closure of the mine after further expansion, the final depth of the mine will be 40m by filling OB from nearby mines and fly ash from neighboring thermal power plants.
- xiv. Committee deliberated on the method of evacuation of coal from the said project and observed that, the coal from surface to siding is being transported by through coal transportation road to TRH and from TRH to siding by closed conveyor belt.

From siding to loading, the same is being transported through Rapid Loading system & wharf wall loading and to the final consumers through railway. Total 16 MTPA of the coal is being transported through railway and remaining 5 MTPA is being transported through road up to the distance of 30-60 km. Committee observed that, the entire coal is proposed to be transported by railway after the commissioning of Barpalli Bulb siding.
- xv. Committee deliberated on the baseline data submitted by the PP, collected during October 2022- December 2022 and observed the parameters to be within the limits.
- xvi. Total water demand for the project is 4141 KLD (Potable: 721 KLD, Industrial: 3420 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. The potable water is used, followed by treatment in the water treatment plant. Committee also observed that, 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.
- xvii. 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.
- xviii. Committee deliberated on the public consultation held on 10.01.2018 for the EC obtained vide letter dated 22.03.2018. Committee observed that, a total of Rs. 9720.35 Lakhs has been spent on the issues raised by the public during the public consultation.
- xix. Committee deliberated on the expenditure incurred by the PP on the EMP and observed that a total of Rs. 10064.87 lakhs had been spent as capital cost against the allotted budget of Rs. 1349.08 Lakhs. And Rs. 1013.07 Lakhs has been spent as recurring cost per annum.
- xx. Committee deliberated on the plantation activities carried out by the PP and observed that plantation has already been carried out in 132.398 Ha of the ML area. Further plantation is to be carried out in 276.391 Ha. By the end of the mine life plantation will be carried out in total 408.789 Ha.

Committee found the plantation to be inadequate and opined that PP shall plant at least 20,000 saplings of the native species in the next 1 year. PP submitted the following plan:

S. no.	Year	Internal Plantation (within ML area)		External Plantation (Outside ML area)	
		Plants (nos.)	Area (ha)	Plants (nos.)	Area (ha)
1	2025-26	14,226	5.69	60,000	1.50
2	2026-27	1,00,000	40.00	95,000	Avenue
3	2027-28	1,00,000	40.00	40,000	8.00
4	2028-29	1,51,000	60.40	2,00,000	5.00
	Total	3,65,226	146.09	3,95,000	14.50 + Avenue RKM

- xxi. Committee deliberated on the rehabilitation and resettlement issues of the said project and observed that the project involved 572 PAFs and 1972 PAPs. 507 nos. of PAFs were eligible for R&R site/ cash compensation, out of which 62 nos of PAFs are yet to be compensated. 414 nos. of PAPs were eligible for employment out of which 385 have already been provided the employment and remaining 29 nos. of PAPs are yet to be given employment.
- xxii. Committee deliberated on the ADS reply submitted by the PP and observed that the wind barriers installed around the ML area are not adequate and instead of using PVC wind barrier net, PP shall carryout plantation over it using creepers and create a green wall.
- xxiii. Committee observed that there is no court case pending on the said project.
- xxiv. Committee deliberated on the ADS reply and the written submissions made by the PP and found the same to be satisfactory.
- xxv. Committee opined that the PP shall align its activities with the sustainable development goals.
- xxvi. 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:

20. Based on the submissions made by the Project Proponent, EAC **recommended** the proposal for grant of Environmental Clearance for Kulda Expansion Opencast Project for increase in production capacity from 19.60 MTPA to 21 MTPA (increase of 10% to its original EC i.e., 1.4 MTPA) in the existing ML area of 634.205 Ha by **M/s Mahanadi Coalfields Limited, located**, located at villages: Balinga, Tumulia, Siarmal, Kulda & Bankibahal; Tehsil: Hemgir; District: Sundargarh; State: Odisha, , as per the provisions of OM vide no. F. No. IA3-22/10/2022-IA.III, dated 07.05.2022, under the Environment Impact Assessment (EIA) Notification, 2006 and subsequent amendments/circulars thereto **subject to compliance of the following additional terms & conditions/ specific conditions** for environmental safeguards (**Annexure-I**).

21. 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 for increase in production capacity from 19.60 MTPA to 21 MTPA (increase of 10% to its original EC i.e., 1.4 MTPA) in the existing ML area of 634.205 Ha, located at villages: Balinga, Tumulia, Siarmal, Kulda & Bankibahal; Tehsil: Hemgir; District: Sundargarh; State: Odisha”, subject to compliance of the Specific Environmental safeguard Conditions (**Annexure-I**) in addition to the conditions granted in earlier EC.*

22. 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.

23. 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.

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

25. 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.

26. General Instructions:

- a. 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.
- b. 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.
- c. 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.
- d. 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.
- e. 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.
- f. 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.

27. 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, Chandrasekharpur, 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-I

Additional specific conditions:

- i. As committed by the project proponent, the following time – bound action plan shall be implemented in order to comply with the partially complied conditions as per the closure report of the Ministry's RO and compliance of the same shall be submitted along with the six-monthly compliance report:

along with the six monthly compliance report.

S. No.	Activity	Timeline																																								
1	Implementation of pipe conveyor from inpit upto Sardega siding to eradicate coal transportation by Diesel tippers	December 2026																																								
2	Third party Audit for compliance of EC condition for the year 2024 and 2025 shall be submitted	March 2026																																								
3	A 6 – lane bypass road including service road from north boundary of Siarmal mine towards Taparia shall be constructed	January 2027																																								
3	Retaining walls along the OB dumps shall be constructed	March 2027																																								
4	The riverine/riparian ecosystem management plan for the Basundhara river shall be implemented	December 2027																																								
5	Avenue plantation of 1,00,000 nos. of plants along the Duduka-Kanika coal transportation road	October 2026																																								
6	Plantation of 30,000 nos. along the Bankibahal-Bedabahal coal transportation road and 15,000 nos. along the Bankibahal-Taparia coal transportation road	October 2026																																								
7	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).	November 2026																																								
8	Greenbelt of 7.5 m shall be developed all along the mine boundary	November 2026																																								
9	Plantation shall be carried out as follows: <table><tr><th rowspan="2">S. no.</th><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><tr><td>1</td><td>2025-26</td><td>14,226</td><td>5.69</td><td>60,000</td><td>1.50</td></tr><tr><td>2</td><td>2026-27</td><td>1,00,000</td><td>40.00</td><td>95,000</td><td>Avenue</td></tr><tr><td>3</td><td>2027-28</td><td>1,00,000</td><td>40.00</td><td>40,000</td><td>8.00</td></tr><tr><td>4</td><td>2028-29</td><td>1,51,000</td><td>60.40</td><td>2,00,000</td><td>5.00</td></tr><tr><td></td><td>Total</td><td>3,65,226</td><td>146.09</td><td>3,95,000</td><td>14.50 + Avenue RKM</td></tr></table>	S. no.	Year	Internal Plantation (within ML area)		External Plantation (Outside ML area)		Plants (nos.)	Area (ha)	Plants (nos.)	Area (ha)	1	2025-26	14,226	5.69	60,000	1.50	2	2026-27	1,00,000	40.00	95,000	Avenue	3	2027-28	1,00,000	40.00	40,000	8.00	4	2028-29	1,51,000	60.40	2,00,000	5.00		Total	3,65,226	146.09	3,95,000	14.50 + Avenue RKM	October 2029
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	Total	3,65,226	146.09	3,95,000	14.50 + Avenue RKM																																					
10	Project proponent shall obtain the renewed ground water clearance from CGWA for 4141 KLD of water being utilized for the said project.																																									

- ii. Plantation shall be carried out over the wind barriers using creepers to create a permanent green wall.

- iii. Project proponent shall provide safe passage for the movement of elephant and other wild animals, as movement of elephants is erratic around the zone of impact. Apart from this, PP shall also sensitize the mine workers and transportation staff to implement measures such as speed limits, speed bumps, and time-bound traffic restrictions in sensitive wildlife areas. PP shall use appropriate fencing along linear infrastructures (like roads or railways) to guide animals towards the designated safe crossing points.
- iv. Project proponent is advised to implement the 'Ek Ped Maa Ke Naam' Campaign every year 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 greenbelt development. The action in this regard shall be submitted concerned RO in six monthly report.
- v. All other terms and conditions as prescribed in the previous EC letters issue by the Ministry shall remain the same and need to be complied by PP.

Standard Conditions:

1. Statutory Conditions:

- i. 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.
- ii. The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
- iii. Solid/hazardous waste generated in the mines needs to be addressed in accordance to the Solid Waste Management Rules, 2016/Hazardous & Other Waste Management Rules, 2016.
- iv. The maximum production at any given time shall not exceed the limit as prescribed in the EC.
- v. 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 Measures

- i. Project proponent shall obtain requisite consent from State Pollution Control Board for 21 MTPA coal mining.
- ii. 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, SO₂ and NO_x. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive receptors in consultation with the State Pollution Control Board.
- iii. 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.
- iv. 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.

- v. Major approach roads shall be black topped and properly maintained.
- vi. 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 centers.
- vii. PP should Install Wind breaker/shield arrangement along the railway siding for reducing the dust propagation in upwind direction.
- viii. 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
- ix. 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 additional solar power generation units.

3. Water Quality Monitoring and Mitigation Measures

- i. 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.
- ii. 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.
- iii. 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
- iv. 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 after monsoon and maintained properly
- v. 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 of adequate capacity shall be installed for treatment of domestic wastewater.
- vi. The 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.

- vii. The project proponent shall take all precautionary measures to ensure reverian/ riparian ecosystem in and around the coal mine up to 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.
- viii. 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

- i. 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.
- ii. The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure 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

- i. Project proponent shall obtain star rating as per the guidelines of Ministry of Coal.
- ii. Mining shall be carried out under strict adherence to provisions of the Mines Act 1952 and subordinate legislations made there-under as applicable.
- iii. No change in mining method, calendar programme and scope of work shall be made without obtaining prior approval of the Ministry of Environment, Forests and Climate Change (MoEFCC).
- iv. 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).
- v. Efforts should be made to reduce energy and fuel consumption by conservation, efficiency improvements and use of renewable energy.

6. Land Reclamation

- i. 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 the Regional Office of MoEF&CC.

- ii. 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.
- iii. The entire excavated area, backfilling, external OB dumping (including top soil) and afforestation 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.
- iv. 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.
- v. 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:

- i. Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored.
- ii. 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
- iii. 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.
- iv. 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.
- v. 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.

- vi. 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'.

8. Corporate Environment Responsibility:

- i. 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 a defined system of reporting infringements/deviation/violation of the environmental/forest/wildlife norms/conditions and/or shareholders/stake holders
- ii. 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.

9. Miscellaneous:

- i. 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.
- 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 has to display the same for 30 days from the date of receipt.
- iii. The project proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- iv. 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.
- v. 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.
- vi. The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.
- vii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- viii. 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.
- ix. No further expansion or modifications in the plant shall be carried out without prior

approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).

- x. 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.
- xi. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- xii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- xiii. 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
- xiv. 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 Transboundary 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.

Signature Not Verified

Digitally signed by: Sundar Ramanathan
Designation: Scientist F
Date and Time: 12/26/2025 10:07:39
AM