

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE
(IMPACT ASSESSMENT DIVISION)
NON-COAL MINING SECTOR

SUMMARY RECORD OF 16th MEETING (FIRST-DAY ON 5th MAY 2020) OF THE COMMITTEE OF THE EXPERT APPRAISAL COMMITTEE FOR ENVIRONMENTAL APPRAISAL OF NON-COAL MINING PROJECTS CONSTITUTED UNDER THE EIA NOTIFICATION, 2006.

The 16th meeting of the Expert Appraisal Committee for Environmental Appraisal of Mining Projects (Non-Coal) of the Ministry of Environment, Forest and Climate Change was held during **May, 5-6, 2020 through video conference**. The list of participants on 5th May, 2020 is annexed herewith. After login of the Committee Members through video conference link provided by NIC, discussion on each of the Agenda Items was taken up ad-seriatim.

(1.1) Deliberation & Circulation on the Minutes of the 15th EAC Meeting held during April, 20-21, 2020:

1. The minutes of 15th Meeting of EAC held during 20-21 April, 2020 were placed before the Committee. The committee confirmed the minutes.

2. Further certain inadvertent errors (prescribing irrelevant conditions) in the Minutes of 12th EAC Meeting held during December 19-20, 2019 with respect to item no. 2.10 and 2.13 were brought to the notice of the committee by the member Secretary for consideration and approval for deletion of the following conditions in the said MoM, namely: -

2.10 Katamati Iron Ore Mine of M/s TATA Steel Limited proposed for expansion in production of iron ore from 8.0 MTPA to 13.5 MTPA (Total excavation :15 MTPA) along with mineral beneficiation plant of 4 MTPA in the mine lease area of 403.3238 ha located at Deojhar & Thakurani Village, Keonjhar District, Orissa.

File: J-11015/63/2018-IA-II(M);ProposalNo: IA/OR/MIN/123688/2019.

Additional Condition no XVII:

All the certificates viz. Involvement of Forest land, distance from protected area, list of flora & fauna should be duly authenticated by Chief Wildlife Warden & Forest Department. The Certificate should bear the name, designation, official seal of the person signing the certificate and letter number. The EIA/EMP report should cover the cumulative impacts of own cement plant, other cement plant and mines

in the study area. 17). The PP should provide the status of the Court Case (Case No 4056/2014) in the EIA/EMP report.

2.13 Expansion of Noamundi Iron ore mine of M/s Tata Steel Limited from 10 MTPA to 19 MTPA (ROM) with total excavation of 27.0 MTPA (ml area 1160.06 ha) along with increase of Iron ore beneficiation plant capacity (feed to plant) from 18 MTPA to 27 MTPA total project area is 1230.42 halocated at Mahudi, Balijore, Minutes for 12 th EAC Meeting held during December 19-20, 2019 Page 81 of 167 Korta, Noamundi, Sarbil and Barabalijori villages, West Singhbhum District, Jharkhand.

[File No. J-11015/104/2011-IA-II(M); Proposal No. IA/JH/MIN/123625/2019

Additional Condition no XVII:

All the certificates viz. Involvement of Forest land, distance from protected area, list of flora & fauna should be duly authenticated by Chief Wildlife Warden & Forest Department. The Certificate should bear the name, designation, official seal of the person signing the certificate and letter number. The EIA/EMP report should cover the cumulative impacts of own cement plant, other cement plant and mines in the study area. 17). The PP should provide the status of the Court Case (Case No 4056/2014) in the EIA/EMP report.

3. In the Minutes of 14th EAC Meeting (page no.57 of minutes) held during 26-27 February, 2020 with respect to item no. 2.13 was brought to the notice of the committee by the member Secretary. In the recommendation it is mentioned that “Based on the discussion held and document submitted the Committee recommended the proposal for amendment in EC to convey mineral by road to public siding by the road within the mining lease area and road owned by M/s SAIL outside ML area. No public road will be utilised. This amendment is only valid for 5 years” to be read as:-

*“Based on the discussion held and document submitted the Committee **recommended** the proposal for amendment in EC w.r.t i) Transportation of part of excavated fines to Gua Public Siding by road, ii) Excavation of fines from Fines Dump iii) Transportation of remaining part of excavated fines to Gua Public Siding by road and iv) reduction of mine lease area from 14.16 ha to 14.15 ha. Mineral by road to public siding by the road within the mining lease area and road owned by M/s SAIL outside ML area. No public road will be utilised. This amendment is only valid for 5 years.”*

2.0 Deliberation on the proposals as per the Agenda of 16th EAC scheduled on 5th May, 2020

2.1 Integrated Barsua- Taldih-Kalta Iron Ore Mining (ML-130), Beneficiation and Pelletisation Plant Project of M/s Steel Authority of India Limited, located in Village Tantra and within Toda RF, Tehsil Koira, District Sundargarh, Odisha - Amendment in Environmental clearance for change in product mix and operation by including excavation and dispatch of non-ore fines / slimes keeping total production within permitted EC capacity of 8.05 MTPA under para 7(ii) of EIA Notification - Regarding

[J-11015/351/2006-IA.II(M) ; IA/OR/MIN/146098/2020]

1. The proposal of M/s. Steel Authority of India Limited is for amendment under para 7 (ii) of EIA Notification, 2006 in the Environmental Clearance granted vide letter no. J-11015/351/2006-IA.II(M) dated 29th October, 2010 for the production of 8.05 Mt/yr of iron ore from ML-130 lease [MLA: 2486.383 ha] of Barsua-Taldih-Kalta Iron Ore Mines of M/s Steel Authority of India Limited, located in village Tantra and within Tohra RF, Tehsil Koira, District Sundergarh, Odisha. The Mining Lease area is ~18 km long and comprises of 3 mining blocks namely Barsua (Southern part), Taldih (Middle part) and Kalta (Northern part). The mines lease falls in Survey of India Toposheet bearing No.73G/1 (F45N1) and is bounded by latitudes from 21°49'25.43800" to 21°59'50.88516"N and longitudes from 85°07'43.73832" to 85°13'53.48136"E.

2. As per EIA Notification dated 14th September, 2006 as amended from time to time, the project falls under Category A or Activity 1(a) as the mining lease area is greater than 100 ha.

3. PP has submitted that Environmental Clearance for the production of 8.05 Mt/yr of iron ore from ML-130 was granted by MoEF vide letter no. J-11015/351/2006-IA.II(M) dated 29th October, 2010. However, the envisaged Long Distance Belt Conveyors (LDBC) for evacuation of ore from Taldih and setting up of Beneficiation Plant of 4.25 MTPA capacity for processing of from Taldih have been held up for want of Stage – II FC for the adjoining non-mineralized lease i.e. ML – 162 (77.94 ha) {part of the infrastructure for mineral despatch are located in this lease} and finalization of the project. Hence, the Taldih Block could not be developed as per the envisaged plan. Delay in development of Taldih Block had resulted acute shortage of iron ore supply to SAIL's Plants. Therefore, subsequently the EC was amended temporarily for a period of 5 years for re-distribution of production from three mining blocks under ML – 130 by MoEFCC's letter no. J-11015/351/2006-IA.II(M) dated 30th March, 2016

- i. to change iron ore production (ROM) from three blocks viz. Barsua, Taldih and Kalta in ML-130 lease from 2.5, 4.25 and 1.3 MTPA to 3.5, 2.05 and 2.5 MTPA respectively, keeping the total iron ore (ROM) production restricted to 8.05 MTPA;
- ii. permission to operate existing beneficiation plant at the rate of 4.5 MTPA instead of 2.5 MTPA; and

iii. permission for road transportation of part of iron ore from Taldih to Barsua Valley (~11 km) and to Barsua beneficiation plant for a period five years till crushing plant, LDBC are erected and commissioned for the Taldih block.

4. Stage-2 Forest Clearance for diversion of entire forest land over 2341.931 ha was granted by MoEFCC vide F. No. 8-90/2011-FC(pt), dated 06.03.2013. Stage – II FC for the adjoining non-mineralized lease i.e. ML – 162 was granted on 23.10.2017.

5. Scheme of mining for period from 2015-16 to 2019-20 was approved by IBM vide letter No. No. MS/FM/36-ORI/BHU/2014-15/1843 dated 04.09.2015. Further, Review of Mining Plan and progressive mine closure plan for the period from 2020-21 to 2024-25 has also been approved by IBM vide letter no. RMP/A/16-ORI/BHU/2019-20 dated 08.11.2019.

6. The tailings pond of Barsua beneficiation plant is filling up and presently ~4.1 million tonnes of tailings are stored in the pond. Further raising of the height of the tailings dam is not possible. In addition, sub-grade fines are also stacked at mine pit heads of Barsua / Taldih / Kalta. Since, Barsua Mine has no beneficiation & pelletisation facilities for processing of these low grade fines at present, in-house utilisation of tailings / sub-grade ores is not possible.

7. Ministry of Mines, Gov. of India have noted in their Order F.No. 16/30/2019-M.VI dated 16th September, 2019 that vast stocks of slimes and sub-grade ore are lying at pit heads of captive mines of SAIL are potential environmental hazards. Accordingly, Ministry of Mines, Govt. of India have accorded permission for selling of these low grade mineral (tailings and sub-grade ore) in the open market such that mineral can be exhausted and environmental hazards can be mitigated. The disposal of such stockpiles would enhance the availability of iron ore for the purpose of beneficiation and pelletisation and subsequent use for iron & steel making. Based on the application submitted by SAIL, Govt. of Odisha vide letter No.IV(AB)SM-28/2017/9506/SM dated 02.12.2019 granted permission to sell slimes / dump fines from SAIL's captive mines in the State of Odisha including Barsua – Taldih – Kalta Mines.

8. Further, Ministry of Mines, Govt. of India vide Order no. F.NO/16/30/2019-M.VI dated 16.09.2019 also directed concerned State Governments to allow SAIL to sell fresh iron ore also up to 25% of total previous year production for a period of 2 years to mitigate the risk of possible shortage of iron ore on account of expiry of mining leases pertaining to merchant mining by 31.03.2020. In this regard, though SAIL has been allowed to develop Taldih Mine to produce 2.05 MTPA involving dispatch of 1.05 MTPA by road to Barsua Railway Siding and remaining 1.0 MTPA by road to Barsua Beneficiation Plant, the mine could not be operated to its permitted capacity as construction of road

from the Taldih Mine to Barsua Beneficiation Plant could not be made due to delay in grant of forest permissions. The activities related installation of originally envisaged and approved Long Distance Belt Conveyor (LDBC) for evacuation of ore from Taldih to Barsua is under progress and expected to take about 3 years. Hence, in order to increase the production from Taldih to its approved EC limit of 2.05 MTPA, it is required that the entire 2.05 MTPA iron ore produced at Taldih will be transported by trucks directly to SAIL's Barsua Siding till commissioning of the LDBC from Taldih to Barsua Siding, which would take about 3 years.

9. Though Taldih Mine is operational since November, 2016, the originally envisaged and approved facilities which inter-alia keeps the provision of Long Distance Belt Conveyor (LDBC) and beneficiation facilities for Taldih Block could not be commissioned though the process has started and is expected to take three more years. Hence validity of amended provisions of EC dated 30.03.2016 is essential to maintain continuity of production from Taldih Block beyond 30.03.2021 for a period of two more years i.e. up to 31.03.2023.

10. Keeping in view of the above stated aspects, SAIL has proposed the following modifications from its Barsua-Taldih-Kalta Mining complex:

1. Reclaim tailings at the rate of 1 MTPA from the tailings pond at Barsua and dispatch by road to Public Siding located at distance of 2.7 km for dispatch by rail or directly by road to the buyers keeping the total dispatch from the Barsua below 3.5 MTPA.
2. Dispatch of sub-grade iron ore fines at the rate of 0.5 MTPA each from Taldih and Kalta by road or road & rail dispatch to the buyers keeping the total dispatch from Taldih & Kalta to 2.05 MTPA and 2.50 MTPA respectively.
3. The entire 2.05 MTPA iron ore produced at Taldih will be trucked directly to Barsua Private / Public Sidings till construction of road from Taldih to Barsua Beneficiation Plant.
4. Continuation of the following amended provisions of EC amendment dated 30.03.2016 (valid up to 30.03.2021) for further two years i.e. up to 31.03.2023.
 - i. Permission to change iron ore production (ROM) from three blocks viz. Barsua, Taldih and Kalta in ML-130 lease from 2.5, 4.25 and 1.3 MTPA to 3.5, 2.05 and 2.5 MTPA respectively, keeping the total iron ore (ROM) production restricted to 8.05 MTPAs specified in the earlier environmental clearance.
 - ii. Permission to operate existing beneficiation plant at the rate of 4.5 MTPA instead of 2.5 MTPA.

11.0 PP has submitted the EC Compliance Report certified by RO, MoEF vide 101-257/07/EPE dated 17.12.2019.

12.0 In response to EDS raised on 02.04.2020 w.r.t. submission of action plan on the non-compliance and observations made by RO, MoEFCC on EC Compliance Report, PP has submitted the same on 08.04.2020

13. PP has submitted that the mine lease (ML-130) was first granted on 06.01.1960 for an area of 2486.383 ha for a period of 30 years which expired on 05.01.1990. The Mining Lease has been renewed vide LOI Memo No. 4004/SM dated 29.05.2014 for 1st Renewal as well as 2nd Renewal period from 06.01.2010 to 05.01.2030. The lease deed for the 2nd renewal period from 06.01.2010 to 05.01.2030 has been executed on 13.11.2014 vide Registration I.D. No. 1721400594.

14. PP has reported that Scheme of mining for period from 2015-16 to 2019-20 was approved by IBM vide letter No. No. MS/FM/36-ORI/BHU/2014-15/1843 dated 04.09.2015. Further, Review of Mining Plan for the period from 2020-21 to 2024-25 has also been approved by IBM vide letter no. RMP/A/16-ORI/BHU/2019-20 dated 08.11.2019.

15. The PP submitted that Iron ore shall be produced by conventional open cast mining using shovel dumper combination which involves drilling & blasting. Accumulated iron ore fines/tailings will be excavated by shovel dumper combination without drilling & blasting. Overburden generated from mining is / will be dumped in designated areas within mine lease area. Under the present proposal, 2.5 MTPA iron ore from Barsua Mine will be moved by covered conveyors to SAIL's Barsua Railway siding and dispatched by railway wagons. Another 1 MTPA tailings from Barsua Tailings Pond will be dispatched through Barsua Public Siding other sidings. The iron ore from the Taldih&Kalta Mines is being transported by truck to the railway sidings at Barsua and Roxy for further dispatch by rail.

16. The depth of ground water level near mining lease area in pre & post monsoon are found to be 10.36 to 2.43 mbgl & 1.2 to 8.6 mbgl respectively. PP submitted that the source of water required will be pumped through pipeline from surface water (KuradihiNalla) for which approval has been granted from Sundargarh Irrigation Division, Government of Odisha vide agreement dated 13.08.2015. Mining activity will not intersect ground water table hence permission under Ministry's O.M No. 21-103/2015-IA-III is not required. PP submitted that water demand under the present proposal is about 500 m³/day which includes 450 m³ /day industrial purpose (275 m³ /day for Dust suppression, 75 m³ /day for Wheel washing & 100 m³ /day for equipment washing) and 50 m³ /day for drinking and domestic usage.

17. PP submitted that reclamation through afforestation will be carried out in 2486.383 ha area (existing + proposed plan) with a density of 2500 saplings per ha. This will include plant in Virgin Area (683.33 ha), External OB Dump (376.676 ha), Internal Dump (389.558 ha), Quarry (723.466 ha), Safety Zone (126.484 ha), Others (such as Excavation area along ML boundary, along Infrastructure, Embankment Area and in Township Located outside the Lease etc.) (129.261 ha) and roads (57.608 ha). This will be 93.62% of total project area. The funds allocated towards afforestation will be Rs. 6.9 crores.

18. PP submitted that the mine is spread over 2486.383 ha area which includes 2347.673 ha Forest Land, 24.014 ha private land and 114.696 ha Govt. Non-Forest land. The Forest Land has been diverted for setting up the mine and allied infrastructure. Stage-2 forest clearance for diversion of entire forest land over 2341.931 ha was granted by MoEFCC vide F. No. 8-90/2011-FC(pt), dated 06.03.2013. So far 482.021 ha has been utilised and the remaining 2004.362 ha is unutilized and covered under green belt, retaining walls, garland drain etc.

19. PP has submitted that there is no Schedule-1 species in the core zone but there is a presence of Schedule-1 species in the buffer zone viz. Palm Civet, Indian Elephant, Sloth Bear, Wolf, Mouse deer. PP has submitted a Site Specific Conservation Plan with a budget of Rs 2900.96 Lakh for 10 years. The same has been approved from the Office of Principal Chief Conservator of Forest (Wildlife) and Chief Wildlife Warden, Odisha, vide Memo No. 1655/1 WL(C) SSP-224/2012 dated 25.02.2013 with a financial forecast of Rs. 2900.96 lakh which includes the financial forecast of Rs. 1118.96 lakh for the activities to be implemented by M/s. SAIL in project area and financial amount of Rs. 1782.00 lakhs for activities to be implemented by the DFO, Bonai Division in project impact area.

20. PP has submitted that being a Major Mineral there is no requirement of District Survey Report.

21. The present Environmental Appraisal Report includes baseline environmental data covering air quality, water quality, noise levels generated by SAIL during the period April, 2018 to March, 2019 and traffic density studies conducted during October, 2019 at selected locations. PP has submitted that the proposed change in scope of work does not have any significant adverse impacts on environment as revealed by the studies undertaken.

22. Barsua –Taldih – Kalta iron ore mines are located in forest and hilly region. Considering the sensitivity of the forest ecology and environment, adequate measures for safeguarding the environment around the mines have already been adopted over the years.

23. The Project Proponent reported that details are not applicable as the present application is under para 7(ii).

24. PP submitted that budget earmarked under Corporate Environmental Responsibility (CER) is Rs 0.0839 Crores.

25. PP submitted that there is no R&R in the project area.

26. The Project Proponent submitted that the budget earmarked for Environmental Management Plan (EMP) shall be ₹ 4.55 Crores (Capital) & ₹ 0.8 Crores (recurring/annum).

27. PP has submitted that the Barsua, Taldih and Kalta Iron Mines under ML – 130 have implemented the Integrated Management System (IMS) and accredited to Quality Management System (QMS linked ISO – 9001 - 2015), Environmental Management System (EMS linked to ISO – 14001 : 2015) and Occupational Health and Safety Management System (linked to ISO – 45001 - 2018).

28. PP also submitted an undertaking dated 29.02.2020 that data and information given in the application, enclosure and other documents are true to best of his knowledge and belief and PP is aware that if any part of data or information submitted is found to be false or misleading at any stage the project will be rejected and clearance given if any will be revoked at his risk and cost.

29. Project Proponent submitted that the total project cost shall be ₹8.39 Crore and shall give direct employment to 116 persons.

30. PP reported that subsequent to the judgment of Apex Court dated 02.08.2017, the Governments of Odisha has issued demand notices to Barsua-Kalta Mines for payment of compensation towards excess production on or before 31st December, 2017 against EC / CTO capacity. Dy. Director of Mines (DDM), Koira vide letter dated 02.09.2017 issued a demand notice for payment of Rs. 66,89,42,779.5 /- in respect of Barsua / Kalta Iron Mines to recover price of mineral produced without/beyond EC alone under Section 21 (5) of MMDR Act, 1957. The said amount was deposited on 29.12.2017 under protest. Further, letter No.5962/Mines dtd 24.10.2017 of DDM, Koira has directed to pay compensation of Rs.90,19,71,684.40 /- for mining in excess of the permissible limit under the Consent to Operate. Against the above stated demands, SAIL had filed a Writ Petition bearing WP (C) No- 24282/2017 in High Court of Odisha, Cuttack. The matter was heard and Hon'ble High Court had passed the stay order on 04.04.2018 & matter is sub-judice.

31.0 During the deliberations of the proposal the project proponent has submitted the following: -

- i. The configuration of the mining activity from each of the part before and after the amendment is as follows: -

Description	Existing	After amendment	Remarks
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A. Barsua Mine			
Production	3.5 MTPA	3.5 MTPA	<ul style="list-style-type: none"> • No change in Total Dispatch. • Proposal to excavate and dispatch tailings by trucks to Barsua Public Siding or by road for sale in open market.
Mode of Dispatch	By covered conveyor to SAIL's Barsua siding and thereafter by railways	<ul style="list-style-type: none"> • Saleable Ore by conveyor to Barsua Siding. • Recovered tailings by trucks to Barsua Public Siding or by road for sale in open market. 	
Mineral Beneficiation	4.5 MTPA at Barsua and 2.0 MTPA Pelletisation Plant	4.5 MTPA at Barsua (Proposal for Pelletisation Plant put in Abeyance)	Extension of validity for further two years i.e. up to 31.03.2023.
B. Taldih Mine			
Production	2.05 MTPA	2.05 MTPA	<ul style="list-style-type: none"> • No change in Total ROM. • Proposal to excavate & dispatch sub-grade ore for selling in open market
Dispatch	Saleable Ore	Saleable Ore + Sub-grade (Total limited to 2.05 MTPA)	
Mode of Dispatch	<ul style="list-style-type: none"> • 1.05 MTPA trucked to Barsua siding • 1 MTPA by trucks to Barsua Beneficiation Plant 	<ul style="list-style-type: none"> • Total saleable ore by truck to SAIL's Barsua Siding. • Sub-grade ore by trucks to Barsua Public Siding or road for selling in open market 	
Mineral Beneficiation	<ul style="list-style-type: none"> • 1.05 MTPA at Taldih • 1.0 MTPA at Barsua Beneficiation Plant. 	2.05 MTPA at Taldih	No change
C. Kalta Mine			
Production	2.5 MTPA	2.5 MTPA	<ul style="list-style-type: none"> • No change in Total ROM.

			<ul style="list-style-type: none"> Proposal to excavate & dispatch sub-grade ore for selling in open market
Dispatch	Saleable Ore	Saleable Ore + Subgrade	
Mode of Dispatch	Trucked to Roxy Siding	<ul style="list-style-type: none"> Saleable ore trucked to Roxy Siding Sub-grade ore trucked to Public Siding / by road directly for sale in open market. 	
Mineral Beneficiation	Only crushing & screening	Only crushing & screening	No change

- ii. Huge quantity of tailings & sub-grade iron ore fines are stacked at different mines under SAIL lying unutilized. Ministry of Mines, GoI have accorded permission vide Order F.No. 16/30/2019-M.VI dated 16th September, 2019 for selling of these low grade mineral in the open market such that mineral can be exhausted and environmental hazards can be mitigated.
- iii. Ministry of Mines, GoI vide Order dated 16.09.2019 allowed SAIL to sell fresh iron ore also up to 25% of total previous year production to mitigate the risk of possible shortage of iron ore on account of expiry of mining leases pertaining to merchant mining by 31.03.2020
- iv. After the present proposal, there will be an increase in number of trucks carrying the ore/subgrade/tailings from mines to the dispatch yard. This will result in a marginal increase in air emissions. However, due to extraction of sub-grade ore and tailings, there will be a reduction in overall mining of around 2 MTPA of ore.
- v. Also, as the entire ore from Taldih mines shall be transported by paved roads, there will be reduction in emissions because of plying of dumpers carrying mined ore from Taldih Pit to Barsua Beneficiation plant.
- vi. It was submitted that the PM emission rate decreases from 66.136 g/sec to 38.106 g/sec due to reduced processing of ore and non-installation of envisaged Pellet Plant at Barsua.
- vii. Reduced excavation of saleable ore will lead to reduction in waste generation.

- viii. Liquidation of fines will not only result in mineral conservation, but also eliminates environmental hazards associated due to storage of fines.
- ix. Traffic Studies revealed that adequate road capacity is available to undertake additional traffic due to iron ore transportation by road from Fines Dump
- x. Air pollution control measures *inter alia* include Covering of fines transport vehicles with tarpaulin sheets to avoid fugitive dust emissions; Deployment of additional Mobile Water Sprinklers; Deployment of vehicle mounted Misting Cannons at fines handling areas; Wheel Washing facility for trucks before entering to public road; Regular maintenance of roads to reduce fugitive emissions from roads & vehicular emissions; Regular maintenance of diesel powered vehicles as per manufacturer's guidelines; Construction of concrete approach roads at Kalta & Taldih Mines; etc.

32.0 The committee has deliberated in detail and opined that the proposal is amendment in EC for redistribution of the production within the sanctioned EC capacity and extension of validity of the amendment granted for further period of two years. The Committee recommended for amendment in environmental clearance under clause 7(ii)(a) of EIA Notification, 2006 read with subsequent amendments, as proposed by the PP at paragraph 10 above, for a period of two years i.e. up to 30.03.2023, subject to the following conditions, in addition to the conditions prescribed in the EC and subsequent amendments.

- i. Air pollution control measures, *inter alia*, include Covering of fines transport vehicles with tarpaulin sheets to avoid fugitive dust emissions; Deployment of additional Mobile Water Sprinklers; Deployment of vehicle mounted Misting Cannons at fines handling areas; Wheel Washing facility for trucks before entering to public road; Regular maintenance of roads to reduce fugitive emissions from roads & vehicular emissions; Regular maintenance of diesel powered vehicles as per manufacturer's guidelines; Construction of concrete approach roads at Kalta & Taldih Mines; etc.
- ii. Additional water sprinkling arrangements shall be made at the excavation / handling / transportation of subgrade ore and tailings.
- iii. An additional amount Rs 0.0839 Crores, as committed by project proponent shall be earmarked for activities under Corporate Environmental Responsibility (CER) and implemented in next two years.

2.2 New Umrangshu Limestone Mine (Mine Lease area - 417.50 Ha; Production Capacity of 7.77 MTPA) of M/s. Calcom Cement India Limited at Village- New Umrangshu, Tehsil - Umrangshu, District - Dima Hasao (North Cachar Hills), Assam

[J-11015/202/2011-IA.II(M); IA/AS/MIN/150441/2011]

- 1. The proposal of M/s. Calcom Cement India Limited is for mining lease renewal with production capacity of 7.77 MTPA of limestone from New

Umrangshu Limestone mine (ML Area- 417.50 ha.) located at village – New Umrangshu, Tehsil Umrangshu & District – DimaHasao (North Cachar Hills), Assam. The latitudes and longitudes of the mine lease area lies between 25°31'18.00" N to 25°32'25.20" N, 92°47'25.20" E to 92°48'30.24"E. The mining lease falls in Survey of India Toposheet No. 83 C/14. The project falls under Seismic Zone – V [as per IS 1893 (Part-I): 2002].

2. As per EIA Notification dated 14th September, 2006 as amended from time to time, the project falls under Category A or Activity 1(a) as the mining lease area is greater than 100 ha.

3. PP had earlier submitted the application in the prescribed format (Form-1) and a copy of the pre-feasibility report to prescribe the ToRs for undertaking detailed EIA study for the purpose of obtaining environmental clearance under the provisions of the EIA Notification, 2006. Based on the information submitted and the presentation made before the Expert Appraisal Committee (EAC) for mining projects during its Meeting held on October 19-21, 2011, the Ministry granted Terms of Reference (TOR) vide No. J-11015/202/2011-IA.II (M) dated 28.12.2011.

4. Thereafter, PP applied for Environment Clearance after conducting public hearing vide its letter dated 9th July, 2013 and submitted the final EIA/EMP report. The proposal for environmental clearance was considered by the Expert Appraisal Committee in its 12th Meeting held during 31st October & 1st November, 2013. The matter was examined and based on the discussion held; the Committee recommended the proposal subject to the submission of the Stage-I Forest Clearance for diversion of forest land.

5. The Ministry vide its letter dated 08.01.2014 informed the same to PP and requested PP to submit the Stage-I Forest Clearance for diversion of forest land.

6. PP obtained the Stage-I Forest Clearance vide F.No. 8-11/2019-FC dated 23.08.2019. In reference to above stated letter of the Ministry, PP vide its letter dated 26.08.2019 submitted the copy of Stage-I Forest Clearance for grant of Environment Clearance for the said project.

7. In view of above submission by the PP, The Ministry made the following observations,

“The above mentioned proposal for environmental clearance was considered by the EAC in its meeting held during 31st October & 1st November, 2013, wherein the Committee recommended the proposal subject to submission of the Stage-I Forest Clearance for diversion of forest land. Further Ministry vide letter even no dated 08th January, 2014 requested PP to submit the above said information. PP letter no nil dated 26.08.2019 submitted the copy of letter F.no. 8-11/2019 dated 23.08.2019 regarding the diversion of the 425.5 ha Forest land of USF

area in New Umrangshu Village, Dima hasao Dist, (Nort Cacharo hills) for opencast mining of Limestone in favor of M/s Calcom Cement India Ltd.

The matter has been examined in the Ministry and noted that PP had submitted the offline information in hard copy. In view of the above the undersigned is hereby directed to ask you to submit the information/Documents as sought by the EAC/Ministry in online PARIVESH.NIC.IN portal for further taking necessary action on the above matter.”

8. Thus, the Ministry vide its letter dated 21.01.2020 informed to submit the information online on PARIVESH portal.

9. PP vide its letter dated 19.03.2020 informed the Ministry, for uploading of requisite information i.e. Stage-I FC copy, PP couldn't find any link available at parivesh.nic.in portal. Therefore, in absence of any such link for this kind of proposal, PP is applying online as a new proposal with the already recommended/submitted documents during its earlier appraisal for EC.

10. Present Application: In view of above, PP has now submitted an application for Environment Clearance in Form-2 on PARIVESH portal vide Proposal No. IA/AS/MIN/150441/2011 dated 31.03.2020.

The Ministry on 01.04.2020 raised EDS, informing PP that,

“on examination of the proposals, the Terms of reference were issued in the year 2011. The maximum validity period for the ToR is only 4 years. The proposals cannot be accepted as the application is not made in the validity period.”

In response to the same, PP vide its letter dated 04.04.2020 has reported that,

“The current application is made in compliance of the instructions received from your good office vide F.No. J-11015/202/2011-IA.II(V) dated 21st Jan 2020. Further, we would like to submit that the project was granted TOR vide letter dated 28th Dec, 2011 by MoEF&CC, New Delhi. Thereafter vide our letter dated 9th July 2013, we had submitted our application for Environment Clearance alongwith Final EIA/EMP Report after conduction of public hearing to MoEF&CC on 11th July 2013 (Attached as Annexure –II) well within the validity period of TOR i.e. 4 years. The proposal for Environment Clearance was considered by EAC (Non-Coal mining) in its meeting held on 31st Oct & 1st Nov, 2013 wherein EAC had recommended the project for grant of environmental clearance subject to submission of the Stage –I Forest Clearance for diversion of forest land. Accordingly, in compliance of the same, immediately on receipt of Stage-1 FC, we had applied to your good office for grant of EC on 27th August, 2019. We had submitted our proposal for grant of EC along with a detailed covering letter incorporating all the above said facts along with all supporting documents.”

11. PP has submitted that initially, mining lease was granted over 417.50 ha area for mining of limestone in New Umrangshu, Dima Hasao (North Cachar Hills) District of Assam to M/s Assam Industrial Development Corporation Ltd. (AIDC), Guwahati on 4th July 1992, for a period of 20 years. The mining lease agreement was executed on 27.11.1992. The said mining lease was transferred in favour of M/s. Calcom Cement India Limited vide Govt of Assam letter no. PEM 58/2005/204 dated 06.12.2008. The deed of transfer amongst AIDC Ltd and Calcom Cement India Ltd and State Government of Assam was executed on 07.01.2009. The mining lease was valid up to 26.11.2012. PP applied for Renewal of mine lease on 19.05.2011.

Thereof under section 8A(3) & 8A(5) of the Mines and Minerals (Development and Regulation) Amendment Act, 2015, the said lease is extended up to 26.11.2042. The Government of Assam vide its letter No. PEM.58/2005/426 dated 21st May 2018 accorded that the lessee has complied with the terms & conditions of the mentioned sections for extension. A further extension of period of two months for execution of this supplementary Lease deed has been granted vide letter No PEM.58/2005/Pt/11 dated 28th August 2018.

12. The Land and Revenue Department, The North Cachar Hills Autonomous Council Haflong issued NOC vide letter No. REV/S/4-Allot/2018-2019/ Dy. No. 1905 dated 14.09.2018 for execution of extended Mining Lease upto 26/11/2042. Thereby, Mines and Minerals Department, Government of Assam vide letter No. PEM.48/2017/107/ Dy. No. 1910 dated 29.08.2018 provided Approval of Lease Deed Agreement in respect of Calcom Cement India Ltd. The supplementary lease agreement was executed on 01.10.2018 w.r.t. extension of the lease period up to 26.11.2042.

13. PP has submitted that Mining Plan has been approved from IBM vide letter No. 314(3)/2011-MCCM (CZ)/MP-28, dated 10th April, 2012.

14. The project proponent (PP) submitted that Mining will be carried out by Opencast Fully Mechanized Mining Method, utilizing heavy earth moving machines and with deep hole drilling and controlled blasting techniques, with proper benching of deposit to exploit the available limestone reserves.

Sl. No.	Particulars	Details
1.	Method of Mining	Opencast Fully Mechanised
2.	Minerale Reserves	162.56 million tonnes
3.	Life of the Mine	21 years
4.	Bench Height	10 m
5.	Bench Width	20 m
6.	Ultimate Pit Slope	45 degree
7.	Total Waste Generation	Sub grade: 17.6 million m ³ Top Soil: 0.672 million m ³ Kopili and Shale: 9.12 m ³

8.	Stripping ratio	1:0.16
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15. PP submitted that the depth of ground water level near mining lease area in pre & post monsoon are found to be 103 to 63 mbgl & 100 to 60 mbgl respectively. PP has further informed that The total water requirement for this project will be about 100 KLD; which will be sourced from Amrangnalla, harvested rain water stored in lower benches and/or ground water depending upon feasibility and availability. NOC has been obtained from Dima Hasao Autonomous Council, Haflong vide letter no. DHAC/GAD/282/2011-12/10-A dated 31.07.2012 for drawing the pipelines for total water requirement for Plant & Mine from nearby river, stream & nallas within a radius of 25 km from plant & mining lease boundaries.

16. PP submitted that total of 490890 saplings will be planted. At the conceptual stage, out of the total lease area i.e. 417.50 ha, about 327.26 ha area will be covered under greenbelt and plantation (including 204.08 ha on mined out benches, 55.0 ha area around office and crusher area and 72.0 ha area on dump area). Green belt will be developed all along the haul roads, around the mine pit, periphery of the mining lease area etc. Plantation will be done on mined out benches, waste dump area, around mine office & crusher area. Plantation will be done @ 1500 plants/ha. The trees will be planted at suitable grid spacing to encourage proper growth. The following plant species will be planted according to CPCB guidelines: *Emblica officinalis* (Amla), *Acacia catechu* (Kher), *Terminalia arjuna* (Arjun), *Albizia odoratissima* (Chichwa), *Anthocephalus cadamba* (Kadam), *Ficus religiosa* (Pipal), *Aegle marmelos* (Bel), *Madhuca indica* (Mahua), *Terminalia tomentosa* (Saja), *Anogeissus latifolia* (Dhaora), *Dalbergia sissoo* (Sisam) etc. The funds allocated towards plantation is Rs. 6 crores.

17. PP submitted that the proposed the mine lease area is 417.5 ha, which is a forestland. No National Park/Sanctuary/ Wildlife Corridors are reported within 10 km of the mine lease. PP has obtained In-Principle (Stage-I) Approval vide F.No. 8-11/2019-FC dated 23.08.2019.

18. PP submitted that No schedule I fauna was found within core & buffer zone during survey. There will be no adverse effect on the Biodiversity of the area because of the Mining Project. Authenticated List of flora & fauna found in the study area by Divisional Forest Officer, North Cachar Hills Dima Hasao, Haflong has been submitted.

19. Being a Major Mineral there is no requirement of District Survey Report.

20. PP has submitted that Primary Baseline data for ambient air quality, water quality, noise level, soil, flora and fauna has been collected during Post Monsoon Season (October to December-2011) along with Site-specific meteorological data. The location of the monitoring stations were decided on the bases of prevailing micro - meteorological conditions (Wind direction & wind speed) of the study

area. PP has submitted that there is no significant pollution of air, water, soil and noise. Regular monitoring of all the components of environment will be done. Due to increased spending on social welfare measures by the company, there will be overall development of the near-by villagers.

21. The Project Proponent reported that Public Hearing was carried out for the project on 10.04.2013 at 1 p.m. at NEEPCO Recreation Club at KHEP Colony, Neepco Ltd., Umrangshu, and District: Dima Hasao (North Cachar Hills) Assam under the chairmanship of District magistrate, Dima Hasao. The advertisement for public hearing was published on 09.03.2013 in newspapers -Assam Tribune and Samayik Prasanga. The issues raised during public hearing included Environment protection, preference in employment, Social activities, training for employments etc. are detailed in uploaded PH Minutes.

22. PP has submitted that as per MoEF&CC's OM no. F. No. 22-65/2017-IA.II dated 01.05.2018, the CER computed for the project is Rs. 2.3 Crore. During the appraisal of the project, PP had earlier earmarked Rs. 1.20 Crore to be spent over a span of 5 years for the various Community Developmental Activities. However, on the basis of the MoM of Public Hearing conducted on 10th April 2013 and findings of participatory rural appraisal from time to time, CCIL has already invested about Rs. 6.79 Cr. during the course of time (2014-2019) for the development of the area which are as follows: Soil & Water Conservation - 67.75 lakhs, Energy Conservation and Climate Change Mitigation - 13.77 lakhs, Livelihood and Skill Training - 9.94 lakhs and Social Development 587.88 Lakhs.

23. PP reported that the total lease area of 417.50 ha is unclassified state forest Land. No Private Land Involved. one number of village falling in the ML area require R&R, which has been completed.

24. The Project Proponent submitted that the budget earmarked for Environmental Management Plan (EMP) shall be ₹ 1.5 Crores (Capital) & ₹ 0.50 Crores (recurring/annum).

25. PP has submitted that the most common diseases in the region is common cold and cough and bronchitis malaria, flue, anteric diseases like typhoid which is also prevalent amongst the mine workers. None of these can be related to the project allied activities of the project. The quality of water both on the surface, underground and bore hole is good and all parameters of drinking water is as per ISI standards. Such water analysis is carried out at periodical interval over years. The water is found to be free from coliform organism as tested in BOD incubator in environmental laboratory which cause bacillary/dysentery. Therefore, the water can not cause any problem in the buffer zone. The scope of any disease due to SPM, CO₂, SO₂ does not arise since these are much below the prescribed limit (and gets confined to mines area because of it gets arrested by green belt all around). The dust of the area even otherwise is innocuous being without free silica. Noise generation is at a very low key and cannot travel beyond

the lease area due to green belt all around. Therefore, no disease in the impact zone is related to project or any activity of the project. Hence, question of remedial measures does not arise. To control and minimize the risks at workplace, Calcom Cement India Limited will implement Health, Safety and Environment Policy with the following objectives:

- To prevent hazards
- To provide safe and healthy environment to all the employees.

The company, therefore, will adopt the policy set below for the purpose of creating and maintaining safe and healthy environment. A safety officer with a Manager EH &S will supervise at an organization level. The organization also has Occupational health surveillance program. PP has submitted that Necessary care will be taken to provide health and safety aids to the villagers around the mining lease area, Mobile clinical van shall be provided to render the necessary clinical facilities at villages. A first aid station will be established in the mine premises.

26. PP submitted the there is no Court Cases pending against the project and/or land in which the project is proposed to be set up.

27. Project Proponent submitted that the total cost of the project is 120 Crore and during operations project will provide permanent employment to 240 persons.

28. Ministry has issued an office memorandum vide J-11013/12/2013-IA.II(I) (Part) dated the 19th June, 2014 regarding procedure to be followed for consideration of projects for grant of environmental clearance under EIA Notification, 2006 which involved the Forestland. The said OM states as follows:

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"(iii) In the eventually that the stage-I Forestry clearance is not submitted by the project proponent within the prescribed time limit mentioned at para (ii) above, as and when the stage-I forestry clearance is submitted thereafter, such project would be refer to the EAC for having a re-look, in case the primary data used in presentation of EIA Report is more than three year old. In such a situation, the EAC may get the fresh data collected and on that basis and after due diligence, either reiterate its earlier recommendations, or decide for reappraising the project proposal on account of valid reasons, as the case may be. In case it is decided to reappraise the project, the committee may also decide on the requirements of documents/information for reappraisal as also need for fresh public hearing."

29. Based on the OM, the 18 months ceiling as specified in the para (ii) of the OM dated 9th September, 2011 as amended on 18th May, 2012 has been surpassed on 08th August, 2015 as the communication to the project proponent was given by the Ministry on 8th January, 2014 vide Lr. No. J-11015/2020/2011-IA.II(M). Therefore, as per the OM, the instant proposal has

been referred to the Expert Appraisal Committee for having a re-look as mentioned in the OM.

30. During the deliberations, the committee opined that the recommendation was made by the EAC in November, 2013 and advised the PP to justify that there is no change in the impact assessment and EMP through the present baseline scenario and considering other developmental activities that may come in the study area. The project proponent has submitted following in response to the observations of EAC:

- i. Details of the Industries within study area along with their status in year 2013 (during EC recommendation) and in 2020:

S. No	Name of Industry	Type	Distance and direction from project site	Status during earlier Appraisal of Project	Status as on date
1	NECEM Cement Ltd	Cement Manufacturing, 100 TPD	2.25 km (NW)	Operational	Not Operational
2	Umrangshu Cement Ltd	Cement Manufacturing, 100 TPD	2.0 km (NW)	Operational	Not Operational
3	Vinay Cement Ltd, New Umrangshu	Cement Manufacturing, 500 TPD	2.5 km (SW)	Operational	Not Operational
4	Assam Mineral Development Corporation Limestone Mines	Limestone Mining Project (State Govt)	1.5 km (West)	Not Operational	Not Operational
5	NEEPCO (National Eastern Electric Power Corporation Ltd.	Hydro Electric Power Project (CPSU)	4.0 km (SW)	Operational	Operational
6	Jamunannagar Limestone Mine.	Limestone Mining	2.0 km (SW)	Operational	Operational
7	Limestone Mine of NECM	Limestone Captive Mining	2.5 km (NW)	Operational	Operational

8	Kopili State	Tea	Tea Estate and tea manufacturing	3.0 km (SW)	Operational	Operational
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No industries have been established in the area after year 2013, except Calcom Cement India Ltd. with clinkerisation capacity of 0.98 MTPA-Operational Since April, 2015.

ii. Baseline Data collected in Winter Season, Dec-2019 To Feb-2020

Parameters	No. of Locations	Description
Ambient Air Quality	10 Locations	PM10- 50.4 to 82.1 $\mu\text{g}/\text{m}^3$ PM2.5- 31.7 to 48.3 $\mu\text{g}/\text{m}^3$ SO ₂ - 5.02 to 10.55 $\mu\text{g}/\text{m}^3$ NO ₂ - 7.14 to 18.14 $\mu\text{g}/\text{m}^3$
Noise Level Monitoring	10 Locations	Noise level During Day time- 49.5 to 62.6 Leq dB(A) Noise level During Night time – 40.9 to 52.2 Leq dB(A)
Water Quality Monitoring	8 Ground Water &	pH(7.08 to 7.62 mg/L), TDS (134 to 257 mg/L), Fluoride (0.15 to 0.34 mg/L), Sulphate (2.25 to 13.4 mg/L), Calcium (16.03 to 41.86 mg/L), etc. are found within the permissible limits.
	7 Surface Water Locations	All the parameters for Surface water like pH (6.86 to 7.34), TSS (3.0 to 14 mg/L), TDS (141 to 307 mg/L), etc. Are found within the permissible limits.
Soil Sampling	8 Locations	pH-6.91 to 7.38 Texture-Sandy Loam Organic Matter-0.93 to 1.28%

iii. Ambient air quality modelling has been carried out composite for Mine and cement plant by using AIRMET View 8.2.0 and AERMOD View 8.2.0 – Model AERMOD. Emissions from existing clinkerisation unit operating at a capacity of 0.98 MTPA has already been considered in Baseline study conducted during Dec-2019 to Feb 2020. In order to predict maximum Ground level concentration (GLC's) emissions from the proposed mine along with anticipated expansion of existing clinkerisation unit have been considered. The cumulative impact from the proposed operation of the Limestone mine including anticipated expansion of clinkerisation unit on the Ground Level Concentration (GLC's) is presented in table given below:

S. No.	Pollutants	Concentration ($\mu\text{g}/\text{m}^3$)			CPCB NAAQS Standards
		Incremental Value	Baseline Value	Resultant value	

1.	PM10	4.52	68.5	73.02	100
2.	PM2.5	2.17	40.2	42.37	60
3.	SO2	2.35	9.20	11.55	80
4.	NO2	1.18	14.11	15.29	80

- iv. Project cost has been revised from 45.50 Cr. To Rs. 120 Cr during grant of stage -1 Forest Clearance. During the earlier appraisal of project, Rs. 1.20 Crore was earmarked to be spent over a period of 5 years for the various community developmental Activities and commitments made during public hearing. However, on the basis of the issues raised during Public Hearing and findings of participatory rural appraisal from time to time, company have proactively carried out various socio-economic developmental work in the area. Although, mining activity is yet to be commenced, Company has already spent about Rs. 6.79 Crore during the course of time (2014 – 2019) for the development of the area under various heads i.e. Soil & Water Conservation, Energy Conservation and Climate Change Mitigation, Livelihood and Skill Training and Social Development. Now, As per MoEFCC OM No 22-65/2017-IA-III Dated 1st May, 2018 CER computed for the proposed Project is Rs. 2.3 Cr

S. No	Capital Investment (In Rs)	Greenfield project - % of capital investment	CER Cost (Rs. In crore)	
			Earlier	Revised
1.	≤100 Crores	2.0%	1.20	2.0
2.	>100 Crore to ≤500 Crores	1.5%		0.3
Total		-	1.20	2.3

- v. An additional amount of Rs. 2.5 Crores has been earmarked to be spent in next 3 years. Details of CER budget with proposed activities are given below:

S No.	Program Activities	Unit	No. of Units	Unit Cost (Rs.In Lakhs)	Rs. In Lakhs			
					1st year	2nd year	3rd year	Total
1	Hospital Infrastructure:- Ambulance with emergency equipment(Basic Life Support)-Umrangso CHC	No,s	1	20.00	-	20.00	-	20.00
2	Mini ICU- Hospital Infra-Umrangso CHC	No,s	1	45.00	-	-	45.00	45.00

3	School Bus Umrangso 19Kilo -	No,s	1	20.00	-	20.00	-	20.00	
4	School Class rooms in the school Standard English School Hebron Village	No,s	5	4.00	20.00	-	-	20.00	
5	Village Road - 19kilo to New Borothungrang & Chota Thungrong	Km	12	0.67	2.04	3.00	3.00	8.04	
6	Solar Street Lights in the villages of New Borolarthang & Chotlarthing	No's	90	0.20	-	9.00	9.00	18.00	
7	Smart Class equipments for School Lovely well memorial school & Royal Academy	No's	2	15.00	15.00	-	15.00	30.00	
8	Open defecation free village- New Borothungrang & Chota Thungrong	No's	60	0.25	5.00	5.00	5.00	15.00	
9	Construction of ring wells- Kekrangsip, Langcherui	No.s	15	2.00	10.00	12.00	8.00	30.00	
10	Spring Water Harvesting in the village of Dhinrazi, Hanjanglingso, chtolangklam	No,s	3	15.00	15.00	15.00	15.00	45.00	
Grand Total						67.04	84.00	100.00	251.04

31. After deliberations on the submission made above, the committee opined that there is no significant change in the baseline scenario, impact, EMP and addition of new industries in the area. The committee also noted that the PP has agreed for the allocation of the CER based on the OM dated 1st May, 2018 and on revised project cost and Stage-I Clearance of Forestland involved in the project has been granted by the Ministry in 2019. Therefore, the committee, reiterated the recommendation of the EAC in its meeting held during 31st October & 1st November, 2013 for grant of environmental clearance subject to the standard conditions in respect of non-coal mining issued by the ministry vide office memorandum, F.No. 22-34/2018-IA.III, dated the 8th January, 2019 and following specific conditions.

- i. An amount of Rs. 251.04 Lakhs allocated for the CER shall be spent within 3 years for the activities such as Hospital Infrastructures; School infrastructure; village roads; ODF programme; rain water harvesting; and other concerns raised during the public hearing.
- ii. Green belt shall be developed with a total of 490890 saplings with a fund allocation of Rs. 6 crs. At the conceptual stage, out of the total lease area i.e. 417.50 ha, about 327.26 ha area shall be covered under greenbelt and

plantation (including 204.08 ha on mined out benches, 55.0 ha area around office and crusher area and 72.0 ha area on dump area). Green belt shall be developed all along the haul roads, around the mine pit, periphery of the mining lease area etc. Plantation shall be done on mined out benches, waste dump area, around mine office & crusher area. Plantation will be done @ 1500 plants/ha. The trees shall be planted at suitable grid spacing to encourage proper growth and species shall be planted according to CPCB guidelines such as *Emblica officinalis* (Amla), *Acacia catechu* (Kher), *Terminalia arjuna* (Arjun), *Albizia odoratissima* (Chichwa), *Anthocephalus cadamba* (Kadam), *Ficus religiosa* (Pipal), *Aegle marmelos* (Bel), *Madhuca indica* (Mahua), *Terminalia tomentosa* (Saja), *Anogeissus latifolia* (Dhaora), *Dalbergia sissoo* (Sisam) etc.

- iii. Garland drain of adequate cross section shall be made all along the quarry area and measures shall be taken to avoid the erosion and contamination of the surrounding area.
- iv. Controlled blasting shall be carried using the NONELs and fly rock control measures.
- v. In pursuant to Ministry's O.M No 22-34/2018-IA.III dated 16.01.2020 to comply with the direction made by Hon'ble Supreme Court on 8.01.2020 in W.P. (Civil) No 114/2014 in the matter Common Cause vs Union of India, the mining lease holder shall after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to other mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc

2.3 Transportation of 0.7 MTPA left over stock of Bauxite Ore through road transportation at Kodingamali Bauxite Mine (3.0 MTPA) of M/s Odisha Mining Corporation limited located in Koraput & Rayagada districts of Odisha-EC Amendment

[F.No. J-11015/ 439/2007-IA II (M); IA/OR/MIN/151193/2020]

1. The Environment Clearance for Kodingamali Bauxite mining project of M/s Odisha Mining Corporation has been accorded by Ministry vide letter no. J-11015 /439/2007-IA.II (M) dated 28.05.2008 for a production capacity of 3.0 MTPA. Amendment of EC for transportation Bauxite Ore via road for 1.26 MTPA has been obtained vide letter dt. 24.11.2017 subject to the condition to upgrade the road. Subsequently, on 17.12.2018 further amendment to EC for transportation of 3.00 MTPA through road ore has been obtained.

2. M/s OMC has reported that during the FY 2018-19, it has produced only 2.7 MTPA, out of which 0.7 MTPA could not dispatch and has been stacked within the mine premises.

3. In the present application, M/s OMC requested to provide one-time permission to transport 0.7 MTPA stack lying the mine premises through road during a period of 4-6 months. It was informed that all the pollution control measures including maintenance of the roads will be done during the dispatch of this additional quantity.

4. M/s OMC has submitted the carrying capacity study carried during July, 2017 along with the application. As per the carrying capacity study, about 3.7 Million tonnes per annum (Mtpa) can be transported, if the entire route (all stretches) are converted to 7m wide carriageway with 2.5m shoulder on either side configuration. Also the structures are needed to be suitably modified in terms of strengthening and widening as per IRC standards, wherever required. Further, for all stretches, the pavement thickness of the widening part & overlay thickness on the existing carriageway should be as per IRC standards for the additional traffic volume

5. During the deliberations, the project proponent has submitted following before the committee: -

- i. It was proposed to use the 18T payload trucks in lieu of 15 T pay load trucks.
- ii. No. of PCUs in two directions will increase from 3636 to 3738.
- iii. Carrying capacity of 7m wide road in hilly terrain (PCU) is 8050
- iv. The type of the road is as follows:

Road	Description	Length (Km)	Type of Road	Width (M)	Each Shoulder (M)
R1	Mine to R2	3.5	Concrete	7.0 - 20	1.5
R2	Link road (Govt Road)	3.9	Bitumen	7.5	1.5
R3	NH- 326	16.0	Bitumen	7.0	1.5
R4	NH-326 to Kakiriguma Rly Siding	0.5	Bitumen	7.5	1.5

- v. The proponent has also informed and shown the photographs of plantation activity started in the safety zone of the mine as observed the committee in the previous meeting during the appraisal for ToR for expansion of the project capacity.
- vi. The project proponent has shown the letter of State Rural Works division dated 29th April, 2020, that the carriage way width of the road is 7.50 m with 1.50 m shoulder, both the side, i.e. 10.50 m total width and has the capacity of 11500 PCU.

6. After detailed deliberations the Committee is of the view that material already stacked is leftover as the rate of production is not same as rate of dispatch due to restriction on transportation of the mineral. The Stack handling does not include drilling and blasting and same needs to be distributed over the financial year (i.e. not more than 58333 tons/month) which will have less impact on environment as compared to transporting entire left over material in short span of time. Therefore, the committee recommended for one-time permission for dispatch of 0.7 million ton leftover stock of bauxite ore mined during 2018-19, in the current FY 2020-2021, in the distributed manner over the financial year, as a special case, in addition to the approved EC capacity with following additional conditions: -

- i. PP shall distribute the dispatch over the financial year i.e. not more than 58333 tons/month.
- ii. PP shall deploy 18 T payload trucks in lieu of 15 T pay load trucks, as proposed, for reduction of number of PUCs.
- iii. PP shall take intensive water sprinkling arrangements at the loading point of the left over stock.
- iv. The transportation road shall be maintained including sweeping of the roads at periodical interval
- v. The avenue plantation shall be carried all along the road from mine to link road during the ensuing monsoon and shall complete with in a year. The compliance for the same shall be submitted to the regional office with supporting documents / photographs.

2.4 Amtipani Bauxite Mine (ML area 190.95 Ha; Production capacity 150000 TPA) of M/s Hindalco Industries Limited near Village: Amtipani, Chirodih&Gurdari, Taluka: Bishunpur, District: Gumla, Jharkhand – Revalidation of EC under the provisions of SO 1530 (E) dated 6th April, 2018

[J-11015/241/2005-IA.II(M); IA/JH/MIN/80511/2018]

Member Secretary informed that the project proponent has submitted the request through e-mail dated 4th May, 2020 for deferment of their proposal as they are unable to participate in the meeting. Therefore, the proposal is deferred as the project proponent did not attend the meeting.

2.5 Permission for Pilot Study for backfilling with Bauxite Residue (Red mud) at Baphlimali Bauxite Mine of M/s UtkalAlumina International Limited located at Rayagada& Kalahandi District of Odisha.

1. The present application is for permission for Pilot Study for backfilling with Bauxite Residue (Red mud) at Baphlimali Bauxite Mine of M/s Utkal Alumina International Limited located at Rayagada & Kalahandi District of Odisha,
2. Project proponent has submitted the following information: -
 - i. Baphlimali Bauxite Mine of M/s Utkal Alumina International Limited subsidiary of Hindalco Industries Limited) over an area of 1388.74 Hectares situated in Rayagada Kalahandi District of Odisha State. Out of 1388.74 Ha of the ML area 968.00 Ha covered under surface plateau.
 - ii. ML was granted in 1998 and valid till 2028.
 - iii. Red Mud is a low alumina, high iron oxide, alkaline residue generated from Bayer process used for conversion from Bauxite to Alumina. It is High Volume, Low Impact Waste, as per Chapter VI Notes of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.
 - iv. The characteristics of red mud: It is a mixture of various minerals; originated either from ore or modified during refining process – e.g. significant quantities of iron, aluminium, TiO₂; presence of Rare Earth Elements (REE) and; presence of radioactive substances below permissible limit for radionuclides of natural origin.
 - v. About 2.5 MTPA red mud is being generated from the Utkal Alumina plant which is located nearby.
 - vi. Current Practices of Red Mud Management at Utkal Alumina include Bauxite Residue Filtration using Pressure Filters before stacking; Dry Mud Stacking at the factory location; etc.
 - vii. Potential end use of the Red Mud is for manufacturing of Cement; Road making; Construction products; For backfilling, rehabilitating mine pits, stone quarries. Among others backfilling of mine void is only potential bulk utilization.
 - viii. Purpose: To assess the suitability of using red mud for backfilling the Baphlimali Mine without any adverse impact on all aspects of environment.
 - ix. Proposal: To undertake an experimental study towards utilization of red mud in pilot scale for the purpose of mine backfilling at our Baphlimali Bauxite Mine.
 - x. Conducted 2 (Two) independent studies through: Indian Institute of Technology (IIT), Bombay; and CSIR –National Environmental Engineering Research Institute (CSIR-NEERI) Nagpur

- xii. The project proponent has submitted that it will be a pilot study to conserve virgin land and utilise Red-Mud to fill the void created due to mining of Bauxite. During backfilling, NEERI will monitor the environmental impacts & the same may be verified by MoEF&CC and local SPCB at a suitable frequency.
3. Details of Pilot study:
 - i. Two blocks of 50 m X 50 m in the backfilled area.
 - ii. HDPE liner or impervious layer on all the sides of the red mud backfilling
 4. During the deliberations the project proponent has submitted the following:
 - i. There is no economically viable technology is available for extraction of iron and other precious metals available in the red-mud.
 - ii. The findings of the study will be shared to the SPCB and CPCB
 - iii. The recommendations of the NEERI and IIT will be followed
 - iv. The project proponent also shared the final report of NEERI on Design of Containment System for Mine Backfilling with Red Mud at Utkal Alumina International Limited (UAIL), Hindalco Plant.
 5. Sh. Nazimuddin, Scientist 'E', Central Pollution Control Board has been invited for submission of View of the CPCB in this regard. Sh. Nazimuddin informed that the Central Pollution Control Board is in the process of finalization of policy for disposal of the High Volume, Low Impact Waste, as per Chapter VI Notes of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016. He also informed that since the red mud is highly alkaline and backfilling of mine voids shall be done only with the inert material, in absence of the finalized policy from CPCB, the proposal may not be acceptable.
 6. The committee noted that the present proposal is for the pilot study for backfilling with Bauxite Residue (Red mud) at Bauxite Mine of M/s Utkal Alumina International Limited, located at Rayagada, with a technical support of IIT and NEERI, for finding the feasibility of the filling of red mud in the mine voids, for alternative bulk disposal method of red mud. The committee opined that though, the red mud can be utilized for the manufacturing of cement, construction material, etc., howbeit, the quantity utilized for this is substantially low and generation of the red mud is very high. It also opined that if the red mud is disposed in the tailing ponds, also, have the concerns like degradation of fresh land, leaching, contamination of the ground water, breaching of the

embankments, etc. Therefore, as a policy and research, the outcome of the pilot study can be used for framing the appropriate policy by CPCB and the instant proposal is comparatively in small area and, in a confined condition, with a technical support of NEERI and IIT, the committee is of the opinion to encourage such studies. The committee also noted that the proposal is not for backfilling of mine void as a simplicitor, but rather containment of such red mud in the mine void with appropriate geo-liners etc. to avoid ground water contamination. Such containment would also allow reuse of such red mud at later date once the techno-economic solution is available. In any case, the present research proposal has to be reviewed scientifically qua the business as usual which is simply dumping of the red mud on ground.

7. After detailed deliberation, the committee recommended for pilot study for backfilling with Bauxite Residue (Red mud) at Bauxite Mine of M/s Utkal Alumina International Limited, located at Rayagada, for a period of six months, for the backfilling of 35,000 m³ in an area of 50 m X 50 in two locations, in the backfilling area, subject to the following conditions

- i. All the sides of the proposed area of the red mud backfilling shall be lined with HDPE liner or other impervious layer as suggested by the NEERI or IIT;
- ii. The leachates if any generated during the backfilling shall be collected and treated properly as per the design management suggested by NEERI;
- iii. The impact on the ground water through leachates shall be studied through a network of piezo-metric wells covering dip, rise and cross sides and monitoring of water quality once in every fortnight.
- iv. Air pollution control measures, *inter alia*, include covering of red-mud transport vehicles with tarpaulin sheets to avoid fugitive dust emissions; deployment of Mobile Water Sprinklers; deployment of vehicle mounted misting cannons at fines handling areas; wheel washing facility for trucks; regular maintenance of roads to reduce fugitive emissions from roads & vehicular emissions; etc.
- v. Consent form the SPCB shall be obtained before commencement of backfilling;
- vi. The findings of the study shall be shared to CPCB, SPCB and MoEF.
- vii. As informed by PP, the entire research study will be under strict supervision of IIT-Bombay for geotechnical aspects and NEERI for environmental aspects. The recommendations of the NEERI and IIT shall be followed.

- viii. The PP will be responsible for the restoration of backfill site, in case of the contamination, if any, during and post backfilling of the red mud.

2.6 Virpur Bauxite Mining Project (ML area 4.6461 ha; production capacity 40,480 MTPA) of M/s Carborundum Universal Limited Located near Village Virpur, Taluka Kalyapur, District DevbhumiDwarka, and State Gujarat – ToR Regarding [J-11015/21/2020-IA-II (M); IA/GJ/MIN/125317/2019]

1. The proposal of M/s Carborundum Universal Limited is for Virpur Bauxite Mining (Area – 4.6461 ha) with Production Capacity of Bauxite 40480 TPA situated at Serial no. 58/183 Paiky, Village - Virpur, Taluka - Kalyapur, District – DevbhumiDwarka, Gujarat. The mining lease area falls on the Survey of India toposheet No. F43H1- new reference no. (46F/1-old reference no.). The site falls between Latitude 22°16'1.70" N - 22°16'2.70" and Longitude 69°19'10.90"E - 69°19'17.30" E.
2. As per EIA Notification dated 14th September, 2006 as amended from time to time, this mining project required to appraise at central level as the project or activity 1(a) attracted the General Condition due to marine national park ESZ and wild life sanctuary within 5 km from mine lease boundary. The PP applied online vide proposal No. IA/GJ/MIN/125317/2019 dated 14.11.2019 and submitted the Form-1, Pre-feasibility Report. The area falls in the Seismic Zone IV, as per seismic zone map of India.
3. In response to EDS raised on 10.12.2019, PP submitted that initially the mining lease for mineral Bauxite was issued vide grant order no. MCR 1095/4909-CHH dated 23.04.2002. The lease was executed on 20.08.2002 for a period of 20 years. As per MMDR Amendment Act, 2015 by the government of India, the lease is valid up to 19-08-2052.
4. PP submitted that Virpur Bauxite Mining project has total lease area of 4.6461 Ha, which is less than 5 Ha. (Minor Mineral) and such lease are subject to Environmental Clearance vide MoEF&CC notification S.O.141 (E) dated 15th January 2015 stated that *'In pursuance to the order of Hon'ble Supreme Court dated the 27th February, 2012 in I.A.No.12-13 of 2011 in special leave petition (c) No. 19628-19629 of 2009, in the matter of Deepak Kumar etc. Vs. State of Haryana and Others etc. prior environmental clearance has now become mandatory for mining of minor minerals irrespective of the area of mining lease'*.
5. In response to EDS raised on 10.12.2019, PP submitted that “prior to this notification (before 2015), mines having area less than 5 ha were not subject to prior Environmental Clearance. The certified production details from District Geologist clearly states that there has been no production between 2005 onwards up to 2019. Therefore, the proposed project does not fall under Violation

Category as per the notification 804 (E) dated 14.03.2017.” The mine is presently not working.

6. In response to EDS raised on 10.12.2019, PP has uploaded the letter w.r.t. the certified production details from District Geologist which is in Gujarati language and English translation provided by PP during the presentation before the committee.

7. PP submitted that the mining lease having area of 4.6461 hectares is a non-forest waste land.

8. PP submitted that the aforesaid lease area measuring 4.6461 ha is for extraction of Bauxite. The annual production is targeted at 40,480 MTPA. Open cast semi mechanized mining method is proposed to be adopted to mine out the minerals. Review of Mining Plan was approved by the Regional Controller of Mines; Gandhinagar vide letter no. 684(4)(1)/MP-211/2018-GNR dated 08.04.2019.

9. Mining is carried out by open cast semi mechanized method. The bauxite horizons are present below the thin cover of soil having mineral thickness of 4.0M. Mining will be proposed by formation of benches. The height of benches will be kept of 4.0 m and width of benches will be maintained 4580 m² in first year. Approximately 0.5 m thin soil cover will be removed first mining. Manual sorting will be done and further transportation will be carried out by loading of mineral in trucks. The existing weathered road is being used as approach road for transportation. The mining lease area has been developed by developing pits. The top and bottom RLs of the site are 14mRL and 9.5mRL respectively. The mining has been carried out by developing benches.

10. The mining plan is prepared for next three years up to year 2021-22. As the mining lease exists in nature and having working pits during 2003-2005 for total production 5750 MT. Mining will be carried out by semi mechanized open cast method with drilling and blasting. As per approved mine plan, excavation will be started from south part of the lease and north south face of pit no. 1. The factor of recovery (RF) of bauxite from ROM is considered as 0.90 (90% of ROM). As the mining lease is existing, it will be carried out in already excavated area for three years. Bauxite will be excavated by developing benches of 4.0 m.

11. PP submitted that the Total water requirement is about 10 KLD (1.0 KLD (Drinking & Domestic Uses) + 4 KLD (Plantation) + 5.0 KLD (Dust Suppression). The required water will be supplied through water tankers from nearby village Virpur. Surface and ground water will not be affected due to mining activity. There is no source of surface water within the leasehold area. Further, there will be no cause of contamination of water, as no industrial effluent will be discharged. Also there will be no quarry discharge water from the mine.

12. PP submitted that the mine will work in one shift (i.e., general shift) only that is day shift, so no lighting arrangements will be required. The project will generate direct and indirect employment opportunities to the tune of about 21 persons from the nearby villages.

13. PP submitted that there is no litigation pending against the project and/or land in which the project is proposed to be set up.

14. PP has submitted Copy of affidavit in compliance of the Ministry's OM No 3- 50/2017-IA.III (Pt.), dated 30th May, 2018 vide affidavit dated 26.12.2019.

15. Also PP has submitted that there is no demand raised from department of Mines & Geology and therefore, no payment has been made to department of Mines & Geology.

16. During the presentation before the committee, project proponent has submitted the following information: -

- i. Due to the presence of Marine Sanctuary in the 5 Km radius of the Virpur Bauxite Mine, the present proposal is categorized as 'A' and will appraise at Central Level; MoEF&CC.
- ii. The lease was executed on 02.09.2002 Vide No. GJ/ML/894/4428. The Industries and Mines Department of Gujarat Government has processed the extension of lease period of Virpur Mine up to 30.03.2030 as per Section 8A (5) of the MMDR Amendment Act, 2015.
- iii. Marine National Park is about 13.6 Km in North East direction. Marine Sanctuary is about 2.8 Km in North West direction. As per the distance certificate from Deputy Forest Officer, Marine National Park, Jamnagar, the site is outside the ESZ and having 32.0 mt. distance from the CRZ boundary.
- iv. Gujarat State Approved Coastal Regulation Zone Map No. F 42 J 7/SE, of Devbhumi Dwarka clearly indicates that our lease is out of the Ecologically Sensitive Zone by 32-36 meters and is situated at a distance of 1.03 Km from the high tide line.

17. After detailed deliberations, the committee recommended for grant of Standard ToR pertaining to non-coal mining projects or activities.

2.7 Brishyrnot Limestone Deposit-I with proposed production of Limestone capacity of 2.507 Million TPA and Proposed Shale Production Capacity of 0.217 Million TPA in the Mine Lease area of 42.051 ha, by M/s Star Cement Meghalaya Ltd., located at Villages Brishyrnot, Tehsil - Khliehriat, District-East Jaintia Hills, Meghalaya – Amendment in ToR. [J-11015/17/2019-IA-II(M); IA/ML/MIN/148621/2020]

1. The proposal of M/s Star Cement Meghalaya Ltd. is for amendment in TOR granted vide letter no. J-11015/17/2019-IA.II (M) dated 22nd April, 2019 w.r.t. exemption in the Public Hearing as a special case in line with EIA notification 2006 dated 14.09.2006. The TOR was granted to M/s Star Cement Meghalaya Ltd. for Brishyrnot Limestone Deposit-I with proposed production of Limestone capacity of 2.507 Million TPA and proposed Shale Production capacity of 0.217 Million TPA in the Mine Lease area of 42.051 Hectare, located at village Brishyrnot, Tehsil- Khliehriat, East Jaintia Hills District, Meghalaya.

2. The project falls under Schedule 1(a) of mining and is a Category “B” project as per EIA notification 14 September 2006. Since the General Condition (GC) is applicable as the project is at a distance of 1.46 km from Narpuh Wildlife Sanctuary, the proposed project has been considered under “A” category. PP also reported that the mine lease area boundary is at a distance of 0.25 km from Eco Sensitive Zone (ESZ) of Narpuh Wild Life Sanctuary.

3. PP earlier had applied online vide proposal no IA/ML/MIN/90345/2019 for grant of ToR and submitted Form-1 & PFR. The proposal was considered by the Expert Appraisal Committee in its meeting held during February 20-21, 2019 wherein the Committee prescribed Standard TOR along with additional Term of Reference (ToRs) for the project for undertaking detailed EIA study vide letter no. J-11015/17/2019-IA.II (M) dated 22nd April, 2019.

PP has now applied vide Proposal No. IA/ML/MIN/148621/2020 on 19.03.2020 seeking amendment in the above granted TOR w.r.t. exemption in the Public Hearing as a special case in line with EIA notification 2006 dated 14.09.2006 by invoking para 7 (i) of stage 3-Public Consultation clause (V) as per the recommendations of Member Secretary, MSPCB vide his letter no MPCB/TB-360-SCML-2019/2019-2020/30 dated 03.03.2020. The recommendations of MS, MSPCB is as follows:

*“Inter-alia as per clause 5 of the said TOR, the Public Hearing (PH) was to be completed as per the EIA notification 2006, dated 14.09.2006. Accordingly, the Deputy Commissioner, East Jaintia Hills District vide letter No. ESHD/Rev-259/2019/5 dated 09.09.2019 has fixed the date of public hearing on 19.10.2019. However the Deputy Commissioner, East Jaintia Hills District vide letter No. EJHD/Rev-259/2019/162 dated 19.10.2019 had postpone the public hearing. The same has been forwarded to the Ministry vide **T.O. letter No. MPCB/TB-360-SCML-2019/2019-2020/17 dated 26.11.2019. (Copy enclosed at Annexure-I).***

Thereafter, the Deputy Commissioner, East Jaintia Hills District vide letter No. EJHD/Rev- 259/2019/172 dated 23.12.2019 has again fixed the date of Public Hearing on 30.01.2020 but the Public Hearing was again called off by the Additional Deputy Commissioner, East Jaintia Hills District in order to

*prevent any untoward incident and break down of law and order. **(copy of report alongwith video is enclosed at Annexure-II)**. It may also be mentioned that a total of 280 (two hundred) written presentations (copies enclosed at Annexure-III) was received by the Board of which 6 (six) are against and the rest supports the proposed project of M//s Star Cement Meghalaya Ltd.*

The ground adduced by the Deputy Commissioner for cancellation on two occasions reflected ground reality of repetition of disruption. Therefore, it appears to be a fit case to dispense with public hearing and invoke para 7(i) of Stage (3)-public consultation clause (V) of the EIA Notification 2006 dated 14.09.2006 as also indicated in the Deputy Commissioner's report a copy of which is enclosed."

4. PP has also mentioned in its letter that the Office of the village Council Brishyrnot has given NOC for conducting the Public Hearing vide Ref. DSB/SCML/001/19-20 dated 09.08.2019.
5. PP has uploaded the letter from Member Secretary, MSPCB and also NOC from Office of the village Council Brishyrnot as mentioned above. PP has not uploaded the annexed documents as mentioned in the MSPCB letter dated 03.03.2020.
6. The committee during the deliberations note the following submissions made by the project proponent.
 - i. As per clause 6 under Standard ToR (Mining) point no.5 & 41 and Clause 8 of the said ToR, the public hearing has to be completed and proceedings of the Public Hearing need to be incorporated in the EIA report as per provisions defined in EIA notification 2006.
 - ii. Accordingly, EIA report was submitted to Meghalaya State Pollution Control Board (MSPCB) with request to conduct Public Hearing.
 - iii. Village Council Brishyrnot gave NOC for conducting the Public Hearing as well as support to the operation of the mine vide Ref DSB/SCML/001/19-20 dated 09.08.2019 which was duly addressed to Deputy Commissioner.
 - iv. Two attempts were made to conduct the Public Hearing on 19.10.2019 and 30.01.2020. However, the Public Hearing could not be completed due to nuisance created by miscreants not hailing from Brishyrnot and nearby villages.
 - v. Member Secretary of MSPCB recommended to MoEF&CC for invoking para 7 (i) of stage 3-Public Consultation clause (V) of the EIA notification 2006 dated 14.09.2006 regarding exemption in Public Hearing for the above-

mentioned project in its letter no MPCB/TB-360-SCML-2019/2019-2020/30 dated 03.03.2020 addressed to MoEF&CC with copy to Deputy Commissioner East Jaintia Hills District, Khliehriat.

- vi. Even though the public hearing could not take place both the times, however, 280 people submitted written submissions before the Additional Deputy Commissioner. Out of these, only 6 submissions were against the project and rest of the submissions were in favor of the project.
- vii. In view of the reasons given by the Member Secretary vide his letter no MPCB/TB-360-SCML-2019/2019-2020/30 Dated 03.03.2020 for not able to conduct Public Hearing, PP had no choice except to approach EAC (Non coal mining) at MoEF&CC for getting exemption from Public Hearing.

7. The committee had deliberated in detail on the submission made by the project proponent and the extant provisions available in this regard in the EIA Notification, 2006. The paragraph 7 (i) of stage 3-Public Consultation clause (V) of the EIA notification 2006 is reproduced as below: -

'If the public agency or authority nominated under the sub paragraph (iii) above reports to the regulatory authority concerned that owing to the local situation, it is not possible to conduct the public hearing in a manner which will enable the views of the concerned local persons to be freely expressed, it shall report the facts in detail to the concerned regulatory authority, which may, after due consideration of the report and other reliable information that it may have, decide that the public consultation in the case need not include the public hearing'

8. The committee is of the view that -
 - i. The project proponent has made his efforts to convene the public hearing but could not happen due to the reasons mentioned above.
 - ii. "Public Consultation" refers to the process by which the concerns of local affected persons and others who have plausible stake in the environmental impacts of the project or activity are ascertained with a view to taking into account all the material concerns in the project or activity design as appropriate.
 - iii. The Public Consultation shall ordinarily have two components comprising of a public hearing at the site or in its close proximity- district wise, to be carried out in the manner prescribed in Appendix IV, for ascertaining concerns of local affected persons; and obtain responses in writing from other concerned persons having a plausible stake in the environmental aspects of the project or activity.
 - iv. Therefore, in the instant case the component of hearing has not fulfilled but the second component has taken place. As such, the instant request to be considered as a request for consideration of EIA/EMP with consultation through written submission.

9. After detailed deliberations on the extant provisions and submissions made the project proponent, the committee is of the view that there is no distinct power vested Expert Appraisal Committee in this regard. However, the committee is of the view that the regulatory authority may after due consideration of the report of District Authorities and other reliable information that it may have through the consultation with District Authorities and SPCB, decide on the component of public hearing in the public consultation for the instant proposal.

Standard Terms of Reference (TOR) for Mining Project

- 1) Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994.
- 2) A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.
- 3) All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee.
- 4) All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/toposheet, topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).
- 5) Information should be provided in Survey of India Toposheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.
- 6) Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority.
- 7) It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the proposed safeguard measures in each case should also be provided.

- 8) Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided.
- 9) The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period.
- 10) Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.
- 11) Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given.
- 12) A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.
- 13) Status of forestry clearance for the broken up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.
- 14) Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.
- 15) The vegetation in the RF / PF areas in the study area, with necessary details, should be given.
- 16) A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted.

17) Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.

18) A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan alongwith budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.

19) Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Dept. Should be secured and furnished to the effect that the proposed mining activities could be considered.

20) Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL, HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).

21) R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report.

22) One season (non-monsoon) [i.e. March - May (Summer Season); October - December (post monsoon season); December - February (winter season)] primary baseline data on ambient air quality as per CPCB Notification of 2009, water

quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given.

23) Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modelling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.

24) The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.

25) Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.

26) Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.

27) Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.

28) Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.

29) Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be.

30) Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and BGL. A schematic diagram may also be provided for the same.

31) A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.

32) Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.

33) Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.

34) Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.

35) Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.

36) Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.

37) Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.

38) Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.

39) Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.

40) Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.

41) The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.

42) A Disaster Management Plan shall be prepared and included in the EIA/EMP Report.

43) Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.

44) Besides the above, the below mentioned general points are also to be followed: -

a) All documents to be properly referenced with index and continuous page numbering.

b) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.

c) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project.

d) Where the documents provided are in a language other than English, an English translation should be provided.

e) The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.

f) While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF vide O.M. No. J-11013/41/2006-IA.II (I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed.

g) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF&CC with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation.

h) As per the circular no. J-11011/618/2010-IA. II (I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.

i) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and

(iii) Sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.

Standard Tor Beneficiation

1. The alternate sites considered, the relative merits and demerits and the reasons for selecting the proposed site for the Beneficiation Plant should be indicated.
2. Details of the technology and process involved for beneficiation should be given.
3. Location of the proposed Plant w.r.t. the source of raw material and mode of transportations of the ore from mines to the beneficiation plant should be justified.
4. Treatment of run of mine (ROM) and or of the fines/waste dump should be spelt out.
5. Estimation of the fines going into the washings should be made and its management described.
6. Details of the equipment, settling pond etc. should be furnished.
7. Detailed material balance should be provided.
8. Sources of raw material and its transportation should be indicated. Steps proposed to be taken to protect the ore from getting air borne should be brought out.
9. Management and disposal of tailings and closure plan of the tailing pond, if any after the project is over, should be detailed in a quantified manner.
10. The water requirement for the project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the project should also be indicated.
11. A copy of the document in support of the fact that the Proponent is the rightful lessee of the unit should be given.
12. All documents including EIA and public hearing should be compatible with one another in terms of the production levels, waste generation and its management and technology and should be in the name of the lessee.
13. All corner coordinates of the Unit, superimposed on a High Resolution Imagery/Toposheet should be provided. Such an Imagery of the proposed Unit should clearly show the land use and other ecological features of the study area (core and buffer zone).

14. It should be clearly indicated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/ violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report.
15. Issues relating to Safety should be detailed. The proposed safeguard measures in each case should also be provided. Disaster management plan shall be prepared and included in the EIA/EMP Report.
16. The study area will comprise of 10 km zone around the Plant.
17. Cumulative impact study of both Beneficiation Plant with suggested mitigation measures as per the study should be described.
18. Location of Railway siding with its handling capacity and safety measures should be indicated.
19. Option to provide only silo for storage of minerals instead of open stacking to avoid fugitive dust should be explored and arrangements finalized justified.
20. Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.
21. Details of the land for any Over Burden Dumps outside the lease, such as extent of land area, distance from lease, its land use, R&R issues, if any, should be given.
22. A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the Project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.

23. Status of forestry clearance for the broken up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.
24. Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.
25. The vegetation in the RF / PF areas in the study area, with necessary details, should be given.
26. A study shall be got done to ascertain the impact of the Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly detailed mitigative measures required, should be worked out with cost implications and submitted.
27. Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Tiger/Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.
28. A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan along with budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.
29. Proximity to Areas declared as 'Critically Polluted' shall also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB/CPCB shall be secured and furnished to the effect that the proposed activities could be considered.
30. Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL, HTL, CRZ area, location of the unit w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).

31. R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects, should be discussed in the report.

32. One season (non-monsoon) [i.e. March-May (Summer Season); October-December (post monsoon season); December-February (winter season)] primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the unit in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given.

33. Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modeling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.

34. The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.

35. Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be secured and copy furnished.

36. Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.

37. Impact of the project on the water quality, both surface and groundwater should be assessed and necessary safeguard measures, if any required, should be provided.

38. Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.
39. A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the project. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to the pollution.
40. Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered.
41. Details of the onsite shelter and facilities to be provided to the workers should be included in the EIA report.
42. Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area should be detailed.
43. Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.
44. Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.
45. Public hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.
46. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the project should be given.

47. The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.

48. A brief background of the Project, its financial position, Group Companies and legal issues etc should be provided with past and current important litigations if any.

49. Benefits of the Project, if the project is implemented should be outlined. The benefits of the projects shall clearly indicate environmental, social, economic, employment potential, etc.

50. Besides the above, the below mentioned general points are also to be followed:-

a) Executive Summary of the EIA/EMP Report;

b) All documents to be properly referenced with index and continuous page numbering.

c) Where data are presented in the report especially in Tables, the period in which the data were collected and the sources should be indicated.

d) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the project.

e) Where the documents provided are in a language other than English, an English translation should be provided.

f) The Questionnaire for environmental appraisal of project as devised earlier by the Ministry shall also be filled and submitted.

g) While preparing the EIA report, the instructions for the proponents and instructions for the consultants issued by MoEF&CC vide O.M. No. J-11013/41/2006-IA.II(I) dated 4th August, 2009, which are available on the website of this Ministry, should also be followed.

h) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF&CC with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation.

i) As per the circular no. J-11011/618/2010-IA.II(I) dated 30.5.2012, certified Report of the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project by the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable

Standard EC Conditions: (As Ministry's O.M No 22-34/2018-IA.III dated 8.01.2019 and Ministry's O.M No 22-34/2018-IA.III dated 16.01.2020)

I. Statutory compliance

- 1) This Environmental Clearance (EC) is subject to orders/ judgment of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, Common Cause Conditions as may be applicable.
- 2) The Project proponent complies with all the statutory requirements and judgment of Hon'ble Supreme Court dated 2nd August,2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India &Ors before commencing the mining operations.
- 3) The State Government concerned shall ensure that mining operation shall not be commenced till the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective Department of Mining & Geology in strict compliance of Judgment of Hon'ble Supreme Court dated 2nd August, 2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India &Ors.
- 4) This Environmental Clearance shall become operational only after receiving formal NBWL Clearance from MoEF&CC subsequent to the recommendations of the Standing Committee of National Board for Wildlife, if applicable to the Project.
- 5) This Environmental Clearance shall become operational only after receiving formal Forest Clearance (FC) under the provision of Forest Conservation Act, 1980, if applicable to the Project.
- 6) Project Proponent (PP) shall obtain Consent to Operate after grant of EC and effectively implement all the conditions stipulated therein. The mining activity shall not commence prior to obtaining Consent to Establish / Consent to Operate from the concerned State Pollution Control Board/Committee.
- 7) The PP shall adhere to the provision of the Mines Act, 1952, Mines and Mineral (Development & Regulation), Act, 2015 and rules & regulations made there under. PP shall adhere to various circulars issued by Directorate General Mines Safety (DGMS) and Indian Bureau of Mines from time to time.
- 8) The Project Proponent shall obtain consents from all the concerned land owners, before start of mining operations, as per the provisions of MMDR Act, 1957 and rules made there under in respect of lands which are not owned by it.

9) The Project Proponent shall follow the mitigation measures provided in MoEFCC's Office Memorandum No. Z-11013/57/2014-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".

10) The Project Proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of surface water and from CGWA for withdrawal of ground water for the project.

11) A copy of EC letter will be marked to concerned Panchayat / local NGO etc. if any, from whom suggestion / representation has been received while processing the proposal.

12) State Pollution Control Board/Committee shall be responsible for display of this EC letter at its Regional office, District Industries Centre and Collector's office/ Tehsildar's Office for 30 days.

13) The Project Authorities should widely advertise about the grant of this EC letter by printing the same in at least two local newspapers, one of which shall be in vernacular language of the concerned area. The advertisement shall be done within 7 days of the issue of the clearance letter mentioning that the instant project has been accorded EC and copy of the EC letter is available with the State Pollution Control Board/Committee and web site of the Ministry of Environment, Forest and Climate Change (www.parivesh.nic.in). A copy of the advertisement may be forwarded to the concerned MoEFCC Regional Office for compliance and record.

14) The Project Proponent shall inform the MoEF&CC for any change in ownership of the mining lease. In case there is any change in ownership or mining lease is transferred than mining operation shall only be carried out after transfer of EC as per provisions of the para 11 of EIA Notification, 2006 as amended from time to time.

II. Air quality monitoring and preservation

15) The Project Proponent shall install a minimum of 3 (three) online Ambient Air Quality Monitoring Stations with 1 (one) in upwind and 2 (two) in downwind direction based on long term climatological data about wind direction such that an angle of 120° is made between the monitoring locations to monitor critical parameters, relevant for mining operations, of air pollution viz. PM10, PM2.5, NO2, CO and SO2 etc. as per the methodology mentioned in NAAQS Notification No. B-29016/20/90/PCI/I, dated 18.11.2009 covering the aspects of transportation and use of heavy machinery in the impact zone. The ambient air quality shall also be monitored at prominent places like office building, canteen etc. as per the site condition to ascertain the exposure characteristics at specific

places. The above data shall be digitally displayed within 03 months in front of the main Gate of the mine site.

16) Effective safeguard measures for prevention of dust generation and subsequent suppression (like regular water sprinkling, metalled road construction etc.) shall be carried out in areas prone to air pollution wherein high levels of PM10 and PM2.5 are evident such as haul road, loading and unloading point and transfer points. The Fugitive dust emissions from all sources shall be regularly controlled by installation of required equipments/ machineries and preventive maintenance. Use of suitable water-soluble chemical dust suppressing agents may be explored for better effectiveness of dust control system. It shall be ensured that air pollution level conform to the standards prescribed by the MoEFCC/ Central Pollution Control Board.

III. Water quality monitoring and preservation

1) In case, immediate mining scheme envisages intersection of ground water table, then Environmental Clearance shall become operational only after receiving formal clearance from CGWA. In case, mining operation involves intersection of ground water table at a later stage, then PP shall ensure that prior approval from CGWA and MoEFCC is in place before such mining operations. The permission for intersection of ground water table shall essentially be based on detailed hydro-geological study of the area.

2) Regular monitoring of the flow rate of the springs and perennial nallahs flowing in and around the mine lease shall be carried out and records maintain. The natural water bodies and or streams which are flowing in an around the village, should not be disturbed. The Water Table should be nurtured so as not to go down below the pre-mining period. In case of any water scarcity in the area, the Project Proponent has to provide water to the villagers for their use. A provision for regular monitoring of water table in open dug wall located in village should be incorporated to ascertain the impact of mining over ground water table. The Report on changes in Ground water level and quality shall be submitted on six-monthly basis to the Regional Office of the Ministry, CGWA and State Groundwater Department / State Pollution Control Board.

3) Project Proponent shall regularly monitor and maintain records w.r.t. ground water level and quality in and around the mine lease by establishing a network of existing wells as well as new piezo-meter installations during the mining operation in consultation with Central Ground Water Authority/ State Ground Water Department. The Report on changes in Ground water level and quality shall be submitted on six-monthly basis to the Regional Office of the Ministry, CGWA and State Groundwater Department / State Pollution Control Board.

4) The Project Proponent shall undertake regular monitoring of natural water course/ water resources/ springs and perennial nallahs existing/ flowing in and around the mine lease and maintain its records. The project proponent shall undertake regular monitoring of water quality upstream and downstream of water bodies passing within and nearby/ adjacent to the mine lease and maintain its records. Sufficient number of gullies shall be provided at appropriate places within the lease for management of water. PP shall carryout regular monitoring w.r.t. pH and included the same in monitoring plan. The parameters to be monitored shall include their water quality vis-à-vis suitability for usage as per CPCB criteria and flow rate. It shall be ensured that no obstruction and/ or alteration be made to water bodies during mining operations without justification and prior approval of MoEFCC. The monitoring of water courses/ bodies existing in lease area shall be carried out four times in a year viz. pre- monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the record of monitored data may be sent regularly to Ministry of Environment, Forest and Climate Change and its Regional Office, Central Ground Water Authority and Regional Director, Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board. Clearly showing the trend analysis on six-monthly basis.

5) Quality of polluted water generated from mining operations which include Chemical Oxygen Demand (COD) in mines run-off; acid mine drainage and metal contamination in runoff shall be monitored along with Total Suspended Solids (TDS), Dissolved Oxygen (DO), pH and Total Suspended Solids (TSS). The monitored data shall be uploaded on the website of the company as well as displayed at the project site in public domain, on a display board, at a suitable location near the main gate of the Company. The circular No. J- 20012/1/2006-IA.II (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change may also be referred in this regard.

6) Project Proponent shall plan, develop and implement rainwater harvesting measures on long term basis to augment ground water resources in the area in consultation with Central Ground Water Board/ State Groundwater Department. A report on amount of water recharged needs to be submitted to Regional Office MoEFCC annually.

7) Industrial waste water (workshop and waste water from the mine) should be properly collected and treated so as to conform to the notified standards prescribed from time to time. The standards shall be prescribed through Consent to Operate (CTO) issued by concerned State Pollution Control Board (SPCB). The workshop effluent shall be treated after its initial passage through Oil and grease trap.

8) The water balance/water auditing shall be carried out and measure for reducing the consumption of water shall be taken up and reported to the Regional Office of the MoEF&CC and State Pollution Control Board/Committee.

IV. Noise and vibration monitoring and prevention

9) The peak particle velocity at 500m distance or within the nearest habitation, whichever is closer shall be monitored periodically as per applicable DGMS guidelines.

10) The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day /night hours.

11) The Project Proponent shall take measures for control of noise levels below 85 dBA in the work environment. The workers engaged in operations of HEMM, etc. should be provided with ear plugs /muffs. All personnel including laborers working in dusty areas shall be provided with protective respiratory devices along with adequate training, awareness and information on safety and health aspects. The PP shall be held responsible in case it has been found that workers/ personals/ laborers are working without personal protective equipment.

V. Mining plan

12) The Project Proponent shall adhere to the working parameters of mining plan which was submitted at the time of EC appraisal wherein year-wise plan was mentioned for total excavation i.e. quantum of mineral, waste, over burden, inter burden and top soil etc. No change in basic mining proposal like mining technology, total excavation, mineral & waste production, lease area and scope of working (viz. method of mining, overburden & dump management, O.B & dump mining, mineral transportation mode, ultimate depth of mining etc.) shall not be carried out without prior approval of the Ministry of Environment, Forest and Climate Change, which entail adverse environmental impacts, even if it is a part of approved mining plan modified after grant of EC or granted by State Govt. in the form to Short Term Permit (STP), Query license or any other name.

13) The Project Proponent shall get the Final Mine Closure Plan along with Financial Assurance approved from Indian Bureau of Mines/Department of Mining & Geology as required under the Provision of the MMDR Act, 1957 and Rules/ Guidelines made there under. A copy of approved final mine closure plan shall be submitted within 2 months of the approval of the same from the competent authority to the concerned Regional Office of the Ministry of Environment, Forest and Climate Change for record and verification.

14) The land-use of the mine lease area at various stages of mining scheme as well as at the end-of-life shall be governed as per the approved Mining Plan. The excavation vis-à-vis backfilling in the mine lease area and corresponding afforestation to be raised in the reclaimed area shall be governed as per approved mining plan. PP shall ensure the monitoring and management of rehabilitated areas until the vegetation becomes self-sustaining. The compliance status shall be submitted half-yearly to the MoEFCC and its concerned Regional Office.

VI. Land reclamation

15) The Overburden (O.B.) generated during the mining operations shall be stacked at earmarked OB dump site(s) only and it should not be kept active for a long period of time. The physical parameters of the OB dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by D.G.M.S w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of top soil/OB dumps. The topsoil shall be used for land reclamation and plantation.

16) The reject/waste generated during the mining operations shall be stacked at earmarked waste dump site(s) only. The physical parameters of the waste dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of waste dumps.

17) The reclamation of waste dump sites shall be done in scientific manner as per the Approved Mining Plan cum Progressive Mine Closure Plan.

18) The slope of dumps shall be vegetated in scientific manner with suitable native species to maintain the slope stability, prevent erosion and surface run off. The selection of local species regulates local climatic parameters and help in adaptation of plant species to the microclimate. The gullies formed on slopes should be adequately taken care of as it impacts the overall stability of dumps. The dump mass should be consolidated with the help of dozer/ compactors thereby ensuring proper filling/ leveling of dump mass. In critical areas, use of geo textiles/ geo-membranes / clay liners / Bentonite etc. shall be undertaken for stabilization of the dump.

19) The Project Proponent shall carry out slope stability study in case the dump height is more than 30 meters. The slope stability report shall be submitted to concerned regional office of MoEF&CC.

20) Catch drains, settling tanks and siltation ponds of appropriate size shall be constructed around the mine working, mineral yards and Top Soil/OB/Waste dumps to prevent run off of water and flow of sediments directly into the water bodies (Nallah/ River/ Pond etc.). The collected water should be utilized for watering the mine area, roads, green belt development, plantation etc. The drains/ sedimentation sumps etc. shall be de-silted regularly, particularly after monsoon season, and maintained properly.

21) Check dams of appropriate size, gradient and length shall be constructed around mine pit and OB dumps to prevent storm run-off and sediment flow into adjoining water bodies. A safety margin of 50% shall be kept for designing of sump structures over and above peak rainfall (based on 50 years data) and maximum discharge in the mine and its adjoining area which shall also help in providing adequate retention time period thereby allowing proper settling of sediments/ silt material. The sedimentation pits/ sumps shall be constructed at the corners of the garland drains.

22) The top soil, if any, shall temporarily be stored at earmarked site(s) within the mine lease only and should not be kept unutilized for long. The physical parameters of the top soil dumps like height, width and angle of slope shall be governed as per the approved Mining Plan and as per the guidelines framed by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of dumps. The topsoil shall be used for land reclamation and plantation purpose.

VII. Transportation

23) No Transportation of the minerals shall be allowed in case of roads passing through villages/ habitations. In such cases, PP shall construct a 'bypass' road for the purpose of transportation of the minerals leaving an adequate gap (say at least 200 meters) so that the adverse impact of sound and dust along with chances of accidents could be mitigated. All costs resulting from widening and strengthening of existing public road network shall be borne by the PP in consultation with nodal State Govt. Department. Transportation of minerals through road movement in case of existing village/ rural roads shall be allowed in consultation with nodal State Govt. Department only after required strengthening such that the carrying capacity of roads is increased to handle the traffic load. The pollution due to transportation load on the environment will be effectively controlled and water sprinkling will also be done regularly. Vehicular emissions shall be kept under control and regularly monitored. Project should obtain Pollution Under Control (PUC) certificate for all the vehicles from authorized pollution testing centers.

24) The Main haulage road within the mine lease should be provided with a permanent water sprinkling arrangement for dust suppression. Other roads within the mine lease should be wetted regularly with tanker-mounted water sprinkling system. The other areas of dust generation like crushing zone, material transfer points, material yards etc. should invariably be provided with dust suppression arrangements. The air pollution control equipments like bag filters, vacuum suction hoods, dry fogging system etc. shall be installed at Crushers, belt-conveyors and other areas prone to air pollution. The belt conveyor should be fully covered to avoid generation of dust while transportation. PP shall take necessary measures to avoid generation of fugitive dust emissions.

VIII. Green Belt

25) The Project Proponent shall develop greenbelt in 7.5m wide safety zone all along the mine lease boundary as per the guidelines of CPCB in order to arrest pollution emanating from mining operations within the lease. The whole Green belt shall be developed within first 5 years starting from windward side of the active mining area. The development of greenbelt shall be governed as per the EC granted by the Ministry irrespective of the stipulation made in approved mine plan.

26) The Project Proponent shall carryout plantation/ afforestation in backfilled and reclaimed area of mining lease, around water body, along the roadsides, in community areas etc. by planting the native species in consultation with the State Forest Department/ Agriculture Department/ Rural development department/ Tribal Welfare Department/ Gram Panchayat such that only those species be selected which are of use to the local people. The CPCB guidelines in this respect shall also be adhered. The density of the trees should be around 2500 saplings per Hectare. Adequate budgetary provision shall be made for protection and care of trees.

27) The Project Proponent shall make necessary alternative arrangements for livestock feed by developing grazing land with a view to compensate those areas which are coming within the mine lease. The development of such grazing land shall be done in consultation with the State Government. In this regard, Project Proponent should essentially implement the directions of the Hon'ble Supreme Court with regard to acquisition of grazing land. The sparse trees on such grazing ground, which provide mid-day shelter from the scorching sun, should be scrupulously guarded/ protected against felling and plantation of such trees should be promoted.

28) The Project Proponent shall undertake all precautionary measures for conservation and protection of endangered flora and fauna and Schedule-I species during mining operation. A Wildlife Conservation Plan shall be prepared for the same clearly delineating action to be taken for conservation of flora and fauna. The Plan shall be approved by Chief Wild Life Warden of the State Govt.

29) And implemented in consultation with the State Forest and Wildlife Department. A copy of Wildlife Conservation Plan and its implementation status (annual) shall be submitted to the Regional Office of the Ministry.

IX. Public hearing and human health issues

30) The Project Proponent shall appoint an Occupational Health Specialist for Regular as well as Periodical medical examination of the workers engaged in the mining activities, as per the DGMS guidelines. The records shall be maintained properly. PP shall also carryout Occupational health check-ups in respect of workers which are having ailments like BP, diabetes, habitual smoking, etc. The check-ups shall be undertaken once in six months and necessary remedial/preventive measures be taken. A status report on the same may be sent to MoEFCC Regional Office and DGMS on half-yearly basis.

31) The Project Proponent must demonstrate commitment to work towards 'Zero Harm' from their mining activities and carry out Health Risk Assessment (HRA) for identification workplace hazards and assess their potential risks to health and determine appropriate control measures to protect the health and wellbeing of workers and nearby community. The proponent shall maintain accurate and systematic records of the HRA. The HRA for neighborhood has to focus on Public Health Problems like Malaria, Tuberculosis, HIV, Anaemia, Diarrhoea in children under five, respiratory infections due to bio mass cooking. The proponent shall also create awareness and educate the nearby community and workers for Sanitation, Personal Hygiene, Hand washing, not to defecate in open, Women Health and Hygiene (Providing Sanitary Napkins), hazard of tobacco and alcohol use. The Proponent shall carryout base line HRA for all the category of workers and thereafter every five years.

32) The Proponent shall carry out Occupational health surveillance which be a part of HRA and include Biological Monitoring where practical and feasible, and the tests and investigations relevant to the exposure (e.g. for Dust a X-Ray chest; For Noise Audiometric; for Lead Exposure Blood Lead, For Welders Full Ophthalmologic Assessment; for Manganese Miners a complete Neurological Assessment by a Certified Neurologist, and Manganese (Mn) Estimation in Blood; For Inorganic Chromium- Fortnightly skin inspection of hands and forearms by a responsible person. Except routine tests all tests would be carried out in a Lab accredited by NABH. Records of Health Surveillance must be kept for 30 years, including the results of and the records of Physical examination and tests. The record of exposure due to materials like Asbestos, Hard Rock Mining, Silica, Gold, Kaolin, Aluminium, Iron, Manganese, Chromium, Lead, Uranium need to be handed over to the Mining Department of the State in case the life of the mine is less than 30 years. It would be obligatory for the State Mines Departments to make arrangements for the safe and secure storage of the records including X-

Ray. Only conventional X-Ray will be accepted for record purposes and not the digital one). X-Ray must meet ILO criteria (17 x14 inches and of good quality).

33) The Proponent shall maintained a record of performance indicators for workers which includes (a) there should not be a significant decline in their Body Mass Index and it should stay between 18.5 -24.9, (b) the Final Chest X-Ray compared with the base line X-Ray should not show any capacities ,(c) At the end of their leaving job there should be no Diminution in their Lung Functions Forced Expiratory Volume in one second (FEV1), Forced Vital Capacity (FVC), and the ratio) unless they are smokers which has to be adjusted, and the effect of age, (d) their hearing should not be affected. As a proof an Audiogram (first and last need to be presented), (e) they should not have developed any Persistent Back Pain, Neck Pain, and the movement of their Hip, Knee and other joints should have normal range of movement, (f) they should not have suffered loss of any body part. The record of the same should be submitted to the Regional Office, MoEFCC annually along with details of the relief and compensation paid to workers having above indications.

34) The Project Proponent shall ensure that Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.

35) Project Proponent shall make provision for the housing for workers/labors or shall construct labor camps within/outside (company owned land) with necessary basic infrastructure/ facilities like fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche for kids etc. The housing may be provided in the form of temporary structures which can be removed after the completion of the project related infrastructure. The domestic waste water should be treated with STP in order to avoid contamination of underground water.

36) The activities proposed in Action plan prepared for addressing the issues raised during the Public Hearing shall be completed as per the budgetary provisions mentioned in the Action Plan and within the stipulated time frame. The Status Report on implementation of Action Plan shall be submitted to the concerned Regional Office of the Ministry along with District Administration.

X. Corporate Environment Responsibility (CER)

37) The activities and budget earmarked for Corporate Environmental Responsibility (CER) as per Ministry's O.M No 22-65/2017-IA. II (M) dated 01.05.2018 or as proposed by EAC should be kept in a separate bank account. The activities proposed for CER shall be implemented in a time bound manner and annual report of implementation of the same along with documentary proof viz. photographs, purchase documents, latitude & longitude of infrastructure

developed & road constructed needs to be submitted to Regional Office MoEF&CC annually along with audited statement.

38) Project Proponent shall keep the funds earmarked for environmental protection measures in a separate account and refrain from diverting the same for other purposes. The Year wise expenditure of such funds should be reported to the MoEFCC and its concerned Regional Office.

XI. Miscellaneous

39) The Project Proponent shall prepare digital map (land use & land cover) of the entire lease area once in five years purpose of monitoring land use pattern and submit a report to concerned Regional Office of the MoEF&CC.

40) The Project Authorities should inform to the Regional Office regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.

41) The Project Proponent shall submit six monthly compliance reports on the status of the implementation of the stipulated environmental safeguards to the MOEFCC & its concerned Regional Office, Central Pollution Control Board and State Pollution Control Board.

42) A separate 'Environmental Management Cell' with suitable qualified manpower should be set-up under the control of a Senior Executive. The Senior Executive shall directly report to Head of the Organization. Adequate number of qualified Environmental Scientists and Mining Engineers shall be appointed and submit a report to RO, MoEFCC.

43) The concerned Regional Office of the MoEFCC shall randomly monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the MoEFCC officer(s) by furnishing the requisite data / information / monitoring reports.

44) In pursuant to Ministry's O.M No 22-34/2018-IA.III dated 16.01.2020 to comply with the direction made by Hon'ble Supreme Court on 8.01.2020 in W.P. (Civil) No 114/2014 in the matter Common Cause vs Union of India, the mining lease holder shall after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to other mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.

Recommendation of CSIR-NEERI Report on “Carrying Capacity Study for Environmentally Sustainable Iron and Manganese Ore Mining Activity in Keonjhar, Sundargarh and Mayurbhanj districts of Odisha State: The Committee has also deliberated the various specific recommendations of carrying capacity study report conducted by CSIR-NEERI w.r.t. mining proposal of Iron Ore and/or manganese in the State of Odisha. There are recommendation which needs to be implemented by the State Govt. of Odisha and Project Proponent.

1) Project Proponent and Department of Steel & Mines, Govt. of Odisha shall ensure the implementation of recommendations of carrying capacity study report conducted by CSIR-NEERI w.r.t. mining proposal of Iron Ore and/or manganese in the State of Odisha.

2) Department of Steel & Mines, Govt. of Odisha should prepare 5 years regional plan for annual iron ore requirement from the state, which in turn shall be met from different mines/zones (e.g. Joda, Koira.) in the state. Accordingly, sustainable annual production (SAP) for each zone/mine may be followed adopting necessary environmental protection measures.

3) Project Proponent shall construct the cement concrete road from mine entrance and exit to the main road with proper drainage system and green belt development along the roads and also construction of road with minimum 300 m inside the mine. This should be done within one year for existing mines and new mine should have since beginning. The Department of Steel & Mines, Govt. of Odisha should ensure the compliance and should not issue the Mining Permits, if mine lease holder has not constructed proper cement concrete road as suggested.

4) The Committee observed that as per the recommendations of NEERI report the PP needs to do regular vacuum cleaning of all mineral carrying roads aiming at “zero dust re-suspension” within 3 months.

5) Project Proponent shall monitor the environmental quality parameters as per EC and CTE/CTO conditions, and implementation of suggested measures for control of road dust and air pollution. Odisha State Pollution Control Board has to ensure the compliance of CTE/CTO. Regional office of the MoEF&CC, Bhubaneswar shall monitor the compliance of the EC conditions. Regional office of the Indian Bureau of Mines (IBM) shall monitor the compliance of mining plan and progressive mine closure plan. Any violation by mine lease holder may invite actions per the provisions of applicable Acts.

6) Project Proponent shall ensure the compliance of Suggested Ore Transport Mode (SOTM) with association of the State Government of Odisha. All existing mines should ensure adoption of SOTM within next 5 years. New mines or mines seeking expansion should incorporate provision of SOTM in the beginning itself, and should have system in place within next 5 years.

7) The State Govt. of Odisha shall ensure dust free roads in mining areas wherever the road transportation of mineral is involved. The road shoulders shall be paved with fence besides compliance with IRC guidelines. All the roads should have proper drainage system and apart from paving of entire carriage width the remaining right of way should have native plantation (dust capturing species). Further, regular maintenance should also be ensured by the Govt. of Odisha. Progress on development of dust free roads, implementation of SOTM, increased use of existing rail network, development of additional railway network/conveyor belt/ pipelines etc. shall be submitted periodically to Regional office of the MoEF&CC.

8) Project Proponent shall develop the parking plazas for trucks with proper basic amenities/ facilities inside the mine. This should be done within one year for existing mines and new mines should have since beginning.

9) Department of Steel & Mines shall ensure the construction of NH 215 as minimum 4 lane road with proper drainage system and plantation and subsequent regular maintenance of the road as per IRC guidelines. Construction of other mineral carrying roads with proper width and drainage system along with road side plantation to be carried out. This shall be completed within 2 Years.

10) Regular vacuum cleaning of all mineral carrying roads aiming at “Zero Dust Re- suspension” shall be adopted by PWD / NHAI/ Mine Lease Holders within a time Period of 3 months for existing roads..

11) In case the total requirement of iron ore exceeds the suggested limit for that year, permission for annual production by an individual mine may be decided depending on approved EC capacity (for total actual dispatch) and actual production rate of individual mine during last year or any other criteria set by the State Govt., i.e. Dept. of Steel & Mines. Department of Steel and Mines in consultation with Indian Bureau of Mines-RO should prepare in advance mine-wise annual production scenario so that demand for iron ore can be anticipated, and actual production/dispatch does not exceed the suggested annual production.

12) R&D studies towards utilization of low-grade iron ore should be conducted through research/academic institutes like IMMT, Bhubaneswar, NML, Jamshedpur, and concerned metallurgical departments in IITs, NITs etc., targeting full utilization of low-grade iron ore (Fe content upto 45% by 2020 and

upto 40% by 2025). In fact, life cycle assessment of whole process including environmental considerations should be done for techno-economic and environmental viability. R&D studies on utilization of mine wastewater having high concentration of Fe content for different commercial applications in industries such as cosmetics, pharmaceutical, paint industry should also be explored. Responsibility: IBM, Dept. of Steel & Mines, Individual Mine Lease Holders.

13) The mining activity in Joda-Koira sector is expected to continue for another 100 years, therefore, it will be desirable to develop proper rail network in the region. Rail transport shall not only be pollution free mode but also will be much economical option for iron ore transport. The rail network and/or conveyor belt system upto public railway siding needs to be created. The total length of the conveyor belt system/ rail network to be developed from mines to nearest railway sidings by 11 mines in Joda region is estimated to be about 64 km. Similarly, in Koira region, total length of rail network/ conveyor system for 8 mines (under SOTM 1 & 2) is estimated to be around 95 km. Further, it is suggested to develop a rail network connecting Banspani (Joda region) and Roxy railway sidings in Koira region. Responsibility: Dept. of Steel & Mines, Govt. of Odisha and Concerned Mines along with Indian Railways. Time Period: Maximum 7 years (by 2025). The Department of Steel & Mines, Govt. of Odisha should follow-up with the concerned Departments and railways so that proposed proper rail network is in place by 2025.

14) State Govt. of Odisha shall make all efforts to ensure exhausting all the iron & manganese ore resources in the existing working mines and from disturbed mining leases/zones in Joda and Koira region. The criteria suggested shall be applicable while suggesting appropriate lease area and sustainable mining rate. Responsibility: Dept. of Steel & Mines, Govt. of Odisha.

15) Mining Operations/Process Related: Project Proponent shall implement the following mitigation measures: (i) Appropriate mining process and machinery (viz. right capacity, fuel efficient) should be selected to carry out various mining operations that generate minimal dust/air pollution, noise, wastewater and solid waste. e.g. drills should either be operated with dust extractors or equipped with water injection system. (ii) After commencement of mining operation, a study should be conducted to assess and quantify emission load generation (in terms of air pollution, noise, waste water and solid waste) from each of the mining activity (including transportation) on annual basis. Efforts should be made to further eliminate/ minimize generation of air pollution/dust, noise, wastewater, solid waste generation in successive years through use of better technology. This shall be ensured by the respective mine lease holders. (iii) Various machineries/equipment selected (viz. dumpers, excavators, crushers, screen plants etc.) and transport means should have optimum fuel/power consumption, and their fuel/power consumption should be recorded on monthly basis. Further, inspection and maintenance of all the machineries/ equipment/

transport vehicles should be followed as per manufacturer's instructions/ recommended time schedule and record should be maintained by the respective mine lease holders. (iv) Digital processing of the entire lease area using remote sensing technique should be carried out regularly once in 3 years for monitoring land use pattern and mining activity taken place. Further, the extent of pit area excavated should also be demarcated based on remote sensing analysis. This should be done by ORSAC (Odisha Space Applications Centre, Bhubaneswar) or an agency of national repute or if done by a private agency, the report shall be vetted/ authenticated by ORSAC, Bhubaneswar. Expenses towards the same shall be borne by the respective mine lease holders. Responsibility: Individual Mine Lease Holders.

16) Air Environment Related: Project Proponent shall implement the following mitigation measures: (i) Fugitive dust emissions from all the sources should be controlled regularly on daily basis. Water spraying arrangement on haul roads, loading and unloading and at other transfer points should be provided and properly maintained. Further, it will be desirable to use waterfogging system to minimize water consumption. It should be ensured that the ambient air quality parameters conform to the norms prescribed by the CPCB in this regard. (ii) The core zone of mining activity should be monitored on daily basis. Minimum four ambient air quality monitoring stations should be established in the core zone for SPM, PM10, PM2.5, SO2, NOx and CO monitoring. Location of air quality monitoring stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board (based on Emission Load Assessment Study). The number of monitoring locations may be more for larger capacity mines and working in larger area. Out of four stations, one should be online monitoring station in the mines having more than 3 MTPA EC Capacity. (iii) Monitoring in buffer zone should be carried out by SPCB or through NABET accredited agency. In addition, air quality parameters (SPM, PM10, PM2.5, SO2, NOx and CO) shall be regularly monitored at locations of nearest human habitation including schools and other public amenities located nearest to source of the dust generation as applicable. (iv) Emissions from vehicles as well as heavy machinery should be kept under control and regularly monitored. Measures should be taken for regular maintenance of vehicles used in mining operations and in transportation of mineral. (v) The vehicles shall be covered with a tarpaulin and should not be overloaded. Further, possibility of closed container trucks should be explored for direct to destination movement of iron ore. Air quality monitoring at one location should also be carried out along the transport route within the mine (periodically, near truck entry and exit gate), Responsibility: Individual Mine Lease Holders and SPCB.

17) Noise and Vibration Related: Project Proponent shall implement the following mitigation measures: (i) Blasting operation should be carried out only during daytime. Controlled blasting such as Nonel, should be practiced. The mitigation measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented. (ii) Appropriate measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs/muffs. (iii) Noise levels should be monitored regularly (on weekly basis) near the major sources of noise generation within the core zone. Further, date, time and distance of measurement should also be indicated with the noise levels in the report. The data should be used to map the noise generation from different activities and efforts should be made to maintain the noise levels with the acceptable limits of CPCB (CPCB, 2000) (iv) Similarly, vibration at various sensitive locations should be monitored atleast once in month, and mapped for any significant changes due to successive mining operations. Responsibility: Individual Mine Lease Holders.

18) Water/Wastewater Related: Project Proponent shall implement the following mitigation measures: (i) In general, the mining operations should be restricted to above ground water table and it should not intersect groundwater table. However, if enough resources are estimated below the ground water table, the same may be explored after conducting detailed geological studies by GSI and hydro- geological studies by CGWB or NIH or institute of national repute, and ensuring that no damage to the land stability/ water aquifer system shall happen. The details/ outcome of such study may be reflected/incorporated in the EIA/EMP report of the mine appropriately. (ii) Natural watercourse and/or water resources should not be obstructed due to any mining operations. Regular monitoring of the flow rate of the springs and perennial nallas should be carried out and records should be maintained. Further, regular monitoring of water quality of nallas and river passing thorough the mine lease area (upstream and downstream locations) should be carried out on monthly basis. (iii) Regular monitoring of ground water level and its quality should be carried out within the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operation. The monitoring should be carried out on monthly basis. (iv) In order to optimize water requirement, suitable conservation measures to augment ground water resources in the area should be undertaken in consultation with Central Ground Water Board (CGWB). (v) Suitable rainwater harvesting measures on long term basis should be planned and implemented in consultation with CGWB, to recharge the ground water source. Further, CGWB can prepare a comprehensive plan for the whole region. (vi) Appropriate mitigation measures (viz. ETP, STP, garland drains, retaining walls, collection of runoff etc.) should be taken to prevent pollution of nearby river/other water bodies. Water quality monitoring study should be conducted by State Pollution Control Board to ensure quality of surface and ground water sources on regular basis. The study can be conducted through NABL/ NABET approved water testing laboratory. However, the report should be vetted by SPCB. (vii) Industrial wastewater (workshop and wastewater from the mine)

should be properly collected, treated in ETP so as to conform to the discharge standards applicable. (viii) Oil and grease trap should be installed before discharge of workshop effluents. Further, sewage treatment plant should be installed for the employees/colony, wherever applicable. (ix) Mine lease holder should ensure that no silt originating due to mining activity is transported in the surface water course or any other water body. Appropriate measures for prevention and control of soil erosion and management of silt should be undertaken. Quantity of silt/soil generated should be measured on regular basis for its better utilization. (x) Erosion from dumps site should be protected by providing geo-textile matting or other suitable material, and thick plantation of native trees and shrubs should be carried out at the dump slopes. Further, dumps should be protected by retaining walls. (xi) Trenches / garland drain should be constructed at the foot of dumps to arrest silt from being carried to water bodies. Adequate number of check dams should be constructed across seasonal/perennial nallas (if any) flowing through the mine lease areas and silt be arrested. De-silting at regular intervals should be carried out and quantity should be recorded for its better utilization, after proper soil quality analysis. (xii) The water so collected in the reservoir within the mine should be utilized for the sprinkling on hauls roads, green belt development etc. (xiii) There should be zero waste water discharge from the mine. Based on actual water withdrawal and consumption/ utilization in different activities, water balance diagram should be prepared on monthly basis, and efforts should be made to optimize consumption of water per ton of ore production in successive years. Responsibility: Individual Mine Lease Holders, SPCB and CGWB.

19) Land/ Soil/ Overburden Related: Project Proponent shall implement the following mitigation measures: (i) The top soil should temporarily be stored at earmarked site(s) only and it should not be kept unutilized for long (not more than 3 years or as per provisions mentioned in the mine plan/ scheme). The topsoil should be used for land reclamation and plantation appropriately. (ii) Fodder plots should be developed in the non-mineralised area in lieu of use of grazing land, if any. (iii) Over burden/ low grade ore should be stacked at earmarked dump site (s) only and should not be kept active for long period. The dump height should be decided on case to case basis, depending on the size of mine and quantity of waste material generated. However, slope stability study should be conducted for larger heights, as per IBM approved mine plan and DGMS guidelines. The OB dump should be scientifically vegetated with suitable native species to prevent erosion and surface run off. In critical areas, use of geo textiles should be undertaken for stabilization of the dump. Monitoring and management of rehabilitated areas should continue until the vegetation becomes selfsustaining. Proper records should be maintained regarding species, their growth, area coverage etc. (iv) Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from mine operation, soil, OB and mineral dumps. The water so collected can be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly de-silted, particularly after monsoon and should be maintained properly.

Appropriate documents should be maintained. Garland drain of appropriate size, gradient and length should be constructed for mine pit, soil. OB and mineral dumps and sump capacity should be designed with appropriate safety margin based on long term rainfall data. Sump capacity should be provided for adequate retention period to allow proper settling of silt material. Sedimentation pits should be constructed at the corners of the garland drains and de-silted at regular intervals. (v) Backfilling should be done as per approved mining plan/scheme. There should be no OB dumps outside the mine lease area. The backfilled area should be afforested, aiming to restore the normal ground level. Monitoring and management of rehabilitated areas should continue till the vegetation is established and becomes self-generating. (vi) Hazardous waste such as, waste oil, lubricants, resin, and coal tar etc. should be disposed off as per provisions of Hazardous Waste Management Rules, 2016, as amended from time to time. Responsibility: Individual Mine Lease Holders.

20) Ecology/Biodiversity (Flora-Fauna) Related: Project Proponent shall implement the following mitigation measures: (i) All precautionary measures should be taken during mining operation for conservation and protection of endangered fauna namely elephant, sloth bear etc. spotted in the study area. Action plan for conservation of flora and fauna should be prepared and implemented in consultation with the State Forest and Wildlife Department within the mine lease area, whereas outside the mine lease area, the same should be maintained by State Forest Department. (ii) Afforestation is to be done by using local and mixed species saplings within and outside the mining lease area. The reclamation and afforestation is to be done in such a manner like exploring the growth of fruit bearing trees which will attract the fauna and thus maintaining the biodiversity of the area. As afforestation done so far is very less, forest department needs to identify adequate land and do afforestation by involving local people in a time bound manner. (iii) Green belt development carried out by mines should be monitored regularly in every season and parameters like area under vegetation/plantation, type of plantation, type of tree species /grass species/scrubs etc., distance between the plants and survival rate should be recorded. (iv) Green belt is an important sink of air pollutants including noise. Development of green cover in mining area will not only help reducing air and noise pollution but also will improve the ecological conditions and prevent soil erosion to a greater extent. Further, selection of tree species for green belt should constitute dust removal/dust capturing plants since plants can act as efficient biological filters removing significant amounts of particulate pollution. Thus, the identified native trees in the mine area may be encouraged for plantation. Tree species having small leaf area, dense hair on leaf surface (rough surface), deep channels on leaves should be included for plantation. (v) Vetiver plantation on inactive dumps may be encouraged as the grass species has high strength of anchoring besides medicinal value. (vi) Details of compensatory afforestation done should be recorded and documented by respective forest divisions, and State Forest Department should present mine-

wise annual status, along with expenditure details. Responsibility: Individual Mine Lease Holders and State Forest & Wildlife Department.

21) Socio-Economic Related: Project Proponent shall implement the following mitigation measures: (i) Public interaction should be done on regular basis and social welfare activities should be done to meet the requirements of the local communities. Further, basic amenities and infrastructure facilities like education, medical, roads, safe drinking water, sanitation, employment, skill development, training institute etc. should be developed to alleviate the quality of life of the people of the region. (ii) Land outtees and land losers/affected people, if any, should be compensated and rehabilitated as per the national/state policy on Resettlement and Rehabilitation. (iii) The socio-economic development in the region should be focused and aligned with the guidelines/initiatives of Govt. of India/ NITI Aayog around prosperity, equality, justice, cleanliness, transparency, employment, respect to women, hope etc. This can be achieved by providing adequate and quality facilities for education, medical and developing skills in the people of the region. District administration in association with mine lease holders should plan for “Samagra Vikas” of these blocks well as other blocks of the district. While planning for different schemes in the region, the activities should be prioritized as per Pradhan Mantri Khanij Kshetra Kalyan Yojna (PMKKKY), notified by Ministry of Mines, Govt. of India, vide letter no. 16/7/2017-M.VI (Part), dated September 16, 2015. Responsibility: District Administration and Individual Mine Lease Holders.

22) Road Transport Related: Project Proponent shall implement the following mitigation measures: (i) All the mine lease holders should follow the suggested ore transport mode (SOTM), based on its EC capacity within next 5 years. (ii) The mine lease holders should ensure construction of cement road of appropriate width from and to the entry and exit gate of the mine. Further, maintenance of all the roads should be carried out as per the requirement to ensure dust free road transport. (iii) Transportation of ore should be done by covering the trucks with tarpaulin or other suitable mechanism so that no spillage of ore/dust takes place. Further, air quality in terms of dust, PM10 should be monitored near the roads towards entry & exit gate on regular basis, and be maintained within the acceptable limits. Responsibility: Individual Mine Lease Holders and Dept. of Steel & Mines.

23) Occupational Health Related: Project Proponent shall implement the following mitigation measures: (i) Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects periodically. (ii) Occupational health surveillance program for all the employees/workers (including casual workers) should be undertaken periodically (on annual basis) to observe any changes due to exposure to dust, and corrective measures should be taken immediately, if needed. (iii) Occupational health and safety measures related awareness programs including identification of work related health

hazard, training on malaria eradication, HIV and health effects on exposure to mineral dust etc., should be carried out for all the workers on regular basis. A full time qualified doctor should be engaged for the purpose. Periodic monitoring (on 6 monthly basis) for exposure to respirable minerals dust on the workers should be conducted, and record should be maintained including health record of all the workers. Review of impact of various health measures undertaken (at an interval of 3 years or less) should be conducted followed by follow-up of actions, wherever required. Occupational health centre should be established near mine site itself. Responsibility: Individual Mine Lease Holders and District Administration (District Medical Officer).

Annexure-V

Standard EC conditions for Mineral Beneficiation Plants:

Standard EC conditions for mineral beneficiation plants which are mentioned in Ministry's OM No. 22-234/2018-IA-III dated 09th August 2018.

List of member of Expert Appraisal Committee Participated through VC

S.No	Member Name	Member Address	Designation	5th May
1	Dr. S.R. Wate	Add. 148/149, Nagar Vikas Society, Narendra Nagar, Nagpur-440015, Maharashtra	Chairman	Yes
2	Shri.Sharath Kumar Pallerla	3rd Floor, Vayu Block, Indira Paryawaran Bhawan, MoEF&CC, Jorbhag, New Delhi-11003	Member Secretary	Yes
3	Shri B Ramesh Kumar	H-No. 6-1-134/6, Balram Compound, Padmarao Nagar, Secundrabad-500025,Andhra Pradesh	Member	Yes
4	Prof. S. Ramakrishna Rao	50-120-9/1, Tulasi Mani Regency North Extension, Seethammadhara, Visakhapatnam - 530013 Andhra Pradesh.	Member	Yes
5	Shri Santosh Gupta	Flat No. 405, Block –B, Gaur Green Vista, Nyay Khand -1, Indrapuram, Ghaziabad-201014	Member	Yes
6	Dr. (Ms.) Asha Rajvanshi	Wildlife Institute of Inida, Chandrabani, Dehradun-248001	Member	Yes
7	Dr. Ajay Deshpande	Building A-26, Flat-403, Happy Valley Homes, Manpada, Ghodbunder Road, Thane (West) - 400610, Maharashtra	Member	Yes
8	Shri G.P. Kundargi	Plot No. 32, MOIL Vatika, Chicholi Road, Fetri, Nagpur 441501, Maharashtra	Member	Yes
9	Dr. A.K. Malhotra	C-6, SubhavnaNiketan, Road No. 41, Pitampura, Delhi-110034	Member	Yes
10	Dr. Gurdeep Singh	Centre of Mining Environment, Department of Environmental Science &Engg. Indian Institute of Technology (Indian School of Mines), Dhanbad-826004	Member	Yes
11	Dr. Parimal Chandra Bhattacharjee	A/3 Asiyana Housing Complex Maligaon, Guwahati-781011, Assam	Member	Yes

12	Prof. MukeshKhare	Department of Civil Engineering, IIT, Delhi	Member	No
13	Mr. V. K. Soni	Government of India, Ministry of Earth Sciences, India Meteorological Department, Mausam Bhawan, Lodi Road, New Delhi – 110003	Member	No
14	Shri Mantu Biswas	Controller of Mines, IBM Block D, Second Floor, Indira Bhavan, Civil Lines, Nagpur - 440001	Member	No
15	Representative of DGMS	Representative of DGMS Head Office, Sardar Patel Nagar, Dhanbad, Jharkhand 826001	Member	No
16	Sh. Nazimoddin, Scientist 'E'	Representative of Central Pollution Control Board for item No. 2.5	Special Invitee	Yes

Email

sharath.kr@gov.in

Re: Minutes of 16th EAC(non-coal Mining) scheduled on 5th May, 2020 (one day proposals) - Request for approval regarding

From : satishwate@gmail.com

Thu, May 07, 2020 06:04 PM

Subject : Re: Minutes of 16th EAC(non-coal Mining) scheduled on 5th May, 2020 (one day proposals) - Request for approval regarding**To :** Sharath Kumar Pallerla <sharath.kr@gov.in>

Minutes of 16 th EAC Agenda of 5 th May 2020 approved .

Satish Wate
Chairman

Sent from my iPhone

On May 7, 2020, at 5:56 PM, G.P. Kundargi <gpkundargi@gmail.com> wrote:Dear Sharat Kumar ji
Minutes are fine with me
Thanks
KundargiOn Thu 7 May, 2020, 5:24 PM Sharath Kumar Pallerla, <sharath.kr@gov.in> wrote:Dear Sir,
The corrections suggested by the Dr. Ajay Desh Pandey, Dr. Kundargi, Dr. Ramakrishna Rao, Sh. Ramesh Kumar, Dr. Gurdeep singh, has been incorporated and final draft is attached herewith for kind perusal and approval please

Regards

SHARATH KUMAR PALLERLA
Director, IA Division (Policy and Non-Coal Mining)
Ministry of Environment, Forest and Climate Change,
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