

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

SUMMARY RECORD OF 4th MEETING OF THE COMMITTEE OF THE EXPERT APPRAISAL COMMITTEE FOR ENVIRONMENTAL APPRAISAL OF NON-COAL MINING PROJECTS CONSTITUTED UNDER THE EIA NOTIFICATION, 2006.

The 4th 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 **April 23-24, 2019**. The list of participants is annexed herewith. After welcoming the Committee Members, discussion on each of the Agenda Items was taken up ad-seriatim.

(1.1) Deliberation & Circulation on the Minutes of the 3rd EAC Meeting held during March 25-26, 2019:

The Minutes of the 3rd Meeting of EAC held during **March 25-26, 2019** were circulated to the members of the Committee. The Committee made brief deliberations on the proposals placed in the last meeting and confirm the same except for Agenda 2.1 and 2.2, which is considered as a table agenda in this meeting with permission of chair.

DAY 1: April 23, 2019 (Tuesday)

(2.1). Gorumahisani Iron Ore Mines of M/s. Ghanashyam Misra And Sons Pvt Ltd for enhancement of Iron ore production from 0.75 million TPA to 1.1 million TPA located at villages of Kuliesilla, Badamouda, Sanamouda, Sundhal, Balitangi, Nodhabani and Gorumahisani Reserve Forest under Badamghaty Sub-division of Dist-Mayurbhanj, Odisha (MLA 349.50 ha) (Proposal No: IA/OR/MIN/91592/2008; File No: J-11015/68/2018-IA.II(M))- Consideration of EC

The project proponent **did not attend** the meeting and informed their absence through the email. The Committee **deferred the proposal** and is also of the view that the PP needs to make a request to Ministry for further considering/placing the proposal in EAC meeting.

(2.2). Expansion of Shree Limestone Mine from 8.6 Million TPA to 11.06 Million TPA Limestone Production with 3.42 Million TPA, Inter-burden & Over-burden and 0.96 Million TPA Top Soil (ML No. 38/2007, ML. Area 531.26 ha) and crushers (Primary: 2 x 1200 TPH & Secondary: 2 x 450 TPH) by M/s. Shree Cement Limited at Villages: Bharuwadih & Semarodih, Tehsil Balodabozar in District Bolodabozar-Bhataporo, Chhattisgarh (Proposal No: IA/CG/MIN/93467/2017; File No: J-11015/07/2018-IA. II(M); Consultant: J. M. EnviroNet Pvt. Ltd)-Consideration of EC

The proposal of M/s Shree Cement Ltd. is for environmental clearance for expansion of Shree Limestone Mine from 8.6 Million TPA to 11.06 Million TPA, limestone production with 3.42 Million TPA, Inter-burden & Over-burden and 0.96 Million TPA Top Soil (ML No. 38/2007, ML. Area: 531.126 ha) and crushers (Primary: 2 x 1200 TPH & Secondary: 2 x 450 TPH) at Villages: Bharuwadih & Semaradih, Tehsil- Balodabazar, District Balodabazar-Bhatapara, Chhattisgarh. The mine lease area is bounded between latitudes of 21° 34'36"N to 21° 37' 06"N and longitudes of 82° 03' 12" E to 82° 06' 12" E on Survey of India Toposheet No. F44Q2 & F44P14. The project is located in Seismic zone-II. PP presented the KML file during the presentation to indicate the location of mine lease on Google Earth/ DSS.

The proposal of TOR was earlier considered by the Expert Appraisal Committee in its meeting held during January 18-19, 2018 to determine the Terms of Reference (TOR) for undertaking detailed EIA study. The TOR was issued by the Ministry vide letter no. J-11015/07/2018-IA-II (M) dated 6th February 2018. The TOR letter mentioned that "the Committee noted that the approved mining plan has mentioned maximum ROM quantity for the 5 year plan period as 14.72 million TPA. Accordingly, the PP shall revise ROM quantity from 15.22 Million TPA to 14.72 Million TPA". The PP submitted the EIA/EMP Report online to Ministry for seeking environmental clearance.

The PP submitted that the total mine lease area is 531.126 ha. Out of 531.126 ha, 78.722 ha is a Government land and 452.404 ha is a private agriculture land. Out of 452.404 ha, 449.846 ha is under possession of Shree Cement Ltd. and **the remaining 2.558 ha is a private agriculture land which will be purchased on mutual agreement in due course.** The PP further submitted that the total mining lease is divided into 4 blocks; Block 1, 2 & 3 falls under excavated area and block 4 which is non-mineralised which covered under Township & Plantation area.

The PP submitted that the mine lease over an area of 531.126 ha was granted in favor of Shree Cement Limited vide the Government order no. F-2/32/2003/12 (3) dated 25.03.2008. The lease was executed on 11.01.2011 for a period of thirty years from 11.01.2011 to 10.01.2041. PP further submitted that Government of India has amended the Mines and Minerals (Development and

Regulation) Act, 1957 and has promulgated an ordinance on 12.01.2015 (MMDR Amendment Ordinance, 2015) according to which the period of grant of mining lease extended up to 10.01.2061 as per section 8A. The amendment in agreement to extend the period of mining lease was made on 14.07.2016. The modified mining plan with progressive mine closure plan has been approved by Regional Controller of Mines (Raipur Region), IBM, Raipur vide letter no. Balodabazar/ Chup/MP-1125/2017-Raipur dated 30/11/2017.

The PP submitted that the no forest land involved, however, Dhabadih Reserved Forest is 0.25 Km (250 m) in the north direction. The water bodies present within 10 km of the project site are Mahanadi Canal (~50 meters from Lease Boundary), Chitawar Nala (~1.2 km in South direction), Khorsi Nala (~2.5 km in ESE direction), Kukurdih Talav (~3.5 km in NNE direction), Banjari Nala (~4.5 km in NW direction), Tengna nala (~5.0 km in ESE direction), Jhorki Nala (~5.0 km in South direction) and Kauwa Nala (~6.0 km in ESE direction), respectively.

The PP submitted that the mining operations are being carried out by mechanized opencast mining method i.e. by combination of shovel and dumper with drilling and blasting. Bench height and bench width is being maintained at 12 m and 30 m (working width) respectively. Drilling is being carried out by crawler mounted DTH hammer Drill machine. Conventional blasting is being done using ANFO and high explosives with use of shock tube detonator. Loading is being done by hydraulic excavators and transport of limestone and OB/IB is being done by dumper to crusher (located in mining lease area). The crushed limestone is being transported from the mine site to cement plant by covered conveyor belt. The same mining method will be used in future for the proposed expansion in mining project. The PP further submitted that two crusher of 1200 TPH production capacity has already been installed within the mine Lease area of 531.126 ha. Secondary crusher of 2x 450 TPH will be installed. In the crusher feed size of the mineral will be 1.25 m and output size of the mineral will be -90 mm.

The PP submitted that the total minable reserves for are 208.9 Million tonne. Life of mine will be 20 years. At the end of life of mine, total 79.29 Million tonnes waste will be generated. Maximum amount of waste will be backfilled in the excavated area and plantation will be done over it after spreading top soil over it and remaining waste will be dumped which will be stabilized by plantation later. PP further submitted that there will be no overburden dump outside mining lease area.

The PP further submitted that the proposed raw water requirement for the mine project is 300 KLD for mine and 500 KLD for colony, which will be sourced from ground water (for drinking purpose) and from mine pit (for other activities). Permission for ground water withdrawal has been taken from CGWA vide letter no. 21-4(36)/NCCR/CGWA/2008-569 dated 08.04.2015 and amended

vide letter no. 21-4(36)/ NCCR/CGWA/2008-1270 dated 06.08.2015. Renewal of NOC has been obtained from CGWA vide letter no. 21-4(36)/NCCR/CGWA/2008-2079 dated 24.10.2018.

The PP submitted that the Ministry has accorded environmental clearance to M/s. Shree Cement for the mine lease area of 531.126 ha vide letter no. J-11015/159/2014-IA-II (M) dated 30 March 2017 for limestone production with capacity from 4.8 MTPA to 8.6 MTPA. PP submitted the compliance report from RO MoEF&CC, Nagpur vide letter No: EC-353/RON/2017-NGP/4384 dated 1 October 2018. The PP submitted the past production details as well as the affidavit. The affidavit mentioned that the company will comply all statutory requirements & judgment of Hon'ble Supreme Court dated the 2nd August 2017 in writ petition (civil) no. 114 of 2014 in the matter of common cause versus Union of India & Ors as applicable. **The Committee deliberated the past production details, PP presented 6.57 MTPA productions in the financial year of 2018-2019; however, the PP not submitted the valid document for the same. In addition, PP not submitted the copy of valid CTO beyond December 2018.**

The PP submitted that the baseline environment data on various components of environment in the study area were collected during post monsoon season (October 2017 to December 2017). The PP submitted that the 15 locations were selected for ambient air quality and noise level monitoring. The PM₁₀ values for all the 15 location were found between 59.7 µg/m³ to 84.2 µg/m³ and the PM_{2.5} were found between 24.3 µg/m³ to 43.2 µg/m³. The concentrations of SO₂ and NO₂ were found to be in range of 5.3 to 13.5 µg/m³ and 12.5 to 28.5 µg/m³, respectively. Noise levels were vary from 49.5 to 65.6 Leq dB (A) in the day time and from 38.2 to 58.8 Leq dB(A) in the night time. The PP submitted that the 6 locations and 10 locations were selected for surface water and ground water analysis. The PP submitted that there is variation in chemical composition of water samples from nearby water bodies. The quality of mine pit water is better than rest of the surface water samples. The pH of the water bodies ranged from 7.36 to 8.08 indicating slightly alkaline to alkaline and productive water bodies. The total hardness (72.92 to 212.84 mg/l), total dissolved solids (134 to 323 mg/l), total alkalinity (64.88 to 215.69 mg/l) and conductivity (154 to 409 mg/l) values were low indicating that low mineral enrichment of the water sample. The COD (6.80 to 25.69 mg/l) and BOD (2.3 to 7.2 mg/l) indicate that mine pit water is cleaner than rest of the water bodies which contains slight pollution. The nutrients were also low viz. nitrate (0.98 mg/l to 1.98 mg/l), iron (0.26 to 0.42 mg/l), calcium (15.88 to 62.10 mg/l), and magnesium (5.86 to 26.28 mg/l) indicated the clean river water. The dissolved oxygen (4.4 to 5.0 mg/l) indicated that the water bodies are safe for aquatic biodiversity. The PP submitted that the physico-chemical quality of groundwater was compared with drinking water standard (IS:10500- 2012). All the groundwater samples showed more or less similar and good quality of water; however, the groundwater at Village Belha was slightly more enriched with

mineral nutrients. The pH of the water samples ranged from 7.36 to 8.02 indicating slightly alkaline to alkaline nature; and maximum pH was recorded at Village Chuchrangpur (pH 8.02). The values of total hardness (216.46 to 552.29 mg/l), alkalinity (134.64 to 367.20 mg/l) and total dissolved solids (234.0 to 801.0 mg/l), respectively. However, hardness & dissolved solid values of some of the locations of ground water samples are higher than the desirable limit values. PP further submitted that, all groundwater samples were not polluted based on low values of chlorides (11.40 to 181.41 mg/l) and sulphates (9.57 to 49.0 mg/l). The concentrations of other micro and macronutrients were nitrate (2.35 to 8.81 mg/l), calcium (64.13 to 149.04 mg/l), magnesium (11.78 to 43.85 mg/l), fluoride (0.54 to 1.06 mg/l) and iron (0.25 to 0.43 mg/l), respectively.

The Public Hearing was conducted by State Pollution Control Board on 04.08.2018 at Village Chandi Ground (Near Panchayat Bhawan), Tehsil – Simga, District- Balodabazar – Bhatapara, Chhattisgarh. The Public Hearing was chaired by the Shri Jogendra Naik, Additional District Magistrate Balodabazar. The PP submitted that about 500 people were present during public hearing. The Committee deliberated the issues raised during the PH and its action plan.

The PP submitted that the total requirement of manpower for proposed project will be 215 persons. The total cost of the proposed project is Rs 67.68 Crores, capital cost for environmental protection measures is Rs 1.1 Crores and recurring cost is Rs. 0.25 Crores. PP further submitted that no litigation pending against the project.

Based on the presentation made by PP and the discussions held, the **Committee deferred the project proposal** and sought the following requisite information/clarification:

- (i). The total mine lease area is 531.126 ha. Out of 531.126 ha, 78.722 ha is a Government land and 452.404 ha is a private agriculture land. Out of 452.404 ha, 449.846 ha is under possession of Shree Cement Ltd. and PP submitted that the remaining 2.558 ha is private agriculture land which will be purchased on mutual agreement in due course. PP needs to clarify the present status of the land possession and timeline for conversion of agricultural land to mining land.
- (ii). PP presented point-wise compliance of stipulated TOR; however, the Committee felt that few of the points have been responded in very generic terms. On specific query the PP was providing necessary information, however, the submission made were not adequately represented. PP needs to submit the compliance of TOR in more specific way.
- (iii). PP needs to submit NOC from competent authority of forest department that no forest land is involved in mine lease area and also the details of forest area in the vicinity of the project area. The letter

needs to clearly mention the name and designation of the signing authority and also place the stamp of same signing authority.

- (iv). PP to submit the valid certified document for production details for the year of 2018-2019 and copy of valid CTO for 2018 and 2019.
- (v). PP to submit more comprehensive finding and analysis on vibration aspect arising due to mining activity.
- (vi). PP to submit the impact of mining on the ground water in more scientific way using appropriate ground water modelling.
- (vii). PP failed to provide information on input data used for air quality modeling for predication of GLC values. Therefore, the Committee asked to redo the modelling with cumulative input loads arising due to various activities.
- (viii). PP needs to submit the authenticated list of fauna and flora details by specifying their classifications from chief wildlife warden.
- (ix). The topsoil management was not comprehensive. PP needs to submit the revised topsoil management details.
- (x). The buffer zone to contain blasting effects was less than 500 m from the receptors. PP has to submit a comprehensive abatement plan to ensure that the concerns arising due to proposed blasting in critical zones are appropriately addressed.
- (xi). The presented photograph suggests that the present plantation is very thin and require comprehensive efforts to increase sustainable green coverage in the mine area. Accordingly, PP advised to submit a forestation plan.
- (xii). PP to submit the pollution control measures proposed to deploy with the new crushers proposed to be installed.
- (xiii). PP needs to submit the findings of the hydrogeological study as per the provisions of the notification (i.e. from the recognised laboratory).
- (xiv). PP needs to submit more information on preventive/precautionary measures proposed to avoid any free access to the voids/water body created as a result of mining.

(2.3). Bigodi Limestone Mine of M/s. RCCPL Private Limited with proposed production capacity of 0.85 MTPA Limestone, from the mine lease area of 184.149 ha. The mine lease area is located at Dithora, Sannehi Singti and Karaundi villages, Amarpatan Tehsil, Satna District, Madhya Pradesh Proposal no: IA/MP/MIN/100548/2019; File no: IA-J-11015/34/2019-IA-II(M). Consultant-Vimta Labs Limited-Consideration of TOR.

The proposal of **M/s. RCCPL Private Limited** is for production capacity of 0.85 MTPA Limestone, from the mine lease area of 184.149 ha. The mine

lease area is located at Dithora, SannehiSingti and Karaundi villages, Amarpatan Tehsil, Satna District, Madhya Pradesh Proposal. The mine lease area is covered in Survey of India Toposheet No. G44V3 (63H/3), G44V2(63H/2) & G44V7(63H/7). The PP presented the KML file during the presentation to indicate the location of mine lease on Google Earth/ DSS. The Mine lease area is covered under Seismic Zone II. The mine lease area is bounded by Latitude and Longitude as following:

1	24° 24'46.30"N	81° 11'27.13"E
2	24° 24'46.11"N	81° 12'06.24"E
3	24° 24'24.76"N	81° 11'57.36"E
4	24° 24'02.62"N	81° 11'50.58"E
5	24° 23'59.59"N	81° 11'22.80"E
6	24° 24'04.27"N	81° 10'52.80"E
7	24° 24'05.47"N	81° 10'34.46"E
8	24° 24'26.30"N	81° 10'43.95"E
9	24° 24'37.86"N	81° 10'56.57"E

The project proponent submitted that the total mine lease area is 184.149 ha Out of which, 14.409 ha is Government land and 169.740 ha is private Agricultural land. The PP submitted that the RCCPL Private Ltd. obtained Letter of Intent (LoI) vide letter no F 3-1 / 2018/12 /1 dated 24/03/2018 for ML area of 184.149 ha in villages Sannehi Singti, Dithoura and Karaundi, Tehsil: Amarpatan, District: Satna from Department of Mineral Resource, Govt. of Madhya Pradesh vide letter no. F 3-1 / 2018 / 12 / 1 dated 24/03/2018 in the name of M/s Reliance Cement Company Private Limited. Further PP submitted that the name of the Company changed from M/s Reliance Cement Company Private Limited to M/s RCCPL Private Limited, the same was approved by the Office of the Registrar of Companies, Ministry of Corporate Affairs, Government of India vide letter no. Corporate identification Number (CIN) U26940MH2007PTC173458 dated 01.08.2018. PP also submitted a copy of order no F3-1/2018/12/1 dated 14.03.2019 inter-alia stating that after giving due consideration agreed to change name of the company from M/s Reliance Cement Company Private Limited to M/s RCCPL Private Limited under rule number 61(1) of the Mineral (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rule 2016, in the Letter of Intent 2016, by the Mineral Resource Department, Government of Madhya Pradesh.

The PP also submitted that it will be a captive mine for existing cement Plant; The method of mining will be opencast mechanized method with Drilling, blasting, during the mining operation 1.74 MTPA waste and reject will be generated and 0.44 MTPA alluvium/ topsoil will also be generated. Thus total excavation will be 3.03 MTPA.

The PP submitted that the depth of mining will be max 70 m [Avg.45.54m]and the ground water level in the area is 40to 45 m bgl in pre monsoon and 35 to 40 m bgl in post monsoon. The mining will intersect the ground water after 11 years of mining.

There are no national parks, wild life sanctuaries and eco-sensitive zones in the proposed study area. Three reserve forests are within 5 Km from ML boundary. Bihar nadi is flowing just near the boundary in south-eastern of ML. A lake is situated near Govindgarh at a distance of 7.7 km, SE from ML boundary. There are several small nallahs and ponds in study area.

PP also reported that the total water requirement will be 183 KLD for dust suppression, washing of mining machinery, plantation and domestic purpose, initially from ground water. After five years of operation, considering the development of mines and filling of mine pit by rain water harvesting, fresh water requirement will be reduced considerably.

The PP reported that the total cost of the project is 110 Crores. The project will generate employment for 20 persons in direct form and 83 indirectly.

Based on the presentation made by PP and the discussion held, the Committee **deferred the proposal**. The committee highlighted the casual approach taken by PP by limiting the scope of PFR, presenting unclear proposal of road diversion, conceptual mining and reclamation plan. Accordingly, the Committee asked the PP to submit the following information for further consideration of the proposal:

1. The total mine lease area is 184.149 ha out of which 14.409 ha is Government land and 169.740 ha is private agriculture land. Hence, the committee is of the view that PP needs to submit the regional crop patterns including area getting affected by the project.
2. A village road is passing through the Lease area, therefore, PP need to show protection measurement and/or alternative road for diversion from existing village road passing through the mining Lease area.
3. A High tension power line is passing through the mining lease area, and information on proposed necessary measures in this regard to be submitted.
4. Hydro geological study to assessment the impact on ground water and its percolation effects on adjacent area.
5. PP needs to submit R&R plan for Project Affected Areas.

6. A proper conceptual plan for proposed mining with reclamation plan and also measures for protection the river, nallain the vicinity of the mine lease area.

7. Top soil management plan

However, the committee express displeasure on pre-feasibility report and proposal detail prepared and submitted by the consultant **M/s Vimta Labs Limited, Hyderabad**. The consultant was cautioned and advised to ensure that such deviation in future will call for appropriate action by MoEF&CC.

The Committee recommends for deferment of the Project and requested ministry for call of above mentioned information for further consideration of the proposal.

(2.4). The proposal of Existing Limestone Mine of M/s. UltraTech Cement Ltd Production Capacity of 5.5 Million TPA Limestone & Existing Installed Crusher Capacity 1600 TPH in the mine lease area of 442.923ha located at Villages Khor, KheraRathore, Damodarpura, GujarKhediTalab, Kundla, Suvakheda, Tehsil Jawad, District Neemuch (MP) as per MoEFCC Notification dated 06th April, 2018. Proposal no: IA/MP/MIN/81489/2018, file no: IA-J-11015/43/2019-IA-II(M); Consultant: J.M.EnviroNetPvt.Ltd.– Consideration of TOR.

The proposal of M/s. UltraTech Cement Ltd is for Production Capacity of 5.5 Million TPA Limestone & Existing Installed Crusher Capacity 1600 TPH in the mine lease area of 442.923ha. The mine lease area is located at Villages Khor, KheraRathore, Damodarpura, GujarKhediTalab, Kundla, Suvakheda, Tehsil Jawad, District Neemuch (MP). The mine lease area is covered in Survey of India Toposheet No. 45 L/14 (G43U14). The PP presented the KML file during the presentation to indicate the location of mine lease on Google Earth/ DSS. The Mine lease area is covered under Seismic Zone II. The mine lease area lies in-between Latitude 24° 33' 2.86" N to 24° 34' 36.47" N Longitude: 74° 48' 59.40" E to 74° 51' 25.57" E.

The PP submitted that the Ministry has accorded the environmental clearance vide letter no J-11015/72/2005-IA.II(M) dated 7th October, 2005 to M/s. Vikram Cement (a unit of Grasim Industries) for expansion in production to a maximum of 5.5 million TPA involving lease area of 442.92 ha under the EIA notification 1994. Now, M/s Ultratech Cement Limited applied online for grant of TOR, in compliance to the Ministry's Notification S. O. 1530(E) dated 6th April 2018 for Existing Limestone Mine (ML Area: 442.923 Ha.) with Limestone Production Capacity of 5.5 Million TPA & Existing Crusher Capacity 1600 TPH at Villages Khor, KheraRathore, Damodarpura, Gujar KhediTalab, Kundla, Suvakheda, Taluka Jawad, District Neemuch (Madhya Pradesh).

PP submitted that initially, the Mining Lease was granted in favour of M/s Grasim Industries, the same was executed on 11.11.1982 for 20 years till 10.11.2002, vide letter no F280/84/12/1, dated 22/05/2002. Subsequently the mining lease was renewed for 20 years from 10th November, 2001 to 09th November, 2021 for a period of 20 years by the state Government vide order no F3-280/84/12/1 dated 03.09.2003. further the name has been changed from M/s Grasim industries limited (vikram cement) to M/s Ultra tech Cement Limited (Unit Vikram Cement Works) from the State Government, mineral Resource Department, Bhopal in lease favour vide order no F: 3-280/84/12/1 dated 28.05.2011 pursuant to submission of approval of Scheme of Arrangement (Demerger Scheme) in terms of section 391 & 394 of the companies Act, 1956. Thereafter, the Supplementary Mining Lease is registered on 11.12.2017 by the Madhya Pradesh Government, Mineral resource Department vide their order no. 19-5/2015/12-1 dated 12.03.2015 and by the collector (Mining Branch), Neemuch vide their order no. 840/Khani/2015 dated 21.07.2015 for extension of captive mining lease for 50 years.

PP also submitted the Review of Mining Plan vide letter no MP/Neemuch/Limestone/RMP-72/17-18 dated 11.01.2018 in the name of M/s Vikram Cement Limestone mine over an area of 442.923ha from the period of 2018-19 to 2022-2023. PP submitted that the company is reducing its targeted capacity to 1 MTPA as the reserve of the mine has decreased and the life of the mine is less. It should be noted that the company has neither changed the ML and technology in production.

PP had submitted the past production details from 1984-85 to till 2017-18, However PP increased the production from the 1993 to 1994 onwards beyond the base years of 1993-94, as per EIA notification, 1994 "A project proponent is required to seek environmental clearance for a proposed expansion/modernization activity if the resultant pollution load is to exceed the existing levels". However, PP obtained the EC on 7th October, 2005, therefore provision of Hon'ble Supreme Court judgment dated 02.08.2017 (Common Cause Vs Union of India) gets applicable. PP had submitted the undertaking by way of the Affidavit stating that the PP will comply all statutory as per Hon'ble Supreme Court judgment dated 02.08.2017 in writ petition (civil) no. 114 of 2014 in the matter of common cause versus Union of India & Ors.

PP submitted the compliance report of existing EC vide letter no 3-3/2010(ENV)/093 dated 18.02.2015 prepared and forwarded by the R.O, Western region, Ministry of Environment Forest and Climate Change, Bhopal This report was deliberated by the Company and it was observed that Specific condition no 5,6, 9 and general conditions 3,4,6,7,8,14, 15, are either partially or fully non-complaint. In this regard the committee opined that Ministry may take a view on such compliance status and take appropriate measures after due verification at ground level, but before the proposal is submitted for consideration of EC.

Based on the presentation made by PP, the committee **deferred the proposal** and sought information on the followings:

A. Additional information on ToR proposal

1. To submit details of the mine leases and its transfers related documents since inception of the Mine. The submitted letter vide(3-280/84/12/1 dated 28.05.20110) is ambiguous on the transfer arrangements and doesn't conclude that the mine lease has been executed or transferred.
2. Details regarding any change in lease area, if applicable.
3. PP to submit all requisite documents/information as per the agenda.
4. PP submitted that the company is reducing its production capacity to 1 MTPA as the reserve of the mine has decreased and the life of the mine is less. However, there is no change in the ML and/or technology used for production. The PP is requested to submit the details of reduction quantity and its life of mine details.

B. Compliance to the following

1. The Committee is of the view that the proposal attracts provision of Hon'ble Supreme Court judgment dated 02.08.2017 in the matter of Common Cause Vs union of India, on ground of production violation.
2. However, the Committee was of the view that Ministry may examine the other violations also, and inform the PP for their compliance.

In view of above, the **Committee deferred the proposal** for consideration after requisite information and compliance report/documents against observation at para (A) and (B) are submitted.

(2.5). Quarrying of Minor Minerals from T. Koppuchittampatti Lime Kankar Quarry Lease (QL-IV); Extent 294.18.5 Ha & Production Lime Kankar ROM @ 1.227 MTPA and 0.040 MTPA Clay (Black Cotton Soil), T. Koppuchittampatti Village, Aruppukottai Taluk, Virudhunagar District, Tamil Nadu, by The Ramco Cements Limited-(File No. J-11015/41/2019-IA. II(M); Proposal No. IA/TN/MIN/99717/2019) - Consideration of TOR

The proposal of The Ramco Cements Limited is for Quarrying of Minor Minerals from T. Koppuchittampatti Lime Kankar Quarry Lease (QL-IV); Extent 294.18.5 Ha & Production Lime Kankar ROM @ 1.227 MTPA and Clay (Black Cotton Soil) @ 0.040 MTPA, T. Koppuchittampatti Village, Aruppukottai Taluk, Virudhunagar District, Tamil Nadu. The Mining Lease area is a part of the Survey of India Topo-sheet No. 58 K/3. The site falls between Latitude 9°26'08" N - 9°24'33" and Longitude 78°06'42"E - 78°08'03" E and falls in seismic zone-III.

As per EIA Notification dated 14th September, 2006 as amended from time to time, the project falls under Category "A", Project or Activity 1(a) as the Mining lease area is more than 100 Ha. The PP applied online vide proposal No. IA/TN/MIN/99717/2019 dated 18.03.2019 in Schedule 1(a) and submitted the Form-1, Pre-feasibility Report. The proposal is now placed in EAC meeting held during 24-25 April, 2019. The PP submitted that the letter of Intent (LOI) has been issued by the Tamil Nadu State Industries Department vide Letter No/1769/MMC-2/2018 dated 12.03.2018 for a period of 10 years. The PP submitted that the area covered under mining is non-forest type. The entire area applied for Quarry Lease is patta land owned by RCL. There is no Rehabilitation & Resettlement (R&R) issue due to the proposal. There is no litigation/pending case against the proposal.

The PP submitted that the Mining Plan has been approved by the Department of Mining & Geology, Govt. of Tamil Nadu, Chennai vide Letter No. 585/MM10/2018/LK/Vnr, dated 30.05.2018. As per the Approved Mining Plan, the proposed production of Lime Kankar & Clay (Black Cotton Soil) from this Lease by Strip Mining would be about 1.227 Million Tonnes per Annum (MTPA) as Run-Off Mine (ROM) basis and Clay (BC Soil) 0.040 MTPA. In the total QL area of 294.18.5 Ha, about 223.79.7 Ha is only available for effective mining after leaving the prescribed safety barriers of about 70.38.8 Ha [which includes 7.5 meters safety barrier between adjoining patta land; 50 m safety distance to the nearby Odai, Kuttai, Oorani and vari; 10 meters safety distance to the cart track and 50 meters safety distance on either sides of the HT electric line passing through the lease]. It is estimated that 61,54,417 Tonnes of Lime Kankar and 46,99,729 Tonnes of Clay (Black Cotton Soil) are mineable from the estimated In-situ Geological Reserves of 80,90,087 Tonnes Lime Kankar and 61,77,685 Tonnes Clay (Black Cotton Soil). Mechanized Opencast Mining, without Drilling and Blasting, with deployment of heavy earth moving machineries of low HP will be adopted. The average depth of over burden black cotton soil is 1.25 m. The maximum depth of the Mine will be of 3.0 m only. It is calculated that about 27,59,625 Tonnes of over burden soil will have to be remove as Overburden (OB) in the Plan Period to win 36,79,500 Tonnes of Lime Kankar. The ratio of Ore to OB works out to be 1:0.75. About 2,00,000 Tonnes of OB will be utilized in the First Plan Period for cement manufacturing and balance OB will be refilled simultaneously. The deposit will be mined by a simple system of simultaneous development, production and refilling by the same excavator called strip mining. Simultaneous reclamation activities will be continued up to the end of mine life. Thus, there will be no Top Soil/OB Dump as the entire Top Soil will be refilled in the mined out pit simultaneously. Life of the Mine is 10 years only.

The PP submitted that depth of mining will be 3 m (bgl) and ground water table is at 20 m (post monsoon) & 25 m BGL (Pre-Monsoon). Thus, mining will not intersect ground water table. As it is a shallow mining up to a depth of 3.0 m BGL and simultaneous refilling is proposed, there will not be any water seepage

or water harvesting in the Mine Pit. The mine requires about 3 KLD drinking water for domestic consumption which will be supplied from the RO Plant at Pandalgudi Mine. Domestic sewage generation will be about 2.5 KLD which will be biologically treated in a Septic Tank followed by a Dispersion Trench. No workshop is proposed and thus, no effluent generation from the Mine. The Mine will also require about 2 KLD for Dust suppression in Haulage Road within the Pit Area. Another 50 KLD during rainy seasons and 100 KLD during other seasons is required for the development and maintenance of Green Belt. The required water will be sourced from existing Captive Mine Pits in Pandalgudi Region. Thus, the total water requirement will be maximum 105 KLD. RCL has its own black top road from existing Kankar Mines nearby to Pandalgudi Crusher. The same road will be extended to this Lease for transport of the Minerals.

Out of the total area of Quarry Lease (294.18.5 Ha.), Green Belt and Afforested Area will be about 103.0 Ha with 35.01% coverage at Conceptual Stage.

This mine will employ about 40 persons directly and 40 persons indirectly. The capital cost of the Project is Rs.5.00 crores. An amount of Rs.10.00 Lakhs has been earmarked as Capital EMP Budget and Rs.10.00 Lakhs per Annum is the Operating Cost towards EMP measures, Green Belt maintenance, Environmental Monitoring, etc. Also, an amount of Rs.1.00 Lakhs per Annum has been earmarked for Occupational Health & Safety Measures. A budget of 1% of the Project Cost will be allotted as CER Budget. In addition, for the mandatory District Mineral Federation (DMF) @ 10% of Royalty Amount will also be contributed.

During the meeting PP submitted that ROM will be taken out from the mine and transported to the beneficiation plant that will be proposed to be installed at some other mines of the PP. The Committee is of the view that waste from beneficiation plant needs to be disposed of in a scientific and environmentally friendly manner. Further, disposal of the waste at the mining lease site would be better. Thus, PP needs to transport only screened (from dry screen plant within mining lease) material from the mining lease.

The PP has proposed to use black cotton soil for cement manufacturing and on the other hand installing beneficiation plant for enhancing the grade of the material. Thus, allowing Black Cotton Soil for cement manufacturing is not acceptable. However, it has also felt that the Black cotton soil at contact zone and interstitial clay would be difficult to separate during mining and the same can be allowed to be included in ROM. Thus, the Committee restricted the mining to 1.227 MTPA ROM [Lime Kankar & Interstitial Clay (Black Cotton Soil)].

Based on the discussion held and documents submitted the Committee **recommended the proposal** of The Ramco Cements Limited for Quarrying of Minor Minerals from T. Koppuchittampatti Lime Kankar Quarry Lease (QL-IV); Extent 294.18.5 Ha & Production 1.227 MTPA (ROM) [Lime Kankar ROM +

Interstitial Clay (Black Cotton Soil)] from the mining lease located at T. Koppuchittampatti Village, Aruppukottai Taluk, Virudhunagar District, Tamil Nadu for grant of Standard Term of Reference as per Annexure-1 and following additional term of reference:

- 1) PP should submit an undertaking by way of affidavit as required as per Ministry's O.M No 3-50/2017 -IA. II(M) dated 30.05.2018 to comply with all the statutory requirements and judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors.
- 2) PP should provide in the EIA Report details of all the statutory clearances, permissions, No objection certificates, consents etc. required for this project under various Acts, Rules and regulations and their status or estimated timeline after grant of EC.
- 3) The PP should submit the revenue plan for mining lease, revenue plan should be superimposed on the satellite imaginary clearly demarcate the Govt. land, private land, agricultural land etc.
- 4) The PP should submit the real-time aerial footage & video of the mining lease area and of the transportation route.
- 5) The PP should submit the detailed plan in tabular format (year-wise for life of mine) for afforestation and green belt development in and around the mining lease. The PP should submit the number of saplings to be planted, area to be covered under afforestation & green belt, location of plantation, target for survival rate and budget earmarked for the afforestation & green belt development. In addition to this PP should show on a surface plan (5 year interval for life of mine) of suitable scale the area to be covered under afforestation & green belt clearly mentioning the latitude and longitude of the area to be covered during each 5 years. The capital and recurring expenditure to be incurred needs to be submitted.
- 6) The PP should submit the quantity of surface or ground water to be used for this project. The complete water balance cycle need to be submitted. In addition to this PP should submit a detailed plan for rain water harvesting measures to be taken. The PP should submit the year wise target for reduction in consumption of the ground/surface water by developing alternative source of water through rain water harvesting measures. The capital and recurring expenditure to be incurred needs to be submitted.

- 7) The PP should clearly bring out the details of the manpower to be engaged for this project with their roles /responsibilities/designations. In addition to this PP should mention the number and designation of person to be engaged for implementation of environmental management plan (EMP). The capital and recurring expenditure to be incurred needs to be submitted.
- 8) The PP should submit the year-wise, activity wise and time bound budget earmarked for EMP, occupational health surveillance & Corporate Environmental Responsibility needs to be submitted. The capital and recurring expenditure to be incurred needs to be submitted.
- 9) PP should submit the measures/technology to be adopted for prevention of illegal mining and pilferage of mineral.
- 10) PP should submit the detailed mineralogical and chemical composition of the mineral and percentage of free silica from a NABL/MoEF&CC accredited laboratory.
- 11) PP should clearly show the transport route of the mineral and protection and mitigative measure to be adopted while transportation of the mineral. The impact from the center line of the road on either side should be clearly brought out supported with the line source modeling and isopleth. Further, frequency of testing of Poly Achromatic Hydrocarbon needs to be submitted along with budget. Based on the above study the compensation to be paid in the event of damage to the crop and land on the either side of the road needs to be mentioned. The PP should provide the source of equations used and complete calculations for computing the emission rate from the various sources.
- 12) PP should clearly bring out that what is the specific diesel consumption and steps to be taken for reduction of the same. Year-wise target for reduction in the specific diesel consumption needs to be submitted.
- 13) PP should bring out the awareness campaign to be carried out on various environmental issues, practical training facility to be provided to the environmental engineers/diploma holders, mining engineers/diploma holders, geologists, and other trades related to mining operations. Target for the same needs to be submitted.
- 14) The budget to be earmarked for the various activities shall be decided after perusal of the Standard EC Conditions published by the Ministry.
- 15) The PP should ensure that only NABET accredited consultant shall be engaged for the preparation of EIA/EMP Reports. PP shall ensure that

accreditation of consultant shall be valid during the collection of baseline data, preparation of EIA/EMP report and during the appraisal process. The PP and consultant should submit an undertaking the information and data provided in the EIA Report and submitted to the Ministry are factually correct and PP and consultant are fully accountable for the same.

- 16) The PP should submit the photograph of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this PP should submit the original test reports and certificates of the labs which will analyze the samples.
- 17) PP should submit the District Survey Report as per S.O. 3611(E) dated 25.07.2018.
- 18) 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.

(2.6). Quarrying of Minor Minerals from Vadakkunatham Lime Kankar Quarry Lease-V (In Cluster with RCL Quarry Lease-I) (Extent 123.26.5 Ha; ROM Lime Kankar Production @ 0.5 MTPA & Clay (Black Cotton Soil) @ 0.025 MTPA, Vadakkunatham Village, Aruppukottai Taluk, Virudhunagar District, Tamil Nadu by The Ramco Cements Limited-(File No. J-11015/40/2019-IA. II (M); Proposal No. IA/TN/MIN/99698/2019) - Consideration of TOR.

The proposal of The Ramco Cements Limited is for Quarrying of Minor Minerals from Vadakkunatham Lime Kankar Quarry Lease-V (In Cluster with RCL Quarry Lease-I) (Extent 123.26.5 Ha; ROM Lime Kankar Production @ 0.5 MTPA & Clay (Black Cotton Soil) @ 0.025 MTPA, Vadakkunatham Village, Aruppukottai Taluk, Virudhunagar District, Tamil Nadu. The Mining Lease area is a part of the Survey of India Topo Sheet No. 58 K/3. The site falls between Latitude 9°19'04" N - 9° 20'7" and Longitude 78°12'32"E - 78°13' 38" E and falls in seismic zone-III.

As per EIA Notification dated 14th September, 2006 as amended from time to time, the project falls under Category "A", Project or Activity 1(a) as the Mining lease area is more than 100 Ha. The PP applied online vide proposal No. IA/TN/MIN/99698/2019 dated 18.03.2019 in Schedule 1(a) and submitted the Form-1, Pre-feasibility Report. The proposal is now placed in EAC meeting held during 24-25 April, 2019. The PP submitted that the letter of Intent (LOI) has been issued by the Tamil Nadu State Industries Department vide Letter

No/2169/MMC2/2018-1 dated 02.04.2018 for a period of 10 years. The PP submitted that the area covered under mining is non-forest type. The entire area applied for Quarry Lease is patta land owned by RCL since 1993. There is no Rehabilitation & Resettlement (R&R) issue due to the proposal. There is no litigation/pending case against the proposal.

The Mining Plan has been approved by the Department of Mining & Geology, Govt. of Tamil Nadu, Chennai vide Letter No. 584/MM10/2018/LK/Vnr, dated 08.06.2018. As per the Approved Mining Plan, the proposed maximum production from this Lease by Strip Mining would be about Lime Kankar @ 0.50 Million Tonnes per Annum (MTPA) as Run-Off Mine (ROM) basis and Clay (Black Cotton Soil) @ 0.025 MTPA. In the total QL area of 123.26.5 Ha, about 88.24.5 Ha is only available for effective mining after leaving the prescribed safety barriers of about 35.02.0 Ha. It is estimated that 24, 26,738 Tonnes of Lime Kankar and 18, 53,145 Tonnes of Clay (Black Cotton Soil) are mineable from this Quarry Lease with estimated In-situ Geological Reserves of 33,89,788 Tonnes Lime Kankar and 25,88,565 (Black Cotton Soil). Mechanized Opencast Mining, without Drilling and Blasting, with deployment of heavy earth moving machineries of low HP will be adopted. The average depth of over burden black cotton soil is 1.25 m. The maximum depth of the Mine will be of 3.0 m only. About 11, 26,125 Tonnes of Top Soil will have to be removed as Overburden (OB) in the Plan Period to win 15,01,500 Tonnes of Lime Kankar. The ratio of Ore to OB works out to be 1:0.75. About 1,25,000 Tonnes of OB/Clay (Black Cotton Soil) will be utilized in the First Plan Period for cement manufacturing and balance OB will be refilled simultaneously in the Lease voids.

PP submitted that there is a Cluster Situation wherein the Proposed Maravarperungudi Quarry Lease-I (QL-I) is adjacent to QL-V to its north-west direction at 0.1 km. Thus, a single Public Hearing may be permitted for both Vadakkunatham Lime Kankar QL -123.26.5 Ha Quarry Lease (QL-V) and Maravarperungudi Kankar Quarry Lease (QL-I) with Cluster Situation. Thus, the total cluster area is 622.13 Ha.

Observation of EAC:There is a provision in the notification for preparation of single EIA/EMP Report for mining leases in cluster and also for single public hearing. Thus, the same has been agreed.

RCL proposed to establish a Wet Beneficiation Plant at Quarry Lease-I (Washing, Grinding and Floatation) for the ROM Kankar from the Quarry Leases to reduce the Silica Content and enhance the quality of ROM Kankar in meeting the cement plants quality requirement. Till the Wet Beneficiation Plant is commissioned, the existing practice of simple Dry Screening as in Maravarperungudi Mines will be continued to screen-off the interstitial Clay. After screening, the product material will be dispatched to Pandalgudi Crusher for further processing. The screened reject will be separately stacked in the mine itself. RCL has its own black top

road from existing Kankar Mines nearby to Pandalgudi Crusher. The same road will be extended to this Lease for transport of the Minerals.

Observation of EAC:The PP before the Meeting submitted a letter to Ministry wherein it was informed that RCL has dropped the plan for installation of beneficiation plant in Quarry Lease-I and the same will be installed in future outside the Mining lease area and EC shall be obtained for the same. The EAC is of the view that PP should not use the black Cotton Soil (Over Burden) for cement manufacturing however the black cotton soil which is at contact zone with Limekankar and interstitial clay may be used as it will be difficult to separate the same during mining. Thus, Committee restricted the mining 0.5 MTPA ROM [(Lime Kankar Production + interstitial clay (black cotton soil))].

As it is a shallow mining up to a depth of 3.0 m BGL and simultaneous refilling is proposed, there will not be any water seepage or water harvesting in the Mine Pit. The mine requires about 3 KLD drinking water for domestic consumption which will be supplied from the RO Plant at Pandalgudi Mine. Domestic sewage generation will be about 2.5 KLD which will be biologically treated in a Septic Tank followed by a Dispersion Trench. No workshop is proposed and thus, no effluent generation from the Mine. The Mine will also require about 2 KLD for Dust Suppression on Haulage Road within the Lease Area and another 25 KLD during rainy season and 50 KLD during other seasons for the development and maintenance of Green Belt. The required water will be sourced from existing Captive Mine Pits in Pandalgudi Region. Thus, the maximum water requirement for the project will be 57.5 KLD.

Out of the total area of Quarry Lease (123.26.5 Ha.), Green Belt and Afforested Area will be about 45.0 Ha with 36.50 % coverage at Conceptual Stage.

This mine will employ about 30 persons directly and 30 persons indirectly. The capital cost of the Project is Rs.4.20 crores. An amount of Rs.7.00 Lakhs has been earmarked as Capital EMP Budget and Rs.5.00 Lakhs per Annum is the Operating Cost towards EMP measures, Green Belt maintenance, Environmental Monitoring, etc. Also, an amount of Rs.3.00 Lakhs per Annum has been earmarked for Occupational Health & Safety Measures. A budget of 1% of the Project Cost will be allotted as CER Budget. In addition, for the mandatory District Mineral Fund (DMF @ 10% of Royalty Amount) will also be contributed.

Based on the discussion held and documents submitted the Committee **recommended the proposal** of The Ramco Cements Limited for Quarrying of Minor Minerals from Quarry V [ML Area 123.26.5] in Cluster with RCL Quarry Lease-I (ML Area 498.87 Ha) with production capacity 0.5 MTPA ROM [Lime Kankar Production & interstitial Clay (Black Cotton Soil)] from mining lease located at Vadakkunatham Village, Aruppukottai Taluk, Virudhunagar District, Tamil Nadu for grant of Standard Term of Reference as per Annexure-1 and following additional term of reference:

- 1) Single EIA/EMP needs to be prepared for mining leases in cluster. Single Public Hearing needs to be conducted for the mining lease in cluster.
- 2) PP should submit an undertaking by way of affidavit as required as per Ministry's O.M No 3-50/2017 -IA. II(M) dated 30.05.2018 to comply with all the statutory requirements and judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors.
- 3) PP should provide in the EIA Report details of all the statutory clearances, permissions, No objection certificates, consents etc. required for this project under various Acts, Rules and regulations and their status or estimated timeline after grant of EC.
- 4) The PP should submit the revenue plan for mining lease, revenue plan should be superimposed on the satellite imaginary clearly demarcate the Govt. land, private land, agricultural land etc.
- 5) The PP should submit the real-time aerial footage & video of the mining lease area and of the transportation route.
- 6) The PP should submit the detailed plan in tabular format (year-wise for life of mine) for afforestation and green belt development in and around the mining lease. The PP should submit the number of saplings to be planted, area to be covered under afforestation & green belt, location of plantation, target for survival rate and budget earmarked for the afforestation & green belt development. In addition to this PP should show on a surface plan (5 year interval for life of mine) of suitable scale the area to be covered under afforestation & green belt clearly mentioning the latitude and longitude of the area to be covered during each 5 years. The capital and recurring expenditure to be incurred needs to be submitted.
- 7) The PP should submit the quantity of surface or ground water to be used for this project. The complete water balance cycle need to be submitted. In addition to this PP should submit a detailed plan for rain water harvesting measures to be taken. The PP should submit the year wise target for reduction in consumption of the ground/surface water by developing alternative source of water through rain water harvesting measures. The capital and recurring expenditure to be incurred needs to be submitted.
- 8) The PP should clearly bring out the details of the manpower to be engaged for this project with their roles /responsibilities/designations. In addition to this PP should mention the number and designation of person to be

engaged for implementation of environmental management plan (EMP). The capital and recurring expenditure to be incurred needs to be submitted.

- 9) The PP should submit the year-wise, activity wise and time bound budget earmarked for EMP, occupational health surveillance & Corporate Environmental Responsibility needs to be submitted. The capital and recurring expenditure to be incurred needs to be submitted.
- 10) PP should submit the measures/technology to be adopted for prevention of illegal mining and pilferage of mineral.
- 11) PP should submit the detailed mineralogical and chemical composition of the mineral and percentage of free silica from a NABL/MoEF&CC accredited laboratory.
- 12) PP should clearly show the transport route of the mineral and protection and mitigative measure to be adopted while transportation of the mineral. The impact from the center line of the road on either side should be clearly brought out supported with the line source modeling and isopleth. Further, frequency of testing of Poly Achromatic Hydrocarbon needs to be submitted along with budget. Based on the above study the compensation to be paid in the event of damage to the crop and land on the either side of the road needs to be mentioned. The PP should provide the source of equations used and complete calculations for computing the emission rate from the various sources.
- 13) PP should clearly bring out that what is the specific diesel consumption and steps to be taken for reduction of the same. Year-wise target for reduction in the specific diesel consumption needs to be submitted.
- 14) PP should bring out the awareness campaign to be carried out on various environmental issues, practical training facility to be provided to the environmental engineers/diploma holders, mining engineers/diploma holders, geologists, and other trades related to mining operations. Target for the same needs to be submitted.
- 15) The budget to be earmarked for the various activities shall be decided after perusal of the Standard EC Conditions published by the Ministry.
- 16) The PP should ensure that only NABET accredited consultant shall be engaged for the preparation of EIA/EMP Reports. PP shall ensure that accreditation of consultant shall be valid during the collection of baseline data, preparation of EIA/EMP report and during the appraisal process. The PP and consultant should submit an undertaking the information and data

provided in the EIA Report and submitted to the Ministry are factually correct and PP and consultant are fully accountable for the same.

- 17) The PP should submit the photograph of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this PP should submit the original test reports and certificates of the labs which will analyze the samples.
- 18) PP should submit the District Survey Report as per S.O. 3611(E) dated 25.07.2018.
- 19) 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 dispatch number.

(2.7). Quarrying of Minor Minerals in Cluster - (1) Maravarperungudi Lime Kankar Quarry Lease-I- Extent 498.87 Ha & Production ROM @ 1.333 MTPA (Lime Kankar & Clay-others) along with Mineral Beneficiation Plant of 1.85 MTPA throughput quantity- in S.F. Nos. Parts of 14, 15, 19 to 22, 30 to 33, etc. of Suddhamadam village, Aruppukottai Taluk, Virudhunagar District, Tamil Nadu by The Ramco Cements Limited-(File No. J-11015/39/2019-IA.II(M); Proposal No. IA/TN/MIN/99682/2019) - Consideration of TOR

The proposal of The Ramco Cements Limited is for Quarrying of Minor Minerals in Cluster - (1) Maravarperungudi Lime Kankar Quarry Lease-I- Extent 498.87 Ha & Production ROM @ 1.333 MTPA (Lime Kankar & Clay-others) along with Mineral Beneficiation Plant of 1.85 MTPA throughput quantity- in S.F. Nos. Parts of 14, 15, 19 to 22, 30 to 33, etc. of Suddhamadam village, Aruppukottai Taluk, Virudhunagar District, Tamil Nadu. The Mining Lease area is a part of the Survey of India Topo sheet No. 58 K/3. The site falls between Latitude 9°19'42" N - 9°52'138" and Longitude 78°10'03"E - 78°12' 39" E with an altitude varying from 302 to 334 m above MSL and falls in seismic zone-III.

As per EIA Notification dated 14th September, 2006 as amended from time to time, the project falls under Category "A", Project or Activity 1(a) as the Mining lease area is more than 100 Ha. The PP applied online vide proposal No. IA/TN/MIN/99682/2019 dated 18.03.2019 in Schedule 1(a) & 2(b) as beneficiation is also involved in the proposal and submitted the Form-1, Pre-feasibility Report. The proposal is now placed in EAC meeting held during 24-25 April, 2019. The PP submitted that the letter of Intent (LOI) has been issued by

the Tamil Nadu State Industries Department vide Letter No/14547/MMC.2/2016-1 dated 21.04.2017 for a period of 10 years. The PP submitted that the area covered under mining is non-forest type. The entire area applied for Quarry Lease is patta land owned by RCL since 1993. There is no Rehabilitation & Resettlement (R&R) issue due to the proposal. There is no litigation/pending case against the proposal.

Observation of EAC:Although PP initially proposed for installation of beneficiation plant 1.85 MTPA throughput but later on requested the Ministry to consider the proposal for mining only i.e. in Schedule 1(a) only.

The Mining Plan has been approved by the Department of Mining & Geology, Govt. of Tamil Nadu, Chennai vide Letter No. 7012/MM10/2016/LK/Vnr dated 11.05.2018. As per approved Mining Plan, the proposed production of Lime Kankar & Clay from this Lease by Strip Mining would be about 1.333 Million Tonnes per Annum (MTPA) as Run-Off Mine (ROM) basis (or) 0.600 MTPA as Clean Kankar and Clay (Others) @ 0.060 MTPA. RCL is also proposing to establish a Wet Beneficiation Plant over an extent of 29.0 Ha in Quarry Lease I (Washing, Grinding and Floatation) for the ROM Kankar from the Quarry Leases to reduce the Silica Content and enhance the quality of ROM Kankar in meeting the cement plants quality requirement. Throughput quantity of the Washing Plant will now be 1.85 MTPA and the ROM material from other & future leases will be fed. In the total QL area of 498.87.0 Ha, about 371.575 Ha is only available for effective mining after leaving the prescribed safety barriers of about 127.295 Ha. It is estimated that 45, 98,241 Tonnes of Lime Kankar is recoverable from the estimated Geological Reserves of 1, 02, 18,313 Tonnes from this Quarry. In-situ Geological Clay Reserves is 91, 96,481 Tonnes. Out of which about 459,824 Tonnes Clay (Others) will be utilized for the cement manufacturing process and balance 87,36,657 Tonnes Clay will be used for simultaneous refilling of the mined out portion. Mechanized Opencast Mining, without Drilling and Blasting, with deployment of heavy earth moving machineries of low HP will be adopted. The average depth of over burden black cotton soil is 1.5 m. The maximum depth of the Mine will be of 3.0 m only. It is calculated that about 1,200,000 Tonnes of over burden soil will have to be removed every year to win 6,00,000 Tonnes of clean Kankar. The ratio of ore (clean Kankar) to O.B works out to be 1:2. The deposit will be mined by a simple system of simultaneous development, production and refilling by the same excavator called strip mining. Simultaneous reclamation activities will be continued up to the end of mine life. Thus, there will be no Top Soil/OB Dump as the entire Top Soil will be refilled in the mined out pit simultaneously. Life of the Mine is 8 years only.

PP initially submitted that water requirement for the Beneficiation Plant will be about 2,500 KLD. The required water will be sourced from existing Captive Mine Pits in Pandalgudi Region. The concentrate (product) in the form of dewatered cakes shall be transported to factory and dewatered tailings shall be dumped

within the lease / re-used effectively towards achieving Zero Waste Mining. Till the Wet Beneficiation Plant is commissioned, the existing practice of simple Dry Screening as in Maravarperungudi Mines will be continued to screen-off the interstitial Clay. The existing Screening Plant will be shifted to this quarry lease area. The ROM material from the mine will be transported to the Screen Plant. This is a single deck screen normally having the mesh size of +25 mm (or) +15 mm. The mesh size is changeable. Based on the moisture content of the ROM material, the screen mesh size will be decided. After screening, the product material will be dispatched to Pandalgudi Crusher for further processing. The screened reject will be separately stacked in the mine itself. During this screening, about 55% of the interstitial reject will be screened off from ROM material and the product Kankar will be upgraded to 70% to 75% TC. RCL has its own black top road for 10 km from existing Kankar Mine nearby to the centralized Crusher at Pandalgudi. The same road will be extended to this Lease for transport of the Minerals.

Observation of EAC:The PP before the Meeting submitted a letter to Ministry wherein it was informed that RCL has dropped the plan for installation of beneficiation plant in Quarry Lease-I and the same will be installed in future outside the Mining lease area and EC shall be obtained for the same. The EAC is of the view that PP should not use the black Cotton Soil (Over Burden) for cement manufacturing however the black cotton soil which is at contact zone with Limekankar and interstitial clay may be used as it will be difficult to separate the same during mining. Thus, Committee restricted the mining 1.333 MTPA ROM [(Lime Kankar Production & interstitial clay (black cotton soil))].

As it is a shallow mining up to a depth of 3.0 m BGL and simultaneous refilling is proposed, there will not be any water seepage or water harvesting in the Mine Pit. The mine requires about 3 KLD drinking water for domestic consumption which will be supplied from the RO Plant at Pandalgudi Mine. Domestic sewage generation will be about 2.5 KLD which will be biologically treated in a Septic Tank followed by a Dispersion Trench. No workshop is proposed and thus, no effluent generation from the Mine.

Out of the total area of Quarry Lease (498.870 Ha.), Green Belt and Afforested Area will be about 120 Ha with 24.05% coverage at Conceptual Stage.

This mine will employ about 30 persons directly and 50 persons indirectly. The capital cost of the Project is Rs.45.00 Crores. An amount of Rs.30.00 Lakhs has been earmarked as Capital EMP Budget and Rs.20.00 Lakhs per Annum is the Operating Cost towards EMP measures, Green Belt maintenance, Environmental Monitoring, etc. Also, an amount of Rs.1.00 Lakhs per Annum has been earmarked for Occupational Health & Safety Measures. A budget of 1% of the Project Cost will be allotted as CER Budget. In addition, for the mandatory District Mineral Fund (DMF @ 10% of Royalty Amount) will also be contributed.

Based on the discussion held and documents submitted the Committee **recommended the proposal** of The Ramco Cements Limited for Quarrying of Minor Minerals from Quarry I [ML Area 498.87] in Cluster with RCL Quarry Lease-V (ML Area 123.26.5 Ha) with production capacity 1.333 MTPA ROM [Lime Kankar Production & Clay (Black Cotton Soil)] from mining lease located at Suddhamadam village, Aruppukottai Taluk, Virudhunagar District, Tamil Nadu for grant of Standard Term of Reference as per Annexure-1 and following additional term of reference:

- 1) Single EIA/EMP needs to be prepared for mining leases in cluster. Single Public Hearing needs to be conducted for the mining lease in cluster.
- 2) PP should submit an undertaking by way of affidavit as required as per Ministry's O.M No 3-50/2017 -IA. II(M) dated 30.05.2018 to comply with all the statutory requirements and judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors.
- 3) PP should provide in the EIA Report details of all the statutory clearances, permissions, No objection certificates, consents etc. required for this project under various Acts, Rules and regulations and their status or estimated timeline after grant of EC.
- 4) The PP should submit the revenue plan for mining lease, revenue plan should be superimposed on the satellite imaginary clearly demarcate the Govt. land, private land, agricultural land etc.
- 5) The PP should submit the detailed plan in tabular format (year-wise for life of mine) for afforestation and green belt development in and around the mining lease. The PP should submit the number of saplings to be planted, area to be covered under afforestation & green belt, location of plantation, target for survival rate and budget earmarked for the afforestation & green belt development. In addition to this PP should show on a surface plan (5 year interval for life of mine) of suitable scale the area to be covered under afforestation & green belt clearly mentioning the latitude and longitude of the area to be covered during each 5 years. The capital and recurring expenditure to be incurred needs to be submitted.
- 6) The PP should submit the quantity of surface or ground water to be used for this project. The complete water balance cycle need to be submitted. In addition to this PP should submit a detailed plan for rain water harvesting measures to be taken. The PP should submit the year wise target for reduction in consumption of the ground/surface water by developing alternative source of water through rain water harvesting

measures. The capital and recurring expenditure to be incurred needs to be submitted.

- 7) The PP should clearly bring out the details of the manpower to be engaged for this project with their roles /responsibilities/designations. In addition to this PP should mention the number and designation of person to be engaged for implementation of environmental management plan (EMP). The capital and recurring expenditure to be incurred needs to be submitted.
- 8) The PP should submit the year-wise, activity wise and time bound budget earmarked for EMP, occupational health surveillance & Corporate Environmental Responsibility needs to be submitted. The capital and recurring expenditure to be incurred needs to be submitted.
- 9) PP should submit the measures/technology to be adopted for prevention of illegal mining and pilferage of mineral.
- 10) PP should submit the detailed mineralogical and chemical composition of the mineral and percentage of free silica from a NABL/MoEF&CC accredited laboratory.
- 11) PP should clearly show the transport route of the mineral and protection and mitigative measure to be adopted while transportation of the mineral. The impact from the center line of the road on either side should be clearly brought out supported with the line source modeling and isopleth. Further, frequency of testing of Poly Achromatic Hydrocarbon needs to be submitted along with budget. Based on the above study the compensation to be paid in the event of damage to the crop and land on the either side of the road needs to be mentioned. The PP should provide the source of equations used and complete calculations for computing the emission rate from the various sources.
- 12) PP should clearly bring out that what is the specific diesel consumption and steps to be taken for reduction of the same. Year-wise target for reduction in the specific diesel consumption needs to be submitted.
- 13) PP should bring out the awareness campaign to be carried out on various environmental issues, practical training facility to be provided to the environmental engineers/diploma holders, mining engineers/diploma holders, geologists, and other trades related to mining operations. Target for the same needs to be submitted.
- 14) The budget to be earmarked for the various activities shall be decided after perusal of the Standard EC Conditions published by the Ministry.

- 15) The PP should ensure that only NABET accredited consultant shall be engaged for the preparation of EIA/EMP Reports. PP shall ensure that accreditation of consultant shall be valid during the collection of baseline data, preparation of EIA/EMP report and during the appraisal process. The PP and consultant should submit an undertaking the information and data provided in the EIA Report and submitted to the Ministry are factually correct and PP and consultant are fully accountable for the same.
- 16) The PP should submit the photograph of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this PP should submit the original test reports and certificates of the labs which will analyze the samples.
- 17) PP should submit the District Survey Report as per S.O. 3611(E) dated 25.07.2018.
- 18) 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 dispatch number.

(2.8). Bailadila Iron Ore Mine, Deposit-11 Mining Lease of by M/s NMDC Limited with production capacity of 11.30 Million tons per annum ROM Iron Ore, located at Village Kirandul, Tehsil Dantewada, South Bastar Dantewada District of Chhattisgarh (874.924 ha)(Proposal No: IA/CG/MIN/75153/2018; File No: IA-J-11015/70/2018-IA-II(M))-Re-Consideration of TOR

The proposal of M/s NMDC Limited is for Bailadila Iron Ore Deposit-11 mining Lease with production capacity of 11.30 million tons per annum (ROM) of Iron ore in the mine lease area of 874.924 ha. The mine is located at Village Kirandul, Tehsil Dantewada, South Bastar Dantewada District of Chhattisgarh. The Deposit 11 M.L is located between Latitude 18°37'34.6066" to 18°41'26.1792" N and Longitude 81° 13' 07.0266" to 81°15'18.0396" E and falls in SOI Toposheet E44J2 & J6 (New).

The project proponent (PP) total mine lease area is 874.924 ha. The entire mine lease area is forest land. PP reported that the forest clearance for diversion of 874.924 ha forest land is also obtained from MoEFCC vide letter no: 9-98/97-FC dated 22/12/1999.

The PP reported that Ministry have already accorded environmental clearances for Bailadila Deposit-11A, 11B and 11C during various time periods under EIA 1994 / 2006 notification depending upon the development of mines.

The EC for Bailadila Deposit-11B was obtained vide letter no: J-11015/416/2005-IA.II (M) dated 11/09/2006 under EIA Notification 1994 for 7.0 MTPA ROM iron ore capacity. The EC for Deposit-11A obtained vide letter no: J-11015/83/2011.IA.II(M), dated 31/10/2011 under EIA Notification 2006 for 2.8 MTPA ROM Iron ore capacity. The EC for Deposit-11C (1.5 MTPA) was obtained as part of Integrated E.C of Bailadila Deposit-14/11C Project (12 MTPA), vide letter no: J-11015/483/2007-IA.II(M) dated 11/9/2007 under EIA notification 2006. Thus, the total EC capacity available for Bailadila Deposit-11 ML for Deposit-11A, 11B and 11C mines is 11.30 MTPA ROM Iron ore. The TOR proposal was considered in EAC meeting held during July 19-20, 2018 wherein the Committee deferred the proposal as the PP has enhanced the production capacity in 2008-09 (1.614 MTPA), 2014-15 (1.619 MTPA) & 2015-16 (1.682 MTPA) after grant of EC as per the information provided by the Mining Officer, State Govt.; hence apparently, it is a violation case w.r.t. Deposit 11C.

PP submitted the response vide letter no: NMDC/EC/DEP-11/KDL/2018/1456 dated 03.10.2018 with past production details. The proposal was placed again in this meeting. The Committee deliberated the response, based on the presentation made by PP and the discussions held, the **Committee deferred the project proposal and suggested the Ministry to ascertain again on the violation**; and also sought following requisite information/clarification:

- (i). PP is not able to explain the details of mine lease area (Deposit-11A, 11B, 11C, 14 and 14 NMZ) and their breakup details and also the requirement of current project proposal.
- (ii). The past production details are different than the production details which was submitted during earlier EAC meeting. The past production details letter did not have letter number and date, and it is not authenticated by State Department of Mining and Geology. PP needs to submit the same with respect to all mine lease, CTO and EC capacity as per the annexure III and it should be authenticated by State Department of Mining and Geology with letter number and date. The Committee suggested the Ministry to ascertain again on the violation.
- (iii). PP has submitted two different numbers on total excavation in Form 1 and project basic information documents, respectively, which needs to be clarified with supporting documents.
- (iv). PP presented that the lease is valid upto 10.09.2037 and the deed is executed on 14.12.2018. PP needs to submit the copy of relevant document.
- (v). PP needs to submit the original copy of affidavit for compliance of the Ministry's OM no. 3-50/2017-IA.III (Pt.), dated 30th May 2018.

(2.9). Sijimali Bauxite Mining Project with 6.0 MTPA capacity within ML area of 1549.09 ha. by M/s. Larsen and Toubro Ltd located at Thaumul – Rampur Tehsil (Kalahandi district) & Kashipur Tehsil

(Rayagada District), Odisha (Proposal No: IA/OR/MIN/35455/2015; File No: J-11015/100/2016-IA.II(M); Consultant: Vimta Labs Ltd)-Amendment/Extension of Validity of TOR

The proposal of Sijimali Bauxite Mining Project of M/s. Larsen and Toubro Ltd is for mining of 6.0 MTPA Capacity of Bauxite in the mine lease area of 1549.09 ha located at Thaumul-Rampur Tehsil (Kalahandi district) & Kashipur Tehsil (Rayagada District), Odisha.

The TOR was granted by Ministry vide letter No: J-11015/100/2016-IA.II(M) dated 15 March 2016 for production of 6.0 MTPA Capacity in the mine lease area of 1549.09 ha. The project proponent (PP) submitted the proposal for amendment in TOR with respect to increase in the mine lease area from 1549.09 ha to 1560.40 ha. The proposal was placed in EAC meeting held during April 27-28, 2017. Based on the information furnished by the PP and discussions held the **Committee deferred the proposal and may be considered only after revised letter from State Government clearly stating total area covered under the mining lease of Sijimali Bauxite Project of M/s. Larsen & Toubro Ltd.**

The PP submitted a letter no: L&T/SIJIMALI/MOEF&CC/2018-19/11 dated 27.02.2019 to the Ministry and mentioned that **we are in process of obtaining the required letter**. In the same letter PP requested the Ministry for extending the validity of TOR for another 1 year, i.e. from 15.03.2019 to 14.03.2020.

The proposal was placed in this EAC meeting. Based on the presentation made by PP and the discussion held, the Committee observed that PP not submitted the required letter till date as sought by EAC in its earlier meeting and the Committee is also of the view that the amendment requested is increase in the mine lease area, however, PP not having valid documents for the same. So, **the PP requested the Committee to allow for withdrawal of the current proposal, so that a fresh application, devoid of any discrepancy may be submitted.** Thus, the Committee **returned the proposal in present form.**

(2.10). Kutrumali Bauxite Mining Project with 3.0 MTPA Capacity within ML Area of 696.734 ha by M/s. Larsen and Toubro Ltd located at Thaumul-Rampur Teshil in Kalahandi and Kashipur & Rayagada Teshil in Rayagada District of Odisha (Proposal No: IA/OR/MIN/35347/2015; File No: J-11015/101/2016-IA.II(M); Consultant: Vimta Labs Ltd)-Amendment/Extension of Validity of TOR

The proposal of Kutrumali Bauxite Mining Project of M/s. Larsen and Toubro Ltd is for mining of 3.0 MTPA Capacity of Bauxite in the mine lease area of

696.734ha located at located at Thaumul-Rampur Teshil in Kalahandi and Kashipur & Rayagada Teshil in Rayagada District of Odisha.

The TOR was granted by Ministry vide letter No: J-11015/101/2016-IA.II(M) dated 15 March 2016 for production of 3.0 MTPA capacity in the mine lease area of 696.734ha. The PP requested the Ministry vide letter no: L&T/KUTRUMALI/MOEF&CC/2018-19/12 dated 27.02.2019 for amendment in ToR as well as the extension of validity of ToR.

The amendment requested is increase in the mine lease area from 696.734ha to 698.87 ha and also requested for extending the validity of TOR for another 1 year, i.e. from 15.03.2019 to 14.03.2020.

The proposal was placed in this EAC meeting. Based on the presentation made by PP and the discussion held, the Committee observed that the amendment requested is increase in the mine lease area, however, PP not having valid documents for the same. So, **the PP requested the Committee to allow for withdrawal of the current proposal so that a fresh application, devoid of any discrepancy may be submitted.** Thus, the Committee **returned the proposal in present form.**

DAY 2: April 24, 2019 (Wednesday)

(2.11). Amendment in EC for Increase of Mining Lease Area from 512.354 Ha to 519 Ha under clause para 7(ii) with same production of limestone -3 MTPA by M/s. Orient Cement Limited, located at Itagi & Mogla villages, Chittapur Taluk, Kalaburagi District, Karnataka (Proposal No: IA/KA/MIN/99068/2019; File No: J-11015/60/2011-IA.II(M); Consultant: B.S. Envi-Tech Pvt. Ltd)-Amendment in EC under clause para 7 (II) of EIA notification.

The proposal of M/s. Orient Cement Limited for Limestone mine with production 3.0 MTPA located at Itagi & Mogla villages, Chittapur Taluk, Kalaburagi District, Karnataka for amendment in EC for increase in mine lease area from 512.354 ha to 519 ha under para 7(ii) of EIA notification, 2006.

The Ministry has accorded the environmental clearance vide letter no. J-11015/60/2011/IA.II(M) dated 22 September 2014. The proposal was considered in this meeting. The PP mentioned that the Orient Cement Limited has approached the State Department of Mines & Geology for lease deed execution and the State Department executed the lease deed for 519 ha including Pit-3, out of total area of 602.054 Ha. Thus, the PP proposed for amendment in EC for increase in ML area from 512.354 ha to 519 ha for which

the mine lease was executed. It was also mentioned that no mining operations has been done in Pit-3 as per the EC issued by Ministry.

The Committee had a detailed deliberation on the EC conditions mentioned in the EC letter dated 22 September 2014. The Committee observations are follows;

A. Observation on the proposal

- 1) The present mine lease deed is for 519 ha which includes Pit 3.
- 2) Para (i) of specific conditions of prevailing EC stipulates that the PP will make a lease deed for only Pit-1 (238.80ha) and Pit-2 (42.10ha), total: 280.9 ha.
- 3) However, in para (8) of EC, it is mentioned that "the environmental clearance accorded to M/s. Orient Cement for limestone production of 3.0 million tonnes per annum (ROM) for proposed mine lease excluding Pit-3, i.e. 512.354 ha (602.54 ha-89.70 ha), located at village(s) Itgi & Mogla, Taluk-Chittapur, Kalaburagi District, Karnataka with the condition that mining operations may be restricted to mining in Pit-1 (238.80ha) and Pit-2 (42.10ha) as per approved mine plan"
- 4) The PP has applied for amendment in EC under 7 (ii) of EIA notification, 2006, for increase in the mine lease area from 512.354 ha to 519 ha.
- 5) 519 ha include major part of Pit 3 apart from Pit 1, Pit 2, natural stream and other peripheral area.
- 6) 519 ha is subcomponent of 602.054 ha area for which the PP had LOI during appraisal of existing EC dated 22 September 2014.
- 7) Itgi village is excluded from the proposed 519 ha of the area, however, no rehabilitation of this village has been initiated, but contrary to the provisions of EC 22 September 2014, the PP has applied for amendment in EC under under 7 (ii) of EIA notification, 2006.

B. Observation on the EC conditions:

On perusing the presentations and the EC conditions, the Committee was apprehensive on non-compliance of certain EC conditions, as given below, for which necessary field verification was suggested for confirmation so that Ministry may initiate appropriate action, if applicable.

- i. Environmental Clearance for mining shall be for Pit-1 (238.80ha) and Pit-2 (42.10ha). Mining lease may be executed for the area for which EC is accorded. The EC would be subject to Project Proponent fulfilling the requirement under the provisions of MMDR Act, 1957 and MCR 1960 with regard to the reduced mine lease area.
- ii. Project Proponent shall carry out only the plantation in the safety area of 500 meters, after spreading top soil.
- iii. A safety zone of 500m from any dwelling or habitation will be left out as no mining area and no blasting will be conducted in this zone.
- iv. A bund of about 5m height is to be made along the mining lease boundary on the village side with good width of green belt between village and mining area.

C. Other Observations:

Apart from above mentioned conditions, the Committee also observed from the Google Earth/DSS image that there is some sign of dumping beyond the mine lease area which needs to be verified.

Based on the above observations the Committee recommends the following

- 1. The proposal for increase in the mine lease area from 512.354 ha to 519 ha under para 7(ii) of EIA notification, 2006 is rejected.**
 - 2. The Ministry may take appropriate action on the above mentioned observations at para B and C.**
- (2.12). Expansion of Achi Bavri Mining project of M/s Shree Yash Enterprises with production of Soapstone from 8,500 TPA to 20,000 TPA and Dolomite from 74,700 TPA to 2,40,000 TPA, located in Achi Bavri Village, Teshil Nathwara, District Rajsamand, Rajasthan (129.50 ha)-Consideration of EC.**

The PP requested the Ministry that proposal may be placed in next EAC meeting as PP is not able to attend the meeting due to ill health. The Committee therefore **deferred the proposal** and is of the view that Ministry may place the proposal in next EAC meeting/ on request of PP.

- (2.13). Expansion of Kotah Limestone (Building Stone,1700000 TPA) Mine (M. L. No. 01/89-R-94/08) of M/s Associated Stone Industries (Kotah) Limited over an area of 916.60 ha located in Village (s) Satakheri, Laxnlipura, Kumbhkot, Nayagaon, Arnii, Suket, Atralia, Heriakheri and Teliakheri, Tehsil Ramganjmandi, District Kota, Rajasthan. [File No. J-11015/694/2007.IA.II (M); Proposal No. IA/RJ/MIN/9422/2008]-Amendment in EC**

The project proponent **did not attend** the meeting. The Committee therefore **deferred the proposal** and is also of the view that the PP needs to make a request to Ministry for further considering/placing the proposal in EAC meeting.

- (2.14). Road Metal and Building Stone quarry of M/s S. R. Constructions over an area of 24.90 Ha (Proposed production capacity 4,44,190 cum per annum) in Sy.no.365/Part, located at Demakethapalli Village, Chilamathur Mandal, Anthapuramu District, Andhra Pradesh. (File No: IA-J-11015/37/2019-IA-II(M); Proposal No: IA/AP/MIN/99064/2019)-Consideration of TOR.**

The proposal of **M/s S. R. Constructions** is for Quarrying of Minor Minerals **Road Metal and Building Stone** from mining lease having area of **24.90 Ha (Proposed production capacity 4, 44,190 cum per annum) in Sy.no.365/Part, located at Demakethapalli Village, Chilamathur Mandal, Anthapuramu District, Andhra Pradesh.** The Mining Lease area is a part of

the Survey of India Topo Sheet No. 57 G/09 (New D43R9). The site falls between Latitude 13°48'11.2" N to 13°48'46.35"N and Longitude 77°39'31.95" E to 77°39'48.67" E with an altitude varying from 680 m to 728 m Above the MSL.

The PP in the Form-1 mentioned that General Condition is applicable for this project is located within 5 km of the inter-state boundary and its should be treated as Category 'A' project in the Ministry. The PP also submitted a cluster certificate issued by Department of Geology & Mining, Govt of Andhra Pradesh vides Lr No 4122/SEIAA-INF/2015 dated 05.03.2019. Wherein it has mentioned that there are other two mining leases of area 25.0 Ha and 1 Ha within 500 meters of this mining lease for which EC was not issued. Thus, the total area of the cluster is comes out to be 50.90 Ha.

Observation of EAC: The Committee observed that total cluster area is 50.90 Ha i.e. more than 25 Ha and individual mining lease in the cluster is less than 100 Ha thus it forms a cluster of B1 Category. Further, as per S.O. 3977(E) dated 14.08.2017 general conditions (GC) is not applicable as per for project or activity of mining of minor minerals of Category 'B1' in case of cluster of mining lease area. Being a category 'B1' project it should be appraised by SEIAA Andhra Pradesh. The Committee also observed that information provided in the PFR and Form-1 is not same, PP did not submit a certificate from the Forest Department for involvement of forest land as the forest area is adjacent to the mining lease, the Committee observed that PP at some placed mentioned that cluster will not be installed within the mining lease but during the meeting submitted that Crusher will be within the mining lease. PP did not submit the location of the crusher. Requirement of water is mentioned at some placed as 16 KLD and 10 KLD. The Committee therefore **returned the proposal in present form.**

(2.15). Choutapalli Limestone Mine of M/s. My Home Industries Private Limited, with production of Limestone: 1.82 MTPA and Top Soil: 0.35 MTPA (Total Excavation of 2.17 MTPA) over an area of 262.247 Ha (Amalgamated Mining Lease Area) located at Choutapalli Village of Mattampalli Mandal and Mellacheruvu Village of Mellacheruvu Mandal, Suryapet District, Telangana State [File No J-11015/46/2019-IA-II (M); Proposal No: IA/TG/MIN/99989/2019]-Consideration of ToR.

The Proposal of **M/s. My Home Industries Private Limited** is for i) obtaining EC as per provision of S.O. 1530(E) dated 6.04.2018 and ii) obtaining EC for amalgamated mining lease. The PP submitted the Form-1 & PFR. The PP submitted that there are two mining leases ML-1 (Chotupalli Limestone Mine, ML area 46.08 Ha) & ML-2 (Chotupalli Limestone Mine-2, ML area 216.167 Ha). The ECs were granted to both of these mining leases for ML-1 vide LR No J-11015/25/2006-IA. II (M) dated 26.05.2006 [Production Capacity 1.0 MTPA; under EIA Notification 1994] and for ML-2 vide LR No J-11015/576/2007-IA.II

(M) dated 31.07.2008 [Production Capacity 0.82 MTPA; under EIA Notification 2006]. There was a condition in the EC granted on 31.07.2008 that PP needs to amalgamate the mining lease ML-1 & ML-2 and mining should be start from the one side of the amalgamated lease. To comply with the EC condition, the PP amalgamated the mining lease on 12.12.2008. As the EC for ML-1 was granted under EIA Notification 1994 the PP applied to the Ministry in pursuant to Ministry's Notification dated 06.04.2018. Although PP applied well within the time i.e. before 5.10.2018 but EDS was raised by the Ministry for want of essential information. The PP submitted the requisite information and proposal is now placed in EAC meeting held on 23-24 April, 2019.

The PP also submitted that Certified Compliance report from Regional Office, Chennai wherein it has mentioned that *"Mining was started on 27.11.2006 and the mining operation is active/ going on. MoEF has accorded EC to Choutapalli Limestone Mine- 1 vide Environmental Clearance Letter No. JIIOI5/25/2006-IA.II (M) dated 26thMay 2006 with lease area of 46.08 ha for production of limestone 1.0 Million TPA. Further, MoEF has also accorded EC to Choutapalli Limestone Mine- 2 vide Environmental Clearance Letter No. J-I1015/576/2007-IA.II (M) dated 31st July 2008 with lease area of 216.167 ha for production of limestone 0.82 Million TPA. Choutapalli Limestone Mine 1 & 2 are having common boundary. The State Government accorded order for amalgamation vide G.O. Ms. No. 328 dated 12thDecember 2008 from Industries & Commerce (M.I.(2)) Department for these two mining leases, which expires on 31stJuly 2055. Now both leases are being operated in a single mode since January 2009. Further they have obtained Consent for operation from Telangana State Pollution Control Board for overall amalgamated area of 262.247 ha and production capacity of 1.82 million TPA. As per the calendar plan provided by the PA the production capacity is within the limit. The broken up area in the amalgamated mine is 58.61 ha as on 31.08.2018. The mine pit is having 3 benches with 18 m depth. They have not touched the ground water. They have changed the company name from M/s. My Home Cement Industries Ltd to M/s. My Home Industries Private Ltd., (there is no change in the management). The PA have also got it changed the new name of the company from the Registrar of Companies as well as Department of Mines & Geology. Further they have obtained Consent for operation also in the name of M/s. My Home Industries Private Ltd from Telangana State Pollution Control Board. The PA have also obtained approved mining plan also in the name of M/s. My Home Industries Private Ltd."*

The PP also submitted the documents pertaining to opening of mines, modified mining plan, past production details etc.

Based on the documents submitted and discussion held Committee has following observations:

- 1) After the amalgamation of the mining lease-1 & 2 PP was required to obtain EC for the amalgamated mining lease but the same has not been obtained and PP now after 10 years applied to the Ministry for obtaining EC under EIA Notification 2006. Further, name of the company has also changed which is also not rectified by the PP in the EC letters. PP was unable to explain the reason for not applying to the Ministry for amendment in EC after amalgamation of mining lease. However, submitted a letter dated 1.09.2008 wherein requested the Ministry to amend the Specific Condition No iii) of EC granted on 31.07.2008 in respect of a) lease area from 216.67 to 216.167 Ha and 18.211 Ha to 46.08 Ha.
- 2) The Committee observed from the past production details submitted by the PP that the PP has exceeded the EC (granted on 31.07.2008) capacity in year 2006-07 wherein production achieved was 1283588 as against 1000000 Tonne. The Committee also observed that PP has exceeded the mining plan capacity during the year 2006-07, and 2007-08. Thereafter the production is well within the EC and mining plan limit. Thus, the production during 2006-07 & 2007-08 is in violation of Common Cause Judgement dated 02.08.2017 and production during 2006-07 is attract provision of S.O. 804(E) dated 14.03.2017.
- 3) The Committee also felt that it is difficult to ascertain the production capacity for individual mines after amalgamation of mining lease on 12.12.2008 to compare the same with EC capacity in order ascertain the violation of Common Cause Judgment dated 02.08.2017 and S.O. 804(E) dated 14.03.2017.
- 4) The Committee also observed that Regional Office, MoEF&CC has also inspected both the mine for compliance of EC conditions and no major non-compliance has been reported.
- 5) The Committee also observed that in all the necessary permissions/approvals PP has amended the mining lease details and name of the Company except in the EC letters.
- 6) The Committee also observed that previous EAC specified the condition of amalgamation of mining lease because at as per KML file submitted by the PP it appears that mining lease having area of 46.08 in completely surrounded by the mining lease having area of 216.167 Ha and for proper development of the mine the same needs to be amalgamated.

The Committee finally suggested that it's a peculiar case wherein one EC has validity as per EIA Notification 2006 and another EC has validity as per EIA 1994. In one EC provision of violation notification S.O. 804(E) 14.03.2017 may attract, the mine is having all the necessary permission including ECs and also inspected by regional office of MoEF&CC. Thus, considering all the factors the

matter may be referred to policy sector for its comments. The Committee therefore **returned the proposal in the present form** and is of the view that decision of policy sector may be communicated to PP for necessary compliance.

(2.16). Yepalamadhavaram Limestone Mine of M/s. My Home Industries Private Limited with production of Limestone: 0.66 MTPA and Top Soil: 0.007 MTPA (Total Excavation of 0.667 MTPA) over an area of 89.37 Ha, located at Yepalamadhavaram Village, Mellacheruvu Mandal, Suryapet District, Telangana State. [File No. IA/TG/MIN/99974/2019; Proposal No IA-J-11015/47/2019-IA-II (M)]-Consideration of TOR.

The Proposal of M/s. My Home Industries Private Limited is under the provision of S.O. 1530(E) dated 06.04.2018 as the Environmental Clearance was granted vide Lr No J-11015/37/2002-IA. II(M) dated 12.03.2004. The PP submitted that earlier they have applied vide Proposal No IA/TG/MIN/80266/2018 on 26.09.2018. The Ministry raised the EDS on 9.10.2018. The PP submitted the revised application on 21.03.2019 and the proposal is placed in EAC meeting held on 23-24 April, 2019.

The PP submitted that the Govt. of Andhra Pradesh granted mining lease over an area of 121.408 Ha vide G.O. No 53 dated 02.02.2002 for a period of 20 years. The mining lease deed was executed on 22.02.2002. The CTE was obtained from State Pollution Control Board on 24.06.2002. The EC was obtained on 12.03.2004 under EIA Notification 1994 in the name of M/s My Home Cement Industries Limited. The Government has accorded permission to change in the name of the Company from M/s. My Home Cement Industries Limited to M/s. My Home Industries Limited vide G.O No 215 dated 11.08.2008 under rule 62 of MCR, 1960. The Govt. accorded permission for the surrender of part of mining lease vide G.O. No 32 dated 2.12.2014. **The mining lease deed for the reduced area of 89.37 Ha was executed on 4.02.2015.** The Govt. accorded permission for change of name of the company from M/s. My Home Industries Limited to M/s. My Home Industries Private Limited vide G.O No 86 dated 26.11.2015. The Govt. extended the validity of **Mining lease for 50 years I.e. upto 21.02.2052** vide G.O No 68 dated 24.08.2017.

The PP also submitted that the initial mining plan was approved on 30.11.2001. The notice of opening of the mine was submitted on 02.12.2004. The Scheme of Mining was approved on 19.02.2009 & 08.09.2011. Modified mining plan was approved on 08.08.2016. The PP also submitted the letter no 2114/M2/2000 dated 15.03.2019 issued Assistant DMG, Suryapet regarding past production details of the mines from 2002-03 till 2018-19 (upto 28.02.2019).

The proposal of the PP is for production of Limestone: 0.66 MTPA and Top Soil: 0.007 MTPA (Total Excavation of 0.667 MTPA) over an area of 89.37 Ha, located at Yepalamadhavaram Village, Mellacheruvu Mandal, Suryapet District,

Telangana State. The mining lease is less than 100 Ha but the proposal is considered in the Ministry as SEIAA, Telangana is not operational.

Based on the documents submitted and discussion held the Committee is of the view that PP has surrendered the part of mining lease, which is as reported by the PP as a forest land and it necessary to obtained the view of State Forest department regarding identification and notification of the surrendered area as Forest land. Further, the PP has changed the lease area and name of the company but not amended the EC for the same. The Committee also asked the Ministry to examine the matter in light of Common Cause Judgment dated 2.08.2017 and S.O. 804(E) dated 14.03.2017 based on the past production details and other document submitted by the PP. The Committee therefore **deferred the proposal** and is of the view that proposal may be considered after the submission of following documents:

- a) View of State Forest department regarding identification and notification of the surrendered area as Forest land and after examining the applicability of the requirement of Forest Clearance in the instant case.
- b) After examining the matter in light of Common Cause Judgment dated 2.08.2017 and S.O. 804(E) dated 14.03.2017
- c) Comparative of all the figures (waste, o.b., land use, water requirement, etc.) mentioned in the previous EC and what is proposed now, details of any modification/expansion/amendment/change of scope of work/method of mining etc. if any carried out after grant of EC.

(2.17). Environmental Clearance as per MoEF& CC Notification dated 06th April, 2018 for Existing Mohangarh Gypsum (Minor Mineral) Mining project (M.L. Area 501.67 HA, M.L. No.-27/62) with Production Capacity of 4.5 Lakhs TPA Gypsum and, 29,251 cum/year OB at Near Village- Mohangarh Tehsil & District Jaisalmer (RJ) by M/s FCI Aravali Gypsum and Minerals India Ltd. [File No IA-J-11015/4/2019-IA-II(M); Proposal No IA/RJ/MIN/87033/2018]-Re-consideration of TOR.

The proposal of M/s FCI Aravali Gypsum & Minerals India Ltd. is for Production 4.5 Lakh TPA Gypsum & O.B. Handling 29251 m³/annum from Mohangarh Gypsum Mining Project [ML No 27/62; 501.67 Ha) Located in village Mohangarh, Tehsil & District Jaisalmer, Rajasthan. The Project Proponent submitted that mining lease area falls under Survey of India Topo-Sheet No. 40 M/7 (Old) or G 42 F/7 (New) and between Latitude: N 27°17'46.77" to N 27°19'34.57" N & Longitude: E 71°16'2.58" to E 71°17' 47.69". The PP has applied as per provision of S.O. 1530 (E) dated 06.04.2018 online vide proposal no IA/RJ/MIN/11529/2005 on 2.10.2018 and proposal was considered in EAC meeting held on during 15-16 November, 2018 wherein EAC returned the

proposal in present form. As per direction of EAC re-applied vide proposal IA/RJ/MIN/87033/2018 dated 29.11.2018 and proposal was considered in EAC Meeting held during 22-23 January, 2019 wherein the Committee deferred the proposal for want of requisite information. The PP submitted the requisite information on 6.03.2019 and the proposal is now placed in EAC meeting held during 23-24 April, 2019. The information sought by EAC and reply submitted by the PP are as follows:

a) Comparative of all the figures (waste, o.b., land use, water requirement, etc.) mentioned in the previous EC and what is proposed now, details of any modification/expansion/amendment/change of scope of work/method of mining etc. if any carried out after grant of EC, cluster certificate from DMG as per S.O. 141(E) dated 15.01.2015 and S.O. 2269 dated 1.07.2016

PP submitted that there is no change in the method of mining or gypsum production. Comparative of all the figures (waste, o.b., land use, water requirement, etc.) mentioned in the previous EC and what is proposed now are as follows:

Particulars	Details given in earlier EC	Proposed details
Waste	Nil	Nil
O.B	27000m ³ /annum top soil	Max 129251 m ³ /annum as Top-Soil
Water Requirement	7.0 KLD	28.5 KLD
Land Use	<ul style="list-style-type: none"> • Pit & Quarry (346 Ha) • Infrastructure (0.25 Ha) • Road (1.50 Ha) • Plantation on Fresh Land (10. Ha) • Undisturbed Area (143.92 Ha) 	<ul style="list-style-type: none"> • Pit & Quarry (397.14Ha) • Infrastructure (0.01Ha) • Road (2.0 Ha) • Plantation on Fresh Land (Nil Ha) • Undisturbed Area (102.52 Ha)

The PP also submitted the Cluster Certificate obtained from DMG as per S.O. 141(E) dated 15.01.2015 and S.O. 2269(E) dated 1.07.2016 vide letter dated 12.02.2019. As per the cluster certificate there is another

mine of FCI having area of 200 Ha is adjacent to this mining lease. Thus, the total cluster area is 700.67 Ha.

Observation of EAC:The Committee observed that there is change in the above figures as compared to previous EC. Further, when the plantation is not proposed the PP has enhanced the water requirement. On perusal of the KML file it has observed that plantation already done is not up to the mark, the reason for the same may be as mining lease is located in dry region of Jaisalmer. Thus, Committee is of the view that PP needs to justify the water requirement and submit its plantation plan by selecting the species which can survive in this region. The Committee is of the view that PP needs to provide the status of nearby lease of 200 Ha (i.e. date of grant of lease and EC if any).

b) A letter from State Government regarding the validity of this mining lease

PP submitted that as per Gazette Notification dated 20.02.1964 of Govt. of India under sub-section (2) and (4) of section 17 of the Mines and Mineral (Regulation and Development) Act, 1957 (67 of 1957), the Central Govt. prohibited the grant of prospecting license or mining lease in a few gypsum bearing areas (mentioned in schedule of Notification.], including the project under consideration, in the state of Rajasthan, as the Central Government intended to undertake mining operations in these gypsum Mines.

An agreement was made on 25.07.1964 between Central Govt. and Fertilizer Corporation of India Limited, in which Central Govt. appointed FCI Ltd. for carrying on the mining operation for extraction of gypsum from the area of 501.67 ha.

In response to FCIL's application for grant of mining lease, the Ministry of Steel & Mine (GOI), vide their letter no. MV-1 (632)/63 dated 27.03.1965, stated that in view of the Gazette Notification dated 20.02.1964, FCIL had already been authorized to work the area and the question of grant of mining lease in the said area does not arise.

Superintending Mining Engineer, Bikaner; vide letter no. 739 dated 14.06.2004 and additional Director, Mines vide letter No. 4299 dated 26.08.2013, both addressed to Rajasthan State Pollution Control Board in reference to FAGMIL's application for grant of CTO, have clarified that FAGMIL is operating the mines as agent of Central Govt., and grant of mining lease for the mine is not applicable.

Comment of EAC:The EAC is of the view that a clarification in this regard may be sought from Ministry of Mines.

c) Past production details financial year-wise and duly authenticated by DMG since 1992-93.

PP submitted the past production details authenticated by Mining Officer.

Observation of EAC: The Committee is of the view that past production details is not submitted financial year wise and without the same it is difficult to ascertain the applicability of Common Cause Judgement dated 2.08.2017 and S.O. 804(E) dated 14.03.2017. The EAC is also of the view that the Consultant who is aware of the fact and even it was specifically mentioned in the last minutes of the meeting still the production details financial year wise is not submitted. Submission of incomplete information is unnecessary delaying the appraisal proposal. Thus, PP and Consultant should ensure that production details needs to be submitted financial year wise duly authenticated by DMG.

d) Copy of CTO for the period 01.08.2007 to 31.07.2016

PP submitted the CTO for the above mentioned period.

e) Quantity of OB to be handled.

PP submitted that 387931 m³ of OB to be handled during the next four years. The overburden during the mining will be utilized simultaneously for backfilling in excavated area after winning the mineral.

Based on the documents submitted and discussion held the Committee **deferred the proposal** and is of the view that proposal may be considered after submission of following:

- a) Clarification from Ministry of Mines whether the mining lease needs to be executed in this case or not. Whether the submission made by the PP regarding requirement of mining lease in the instant case. Whether PP can mine in further based on the documents submitted so far.
- b) Past Production details duly authenticated by DMG financial year wise since 1993-94 onwards.
- c) Status of nearby lease of 200 Ha (i.e. date of grant of lease and EC if any).
- d) Justify the water requirement and submit its plantation plan by selecting the species which can survive in this region.
- e) On viewing the KML file it has observed that there may be possibility that mining has been carried out outside the lease boundary. Thus, comments of DMG, Rajasthan in this regard needs to be submitted.

(2.18). Redi Iron Ore Mine of M/s. GOGTE Minerals over a lease area of 94.7060 Ha located at Village Redi; Taluka: Vengurla; District:

Sindhudurg, Maharashtra [File No. J-11015/1045/2007-IA-II(M); Proposal No. IA/MH/MIN/50374/2016]-ToR Extension Reg.

The proposal of M/s. GOGTE Minerals is for extension of ToR granted on 29.04.2016. The PP did not attend the meeting the Committee therefore **deferred the proposal** and asked the Ministry of examine the proposal in pursuant to Ministry's O.M. J-11013/41/2006-IA-11 (I) (Part) 29.08.2017 and take the action accordingly.

(3.0).Table Agenda with permission of Chair

3.1. Agenda item no. 2.1 & 2.2 of 3rd EAC meeting held 25th March 2019

Member Secretary informed the committee that representations have been received from SEAC letter no.56/SEAC/2019 dated 16.04.19, Directorate of Geology and Mining (DGM-UP), UP dt. 18.04.2019 and from M/s. ENV Developmental Assistance Systems (India) Pvt. Ltd., dt. 22.04.2019 in reference to Summary record posted as Minutes of Meeting of 3rd meeting of the EAC – NON Coal mining projects, on the agenda item no. 2.1 & 2.2, wherein appraisal of 24 ECs for Minor minerals granted by SEIAA, UP as mentioned in the Appeal No. 264 of 2018 and 12 ECs for Minor Minerals for which EC was granted by SEIAA, Up as mentioned in Appeal no/ 263/2018 in the matter of Amit Upadhayay Vs State Level EIA authority & Otrs before Hon'ble NGT. The representation highlights some clarification and additional submissions, which may be looked into by the committee, before the report is prepared by MOEF&CC for its submission to Hon'ble NGT.

The information submitted in the representation requires to be confirmed from the available documents with MoEF&CC and will require some time.

In view of above, it was submitted by Member Secretary that the matter may be considered in next meeting of EAC, due in May 2019, and if agreed, necessary communication to official of CPCB will be made to be present in next meeting to deliberate on the matter in light of Hon'ble NGT order. It was also proposed to inform officials of SEAC, SEIAA, DGM-UP to put their submission before the committee, if any, in reference to the representation. In the meantime, MoEF&CC will look into the content of the representation and submit its findings before the committee.. It is also suggested that SEIAA has submitted not all the KML files for the study area in polygon form, till date and in absence of such information, there is some ambiguity. SEIAA may be again requested to submit KML files of all study area in polygon form, as has been requested earlier to Member

Secretary at sundeep.moef@gmail.com within 7 days from date of upload of the MoM.

Recommendation

The committee consented to the proposal of Member Secretary, and requested that the findings against the representation may be made before the committee (parawise) for better deliberation. CPCB officials may be informed accordingly

3.2. Participation of the project propoent during the EAC meeting

The committee observed that complaince of MoEF&CC OM no. J-11015/333/2009-IA.II(M) dt. 25.02.2010 is not being complied by the project propoent. Accordingly, committee directed to communicate all project propoent to comply with the provision of the OM and thereafte presentation before committee will be allowed. It further directed that following may also be communicated through agenda provision by Member Secretary for information and complaince by all project propoent for attending furture EC meetings:

- a. Number of persons allowed for submisson before EAC will be not more than 5, inlcding 2 from Project propoent, 2 from acrediated Consultant and one for assitance to the team.
- b. The PP need to ascertain from the consultant that all the documents has been submitted in the Ministry as per the agenda

The meeting ended with thanks

Standard Terms of Reference (TOR) for Mining Project

- 1) The TOR will not be operational till such time the Project Proponent complies with all the statutory requirements and judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors..
- 2) Department of Mining & Geology, State Government shall ensure that mining operation shall not commence till the entire compensation levied, 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 the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors.
- 3) Year-wise production details since 1993-94 should be given, clearly stating the highest production achieved in any one year prior to 1993-94. 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. The production details need to submit since inception of mine duly authenticated by Department of Mines & Geology, State Government.
- 4) A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.
- 5) 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.
- 6) 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).
- 7) 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.
- 8) 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.
- 9) 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.

- 10) 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.
- 11) 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.
- 12) 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.
- 13) 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.
- 14) 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.
- 15) 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.
- 16) 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.
- 17) The vegetation in the RF / PF areas in the study area, with necessary details, should be given.
- 18) 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.
- 19) 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.
 - 20) 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.
 - 21) 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.
 - 22) 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).
 - 23) 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.
 - 24) 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.

- 25) 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.
- 26) 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.
- 27) Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.
- 28) 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.
- 29) 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.
- 30) 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.
- 31) 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.
- 32) 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.
- 33) 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.

- 34) 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.
- 35) Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.
- 36) 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.
- 37) 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.
- 38) 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.
- 39) 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.
- 40) 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.
- 41) 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.

- 42) Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
- 43) The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.
- 44) A Disaster Management Plan shall be prepared and included in the EIA/EMP Report.
- 45) 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.
- 46) The activities and budget earmarked for Corporate Environmental Responsibility (CER) shall be as per Ministry's O.M No 22-65/2017-IA. II (M) dated 01.05.2018 and the action plan on the activities proposed under CER shall be submitted at the time of appraisal of the project included in the EIA/EMP Report.
- 47) The Action Plan on the compliance of the recommendations of the CAG as per Ministry's Circular No. J-11013/71/2016-IA.I (M), dated 25.10.2017 needs to be submitted at the time of appraisal of the project and included in the EIA/EMP Report.
- 48) Compliance of the Ministry's Office Memorandum No. F: 3-50/2017-IA.III (Pt.), dated 30.05.2018 on the judgment of Hon'ble Supreme Court, dated the 2nd August, 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India needs to be submitted and included in the EIA/EMP Report.
- 49) 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 for Beneficiation Projects

- 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 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.
- 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 predominant 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.

Annexure-III

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”

- 1) 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.
- 2) The expansion or opening of new manganese ore mines may be considered only when the actual production of about 80% is achieved. Further, the mines that have not produced Mn ore for last two years and have no commitment in the current year as well; EC capacity in such cases may be reviewed. The Department of Steel & Mines, Govt. of Odisha shall submit the Annual Report on this issue to the MoEF&CC for further necessary action.
- 3) Analysis of baseline environmental quality data for the year 2014 and 2016 indicates that existing mining activities appear to have little / no potential impact on environmental quality, except on air environment, which was mainly due to re-suspension of road dust. Therefore, all the working mines can continue to operate with strict compliance to monitoring of environmental quality parameters as per EC and CTE/CTO conditions of the respective mine, 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.
- 4) Considering the existing environmental quality, EC capacity, production rate, iron ore resources availability and transport infrastructure availability, the share of Joda and Koira sector works out to be 70% and 30% respectively for the existing scenario for the year 2015-16. However, for additional EC capacity, it can be 50:50 subject to commensurate infrastructure improvement (viz. SOTM, pollution free road transport, enhancement of rail network etc.) in the respective regions.
- 5) Continuous monitoring of different environmental quality parameters as per EC and CTE/CTO conditions with respect to air, noise, water (surface & ground water) and soil quality in each region shall be done. The environmental quality parameters should not indicate any adverse impact on the environment. Monitoring within the mines should be done by individual mine lease holders, whereas outside the mine lease area, monitoring should be done by the Govt. of Odisha through various concerned departments/ authorized agencies. Various monitoring/ studies should be conducted through national reputed institutes, NABET/ MoEF&CC accredited laboratories/organizations. The reports submitted by individual mine lease holders and study reports prepared by other concerned departments/agency for each of the regions should be evaluated and examined by SPCB/ MoEF&CC.
- 6) Construction of 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 minimum 300 m inside the mine should be done. This should be done within one year for existing mines and new mine should have since beginning. The concerned departments should extend full support; wherever the land does not belong to the respective mine lease holders. 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 above.
- 7) In view of high dust pollution and noise generation due to road transport, it is proposed to regulate/guide the movement of iron and manganese ore material based on the EC capacity

of the mines. Accordingly, ore transport mode has been suggested, as given below in Table.

Table : EC Capacity based Suggested Ore Transport Mode (SOTM)

Code	EC	Suggested Ore Transport Mode
SOTM 1	≥ 5 MTPA	100% by private railway siding or conveyor belt up to public railway siding or pipeline for captive mines and 70% for non-captive mines
SOTM 2	Between 3 and <5 MTPA	Minimum 70% by public railway siding, through conveyor belt and maximum 30% by road - direct to destination or other public railway siding or above option
SOTM 3	Between 1 and <3 MTPA	Minimum 70% by public railway siding and maximum 30% by road - direct to destination or by other public railway siding or above options
SOTM 4	<1 MTPA	100 % by 10/17 Ton Trucks or above options

It is mentioned by State Govt. of Odisha that currently about 45% of the iron ore is despatched using rail network and progressively it will be increased to about 60% by rail/slurry over a period of 5 years, taking into account time required to set up more railway sidings.

In view of present ore transport practices and practical limitations, all the 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.

However, 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.

Transportation of iron & manganese ore through river (jetty) to nearest Sea port (Sea cargo option) may be explored or connecting Sea ports with Railway network from the mines to be improved further so that burden on existing road and rail network and also pollution thereof can be minimized.

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 MoEF&CC.

Responsibility: Department of Steel & Mines, Govt. of Odisha; Time Period: 5 Years for developing railway/ conveyor belt facilities

- 8) Development of parking plazas for trucks with proper basic amenities/ facilities should be done inside mine. This should be done within one year for existing mines and new mines should have since beginning. Small capacity mines (in terms of lease area or production) not

having enough space within the mine lease areas should develop parking plaza at a common place within the region with requisite facilities. Responsibility: Individual Mine Lease Holders; Time Period: 1 Year

- 9) 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. Responsibility: Department of Steel & Mines with PWD / NHAI Time Period: 2 Years.
- 10) Regular vacuum cleaning of all mineral carrying roads aiming at “Zero Dust Re- suspension” may be considered. Responsibility: PWD / NHAI/ Mine Lease Holders; Time Period: 3 months for existing roads.
- 11) Expansion of existing mines and new mines should be considered after conducting recent EIA Study (as per the provisions of EIA Notification 2006, as amended time to time) with proper justification on demand scenario for iron ore requirement and availability of pollution free transport network in the region. Responsibility: IBM, Department of Steel & Mines and MoEF&CC, New Delhi.
- 12) **Mine-wise Allocation of Annual Production:** 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 as suggested in Table, so that demand for iron ore can be anticipated, and actual production/dispatch does not exceed the suggested annual production.

Table: Allocation of Production to Different Mines for 5 Years (as per approved Mining Plan)

Mine Lease	EC Capacity (MTPA)	Suggested Annual Production (MT)				
		2016-17	2017-18	2018-19	2019-20	2020-21
		Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
Mine 1	X1					
Mine 2	X2					
Mine 3	X3					
Mine n	Xn					
Total	160 +	105	129	153	177	201
<u>Next year allocation = Average of EC Capacity and Last year</u>						

- 13) **Expansion of Existing Mines having Validity up to 2020:** In view of implementation of MMDR Act 2015, wherein many non-captive mines are expected to be closed by March 2020, total iron ore production scenario has been. It is expected that the non-captive mines having validity till 2020 shall try to maximize their production (limited to EC capacity) in the remaining period. Further, depending upon availability of iron ore resources, these mines may also seek expansion of EC capacity. It may be noted here that total EC capacity of existing 25 working mines having validity upto 2020 is about 85 MTPA, whereas actual production from these mines has been only 44.677 MT (52.6%) during 2015-16 and 57.07 MT (67.1%) during 2016-17. Also, it is expected that these mines would not even be able to achieve ore production as per existing EC capacity till March 2020. Therefore, these existing mines should go for production to the fullest extent to meet the requisite demand from the State. However, where EC limit is exhausted, application for expansion may be considered. Further, the EC process (i.e. Grant of TOR,

Baseline data collection, Mining plan/ scheme approval, Public hearing, preparation of EIA/EMP Report. Appraisal by the EAC and grant of EC) takes about one year time. Under such circumstances, it is suggested that further applications for grant of TOR or grant of EC for expansion of production capacity of the mine should be considered for those existing mines, which have exhausted their capacity subject to consideration of all environmental aspects. Responsibility: Department of Steel & Mines and MoEF&CC, New Delhi.

- 14) **Sustained Iron Ore Production beyond 2020:** Considering the implementation of MMDR Act 2015, total production of iron ore in Odisha State is anticipated to be about 111 MT during 2016-17 (actual production was – 102.663 MT), 136 MT during 2017-18, 146 MT during 2018-19 and 146 MT during 2019-20. Then there will be substantial drop in total production (to the tune of 73 MT during 2020-21 onwards) due to closure of mines, which are valid up to 2020. Therefore, in order to maintain operation/sustained growth of downstream industries, iron ore mining in the region needs to be continued at a sustainable rate. The State Govt. through Department of Steel and Mines should initiate appropriate action to ensure continued availability of iron ore from the region, as per suggested sustainable annual production
- 15) **Reserves Estimation–Mining Plan and Exploration:** Appropriate actions (geo-technical investigation for qualitative and quantitative resource estimation & other preparations for auction of mines), may be initiated taken into account the existing working mines, and the mines which were operational at some point of time (but closed presently due to various reasons). The total iron ore reserves/ resources available within the total lease area of each mine should be estimated by State Govt./NMET/ GSI (or any other approved agency) with respect to: (i) Total lease area of mine (surface), (ii) Maximum depth to which resources could be available, (iii) Resources below the ground water table (if intersected), (iv) Reserves are to be estimated as per UNFC code with respect to quantity and quality (% Fe content), (v) Maximum mining rate and area for auction (after 2020) will be calculated based on total resources available and proposed life of mine leading to closure of mine in a stipulated time period.
Responsibility: Department of Steel & Mines, IBM and GSI; Time frame: 1 year for the mines to be auctioned for next 2 years. The above mentioned organizations shall ensure the compliance with respect to timelines for implementations.
- 16) Depending upon availability of extractable iron ore resources within a mine, mining below the ground water table may be permitted after conducting necessary geological and hydro-geological study by GSI and requisite approval from the CGWB/CGWA (Central Ground Water Board/Authority). This can be explored at least in few mines on trial/pilot basis. Further, within a mine, it will be desirable to operate one pit at a time, and next pit should be opened after extracting maximum possible resources from the first pit, so that the exhausted pit can be used for back filling/ storing of low grade iron ore. However, depending upon the quantity and/or quality of iron/ manganese ore, other mine pits in the same mine lease may also be opened for sustainable scientific mining, as per approved mining plan/scheme of mining by IBM. The Department of Steel & Mines, Govt. of Odisha should initiate the pilot project so that minerals are fully utilized.
- 17) **Commercial Utilization of Low Grade Ore:** 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
- 18) 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.

- 19) 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.
- 20) Large and medium mine leases contribute to better implementation of reclamation and rehabilitation plans to sustain the ecology for scientific and sustainable mining. The small leases do not possess scientific capability of environmentally sustainable mining. Therefore, new mine leases having more than 50 ha area should be encouraged, as far as possible. This will ensure inter-generational resource availability to some extent. Responsibility: Dept. of Steel & Mines, Govt. of Odisha.
- 21) **Mining Operations/Process Related:** (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.
- 22) **Air Environment Related:** (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 water fogging 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, PM_{2.5}, SO₂, NO_x 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, NO_x 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. Further, 11 continuous air quality monitoring systems may be installed in Joida and Koira regions and one in Baripada/ Rairangpur region. (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 3 using 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.

- 23) **Noise and Vibration Related:** (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 (detailed in Section 5.4) 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.
- 24) **Water/Wastewater Related :** (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.

25) **Land/ Soil/ Overburden Related** (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 self-sustaining. 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.

26) **Ecology/Biodiversity (Flora-Fauna) Related:** (i) As per the Red List of IUCN (International Union for Conservation of Nature), six floral species and 21 faunal species have been reported

to be under threatened, vulnerable & endangered category. Protection of these floral and faunal species should be taken by the State Forest & Wildlife Department on priority, particularly in the mining zones, if any. (ii) The mines falling within 5-10 km of the Karo-Karampada Elephant corridor buffer need to take precautionary measures during mining activities. The forest and existing elephant corridor routes are to be protected and conserved. Improvement of habitat by providing food, water and space for the elephants is required to be ensured to avoid Man-Elephant conflicts. Though as per the records of State Forest Department, movement of elephants in the Karo-Karampada elephant corridor within 10 km distance from the mines in Joda and Koira is not observed, the Forest Department shall further record and ensure that elephant's movement is not affected due to mining activities. (iii) 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. (iv) 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. (v) 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. (vi) 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. (vii) Vetiver plantation on inactive dumps may be encouraged as the grass species has high strength of anchoring besides medicinal value. (viii) 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. (ix) Similarly, Wildlife Department is also required to record and document annual status of wildlife in the region and should identify the need for wildlife management on regional level. (x) Maintenance of the ecology of the region is prime responsibility of the State Forest and Wildlife Department. They need to periodically review the status and identify the need for further improvement in the region. The required expenditure may be met from the funds already collected in the form of compensatory afforestation and wildlife management. Further, additional fund, if required can be sought from DMF. Responsibility: Individual Mine Lease Holders and State Forest & Wildlife Department.

- 27) **Socio-Economic Related:** (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 / Hon'ble Prime Minister's Vision centring 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.

- 28) **Road Transport Related:** (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, as suggested in Chapter 10. 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
- 29) **Occupational Health Related:** (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)
- 30) **Reporting of Environmental Sustainability Achievement:** All the mines should prepare annual environmental sustainability report (ESR), highlighting the efforts made towards environmental protection with respect to different environmental components vis-à-vis production performance of the mine on monthly basis. The data collected as per EC and CTE/CTO conditions should be utilized to prepare the annual sustainability report. The mines performing high with effective environmental safeguards may be suitably recognized/rewarded. “Star Rating Format” formulated by the Ministry of Mines along with environmental sustainability report may be used.
- 31) **Environmental Monitoring Requirements at Regional Level:** Apart from strict compliance and monitoring by individual mine lease holder, there is a need for simultaneous monitoring in each of the regions by competent expert agencies under the guidance/ supervision of concerned regulatory agency. Details of the studies required to be done on regular basis (continuously for 5 years) through responsible agency (organization of national/state repute) and time frame are suggested in Table.

Table: Suggested Environmental Monitoring Requirements and Action Plans at Regional Level

Sr. No.	Study Component/ Action Plan	Responsibility	Monitoring and Reporting Time Frame (Approx.)

1.	<p>Environmental Quality Monitoring with respect to Air, Water, Noise and Soil Quality in each region (Joda, Koira and Baripada/Rairangpur) as per specified frequency shall be done by a third party (preferably Govt.) and/or laboratory approved/ recognized by NABET/ CPCB/ SPCB/ MoEF&CC.</p> <p>All the water bodies (rivers, nallas, ponds etc.) shall be monitored. National/State level research/ academic institutes may be involved initially for couple of years to streamline the activity. The report shall be brought out annually by June each year. The study shall be conducted in consultation with MoEF&CC-RO.</p>	SPCB	Continuous Annually
	<u>Installation of online ambient air quality monitor for PM₁₀, PM_{2.5}, SO_x and NO_x within the mine having more than 3 MTPA EC Capacity</u>	<u>Respective Mine Lease Holders</u>	<u>Continuous Annually</u>
	Installation of online ambient air quality monitor for PM ₁₀ , PM _{2.5} , SO _x and NO _x in the Joda and Koira Region (total 11 locations).	SPCB	Continuous Annually
2.	Status of flora and fauna in each of the regions shall be assessed on annual basis. Changes, if any, taking place in the region shall be brought out clearly. The study shall be conducted in consultation with State Forest and Wildlife Department.	State Forest & Wildlife Dept.	Annually in mining zone and once in 3 years in the region
3.	Socio-economic study incorporating developments taking place in each of the region, CSR initiatives made by the mining companies shall be conducted on annual basis. Further, micro level developmental needs shall be clearly brought out in the report for each region. The study shall be conducted in consultation with district administration.	Respective District Administration	Annually
4.	A detailed hydro-geological study in each of the regions shall be conducted in an integrated manner in consultation with Regional Director, Central Ground Water Board. Accordingly, all project proponents shall implement suitable conservation measures to augment ground water resources in the area.	SPCB	Once in 2 years
5.	The State Govt. shall ensure construction and maintenance of dust free common roads/ appropriate rail network for transport of ore from mines to the consumer end.	Dept. of Steel & Mines	12 months for road network and 5-7 years for rail network
6.	<u>Construction and maintenance of dust free</u>	<u>Respective</u>	<u>Continuous 6</u>

	<u>roads from respective mine to the main road</u>	<u>Mine Lease Holders</u>	<u>months</u>
7.	Traffic/road inspection study addressing the condition of traffic/roads leading to different mines and connecting to different railway sidings shall be undertaken on annual basis. Further, detailed traffic study shall be undertaken on every 5 yearly basis to ensure adequacy of road/rail infrastructure in each of the regions. The study can be undertaken through national/ state level research/ academic institute (such as CSIR-CRRI, New Delhi).	Dept. of Steel & Mines	Continuous 6 months
8.	Assessment of land use/ land cover changes in each of the regions, with particular focus on mining areas, afforestation activities, variation in flow path of various water bodies etc. using remote sensing data	ORSAC	Annually
9.	R&D Studies for utilization of low-grade iron ore	Dept. of Steel & Mines through R&D / Academic Institutes	Upto 45% by 2020 and upto 40% by 2025

The data so generated for the region should be made available on the website of Department of Steel & Mines and also at MoEF&CC website, so that it can be effectively utilized by Individual Mine Lease Holders for preparing EIA/ EMP reports. This will meet the requirement for separate one season baseline environmental quality data collection by the individual proponents, if the mine proposed is in the same study region. Further, MoEF&CC (through EAC) can also utilize the data base available in evaluating the proposals for expansion of existing mines or new mines while granting ToR or EC to the mine, taking an holistic view of the region. State Govt. of Odisha should bring out an integrated environmental sustainability report for each of the regions (mainly for Joda and Koia region) incorporating ESR of individual mines and data collected in the region through various agencies, once in 5 years, to plan level of scientific and sustainable mining for the next 5 years.

- 32) Institutional Mechanism for Implementation of Environmentally Sustainable Mining: The present study is not a one-time study, but a process to ensure environmentally sustainable mining activities in the region on long term basis. Looking into the large-scale mining activities and long term perspective for mining vis-à-vis environmentally sustainable mining and upliftment of people of the region, there is a need to create an agency, who will integrate all the aspects relating to sustainable mining in the region on long term basis. It could be a SPV of Govt. of Odisha or a cell within the overall control and supervision of Dept. of Steel & Mines, with members from IBM, GSI, OSPCCB, MoEF&CC-RO and other concerned Departments and Mine Owners (EZMA), District Administration. It is found that the strong database available for the region needs to be taken into account to map and establish environmental quality of the region on daily, monthly, seasonal and annual basis. Further, the efforts and initiatives of the mines towards environmental protection as well as upliftment of the people of the region are required to be integrated, and a systematic plan at the block/regional level needs to be framed for the overall benefit of the local society, region, district, state and the country as a whole. It will be desirable to have

proper environmental quality data management and analysis by NEERI or any other agency for next 5 years (six monthly compliance reports followed by field verification) ensuring sustainable mining practices in the region leading to an overall development of the region. District Mineral Funds should be utilized appropriately for various developmental activities/needs of the region. Further, an environmental sustainability report incorporating environmental status of region coupled with social upliftment may be brought out by SPCB or any other authorized agency on annual basis. This report can be used for supporting the regional EIA study, and also need for environmental quality monitoring by individual mine seeking environmental clearance for new mine/ expansion of mine, including public hearing. Since, outcome of the above study reports shall be in the overall interest of all the stakeholders (including local population) of the region, further planning for the region shall warrant cooperation and assistance of all the stakeholders (mine operators, industries, transporters, State & Central Government Offices, MoEF&CC, CPCB, SPCB, Dept. of Steel & Mines, IBM, IMD, NGOs and local people) in sharing the relevant data/information/reports/documents etc. to continuously improve upon the environmentally sustainable development plan for economic growth in mining sector as well as for improvement in quality of life of the people of the region.

**Standard EC conditions as per Ministry's OM No. 22-34/2018-
IA.III,
dated 08.01.2019**

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)

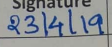
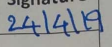
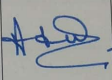
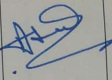
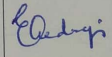

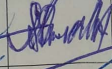
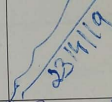
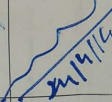
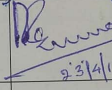

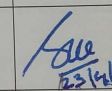
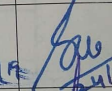
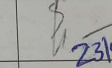
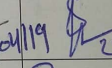

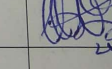
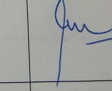
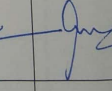
- 37) The activities and budget earmarked for Corporate Environmental Responsibility (CER) as per Ministry's O.M No 22-65/2017-IA. II (M) dated 01.05.2018 or as proposed by EAC should be kept in a separate bank account. The activities proposed for CER shall be implemented in a time bound manner and annual 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 MoEF&CC 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.

LIST OF EXPERT APPRAISAL COMMITTEE (Non Coal mining Sector)

Sl. No	Name and Address	Designation	Signature	Signature
1	Dr. S.R. Wate, 148/149, Nagar Vikas Society, Narendra Nagar, Nagpur440015, Maharashtra	Chairman		
2	Dr. Ajay Deshpande, Flat A-101, Pristine Privilege Apartments, Opposite Prism, Near RohanNilay, Behind Spicer College, Aundh, Pune- 410007, Maharashtra	Member		
3	Shri G.P. Kundargi, Plot No. 32, MOIL Vatika, Chicholi Road, Fetri, Nagpur 441501, Maharashtra	Member		
4	Dr. A.K. Malhotra, C-6, SubhavnaNiketan, Road No. 41, Pitampura, Delhi- 110034	Member		
5	Dr. Gurdeep Singh, Department of Environmental Science &Engg. Indian Institute of Technology (Indian School of Mines), Dhanbad-826004	Member		
6	Shri B Ramesh Kumar, H.No. 6-1-134/6, Balram Compound, Padmarao Nagar, Secunderabad-500025, Andhra Pradesh	Member		
7	Dr. AshaRajvanshi, WII, P.B# 18, chandrabani, Dehradun-248001, Uttarakhand	Member		
8	Prof. S. Ramakrishna Rao, D.No. 50-120-9/1, North Ext., Seethammadhara, Visakhapatnam-530013, Andhra Pradesh	Member		
9	ShriSantosh Gupta, Flat No. 405, Gaur Green Vista, NyayKhand-I, Indrapuram, Ghaziabad, UP-201014	Member		
10	Dr. Parimal Chandra Bhattacharjee, A/3 Asiyana Housing Complex Maligaon, Guwahati- 781011, Assam	Member		
11	Prof. MukeshKhare, Department of Civil Engineering, IIT, Delhi	Member		
12	Representative of DGMS Head Office, Sardar Patel Nagar, Dhanbad, Jharkhand 826001 dg@dgms.gov.in	Member		
13	ShriMantuBiswas, Controller of Mines, IBM Block D, Second Floor, Indira Bhavan, Civil Lines, Nagpur - 440001	Member		
14	Shri V.K. Soni, Scientist 'E', IMD, New Delhi – 110 003	Member		
15	Shri. Sundeep, Director IA-Division (Non-coal Mining sector) Agni-A106, Indira Paryavaran Bhawan, Ministry of Environment, Forest &Climate Change, Jorbagh Road, New Delhi- 110003	Member Secretary	