

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

SUMMARY RECORD OF 2nd MEETING OF THE COMMITTEE OF THE EXPERT APPRAISAL COMMITTEE FOR ENVIRONMENTAL APPRAISAL OF NON-COAL MINING PROJECTS CONSTITUTED UNDER THE EIA NOTIFICATION, 2006.

The 2nd 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 **February 20-21, 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 1st EAC Meeting held during January 22-23, 2019:

The Minutes of the 1st Meeting of EAC held during **January 22-23, 2019** were circulated to the members of the Committee. The Committee made brief deliberations on the proposals placed in the last meeting and approved the same with the following amendments:

- (a) **Page Nos. 37, 42, 49, 53, 174 & 183 of the Minutes of EAC held during January 22-23, 2019:** The word 'Aromatic Hydrocarbon ' mentioned at page numbers 37, 42, 49, 53, 174 & 183 may be read as 'Aromatic Hydrocarbon'.
- (b) **Page No. 46, para 5, of the Minutes of EAC held during January 22-23, 2019:** The date of EAC meeting mentioned at Page No. 46, para 5, may be read as '20-21, March 2017' in place of '20-21, March 2019'.
- (c) **Page No. 6 of the Minutes of EAC held during January 22-23, 2019:** The recurring cost '0.0 crores' mentioned at second last line may be deleted.

Day 1: February 20, 2018 [Wednesday]

Consideration of Proposals

- (2.1). Appraisal of Replenishment Study Report prepared for EC granted to M/s Mahadev Enclave Pvt. Ltd. by SEIAA, Bihar in pursuance of the Hon'ble Supreme Court's Order dated 22.11.2018 [WP (C) 11808 of 2016 in the matter of Aman Kumar Singh Vs. State of Bihar & Ors.]- 19 ECs of M/s**

Mahadev Enclave Pvt. Ltd. granted by SEIAA, Bihar - Court Related Matters

The Hon'ble Supreme Court in its Order dated 22.11.2018 [WP(C) 11808 of 2016 in the matter of Aman Kumar Singh Vs. State of Bihar & Ors. directed MoEF&CC to take decision on the replenishment study report prepared for the 19 mining lease for which ECs were granted by SEIAA, Bihar to M/s Mahadev Enclave Pvt. Ltd. It is informed to the Committee that SEIAA Bihar has granted Environmental Clearance to 19 mining leases of M/s Mahadev Enclave Pvt. Ltd. during 2016. The Consultant M/s Overseas Min-Tech Consultant has conducted replenishment study for the said mining lease.

To comply with the order of Hon'ble Supreme Court, the proposal was considered before the EAC Meeting held during 22-23 January 2019 wherein the Committee (EAC) observed that PP did not conduct the replenishment study for the year 2016-17. The Replenishment Study conducted for F.Y. 2017-18 is not proper and not acceptable to the EAC. The PP also presented replenishment Study for 2018-19 and as the complete information was not submitted to the Committee and accordingly the proposal was deferred and asked the PP to submit the section wise quantity estimation, month-wise production data, and dates on which pre-monsoon & post monsoon survey carried out and date of submission of the report. In addition to this Committee also requested the Ministry to invite DMG, Bihar and Member Secretary, SEIAA, Bihar. The Committee was of the view that **PP should submit the complete information within 15 days and Ministry shall place this proposal in the next EAC meeting scheduled to be held during 20-21 February, 2019. The Committee also asked the Ministry to inform Member Secretary SEIAA, Bihar and DMG, Bihar to present during the next meeting to give more insight on the issue.** The Committee therefore deferred the proposal and asked the Member Secretary, to place it as agenda item No.1 for next EAC Meeting to be held during 20-21 February, 2019.

The Proposal is now placed in EAC meeting held during 19-20 February, 2019. It is informed to the Committee that the Member Secretary, SEIAA Bihar informed that permission from State Government of Bihar is not granted to him for attending the Meeting. However, Dy. Director, DMG, Govt. of Bihar was present during the meeting.

The following are the deliberations and observations of the EAC based on the information submitted by the PP/State Govt. of Bihar:-

- (i). The Ministry, vide email dated 05.02.2019, has requested State Environmental Impact Assessment Authority (SEIAA), Bihar and Department of Mines & Geology, Govt. of Bihar to attend the EAC meeting along with concerned officers who are well conversant with the subject, so that EAC can finalize its recommendations and enable the Ministry to submit its report before Hon'ble Supreme Court. In this context, Shri Sanjay Kumar, Assistant Director, Department of Mines and Geology, Govt. of Bihar has attended the EAC meeting. The DMG vide letter dated 18.02.2019 requested the Ministry to provide some more time for submission of the information. However, no one attended the

meeting from the State Environmental Impact Assessment Authority (SEIAA), Bihar.

- (ii). It is informed to the Committee that the KML file submitted by the PP was examined on Decision Support System (DSS) and Google Earth and it has observed that the mining lease is falling at a distance of 7.48 KM to 8.28 KM from the Bhimbandh Wildlife Sanctuary. The Eco-Sensitive Zone around Bhimbandh Wildlife Sanctuary was notified on 09.01.2017 and having extent from 200 meters to 5 KM. The EC was granted to these mines during March 2016 and PP was required to obtain NBWL Clearance before commencing the mining operation. In this regard, the Ministry vide letter dated 15.02.2019, asked the PP to clarify whether NBWL Clearance has been obtained or not. The PP, vide its letter dated 19.02.2019 confirmed that PP did not obtained clearance from the Standing Committee of NBWL. **The Committee also asked the Ministry to examine the other issues related with these mining leases viz. examine the matter in light of Hon'ble Supreme Court order in the matter of common cause dated 02.8.2017 & Notification vide S.O. 141(E) dated 14.03.2017, requirement of NBWL Clearance , issue pertaining to area of mining lease as per LoI. The Committee also asked the PP and DMG, Bihar to provide complete information/data as required by the Ministry to examine the matter further.**
- (iii). It is informed the Committee that Hon'ble Apex Court has directed to decide on the replenishment study report for 2017-18. The Committee finally concluded that replenishment study for F.Y. 2016-17 was not conducted by the PP. The Replenishment Study report for F.Y. 2017-18 is not based on the actual data collected rather it is based on Digital Elevation Model (DEM) and also the formula used for calculation of mineral deposition is not correct. The Replenishment Study Report for F.Y. 2018-19 is based on the data collected by DGPS Survey but on perusal of section wise mineral calculation it has observed that section interval are varying and report does not provide the level increase/decrease in River Bed Material level between the pre-monsoon & Post Monsoon Survey. The Committee therefore did not accept the Replenishment Study Report for F.Y. 2017-18 & 2018-19 as it did not give complete insight on the replenishment of the mineral from these 19 mining leases.
- (iv). It is informed the Committee that PP, vide its letter dated 19.02.2019, submitted that month wise details of past production is under process to get authenticated from the concerned mining department, dates of pre & post monsoon survey and mineral calculation section wise. The Committee observed that the past production details submitted by the PP is not authenticated by DMG. The section wise mineral calculation is not correct as it did not bring out the level of mineral deposition, area of aggradation and erosion, the section has been drawn at an interval of 100 meters and last section at lower distance, the section area and volume has also been calculated based on the survey but on dividing the volume by area the distance between section is more than 100

meters this shown that calculation is not correct. The Committee observed that PP was unable to present the difference in level of mining lease before and after the monsoon season. The Committee asked the PP/Consultant who has prepared the replenishment study report for the validation of data and submit an undertaking that the data collected is factual correct but the Consultant was not sure and confident about the collection of data used for the survey and denied to give any undertaking in this regard. The Committee thus did not accept the replenishment study report for 2018-19. The Committee deliberated the replenishment study presented by the M/s Mahadev Enclave Pvt. Ltd./Consultant and observed that the replenishment study presented by the consultant is not adequate and the suggested that report has to validated by some empirical formula and different methodology shall be adopted for its validation and reaching at final conclusion. **In this context the PP/Consultant requested the Committee that they may be granted 30 days for submission of the information.**

The Committee deliberated the above mentioned information and request from the Department of Mines and Geology, Govt. of Bihar and PP/Consultant, accordingly the Committee suggested that the Department of Mines and Geology, Bihar and SEIAA, Bihar and PP/Consultant has to submit all the requisite information within 30 days so that EAC can take a view on the replenishment study for further submission to the Hon'ble Supreme Court of India. The Committee deferred the proposal and the same can be considered before the EAC after submission of the above mentioned information.

(2.2). Appraisal of 24 ECs for Minor Minerals granted by the SEIAA, UP in the Appeal No. 264 of 2018 in the matter of Amit Upadhaya Vs State Level EIA Authority & Ors. before the Hon'ble NGT Delhi - Court Related Matters

Sr. No.	Proposal No.	Project Proponents
1	SIA/UP/MIN/22490/2018	M/s Pehalwan Traders
2	SIA/UP/MIN/23553/2018	Shri Kanha Construction Company
3	SIA/UP/MIN/26243/2018	M/s Sai Construction And Suppliers
4	SIA/UP/MIN/22628/2018	M/s Balaji Enterprises
5	SIA/UP/MIN/23344/2018	M/s Bindu and Ram Construction Company
6	SIA/UP/MIN/22486/2018	M/s Indus Mines and Minerals
7	SIA/UP/MIN/21868/2018	M/s Eureka Mines and Minerals LLP
8	SIA/UP/MIN/27821/2018	M/s Vikas Enterprises
9	SIA/UP/MIN/25126/2018	M/s Chaudhary Traders
10	SIA/UP/MIN/24938/2018	M/s Gyan Infrabuild Pvt. Ltd.
11	SIA/UP/MIN/21879/2018	M/s Kunwar Infradevelopers Pvt. Ltd.

12	SIA/UP/MIN/26229/2018	M/s Senewin Infrastructure Pvt. Ltd.
13	SIA/UP/MIN/21915/2018	M/s Senewin Infrastructure Pvt. Ltd.
14	SIA/UP/MIN/26125/2018	M/s Senewin Infrastructure Pvt. Ltd.
15	SIA/UP/MIN/27993/2018	M/s Baba Bholenath Traders
16	SIA/UP/MIN/22632/2018	M/s D.V. Construction
17	SIA/UP/MIN/21922/2018	M/s Rama Traders
18	SIA/UP/MIN/24388/2018	Smt. Kaushilya Chobey Contractor
19	SIA/UP/MIN/25040/2018	M/s Silvrr Mist Retail Pvt. Ltd.
20	SIA/UP/MIN/27752/2018	M/s Awasthi Traders
21	SIA/UP/MIN/23679/2018	M/s Bharat Earth Movers
22	SIA/UP/MIN/22706/2018	M/s Rajesh Enterprises

The Hon'ble NGT, in its order dated 31.01.2019, in the I.A. No. 14/2019, I.A. No. 15/2019, I.A. No. 16/2019, I.A. No. 17/2019 & I.A. No. 68/2019 IN Appeal No. 263/2018 I.A. No. 67/2019 IN Appeal No. 264/2018 [Amit Upadhaya versus State Level Environmental Impact Assessment Authority & Ors.], has inter-alia, directed the followings:

The issue for consideration is whether Environmental Clearance (EC) granted for Category I and II mines only on the basis of the report of the Regional Environment Impact Assessment Authority (REIAA) without individual EIA is valid in law.

On 17.12.2018, this Tribunal noted that individual Environment Impact Assessment (EIA) reports were never considered and EC was granted based on rejected Regional EIAs. Accordingly, this Tribunal directed that EC may not be proceeded with, pending further consideration.

The Tribunal also directed Ministry of Environment, Forests and Climate Change (MoEF&CC) to furnish a report about the legality of the procedure followed. The MoEF&CC filed an application being I.A. No. 56 of 2019 on which the matter has been deferred to 08.04.2019.

In the said application, it is stated that the MoEF&CC is waiting for the information from the State Level Environment Impact Assessment Authority (SEIAA), Uttar Pradesh and Directorate of Mining and Geology, Government of UP about the procedure followed which will require detailed examination by the MoEF&CC for which more time was required. The MoEF&CC also referred to order of this Tribunal dated 11.12.2018 in Execution Application No. 55 of 2018 in O.A. no. 520/2016, Vikrant Tongad V. Union of India, directing that notification dated 15.01.2016 may not be acted upon till a fresh procedure is laid down for EC.

The fact remains that question whether due procedure has been followed in the present case while granting EC i.e. whether individual EIAs report has been furnished as required, remains to be considered and for such consideration, report of MoEF&CC has to be seen.

Being technical matter, we require assistance of MoEF&CC on the subject of validity of the EIAs. We further direct Central Pollution Control Board may also be involved in the

process by the MoEF&CC and report furnished to this Tribunal before the next date.

Even after hearing the project proponents and SEIAA, we do not find any ground to modify interim order dated 17.12.2018 as on precautionary principle, without proper EIA, grant of mines in Category – I and II can be detrimental to the environment.

Accordingly, let the matter be listed on 08.04.2019 as earlier directed.

In view of the above, the Ministry has placed the projects before the EAC in its meeting held during February 20-21, 2019. The Ministry has also requested the State Environmental Impact Assessment Authority, UP to submit the facts before the EAC so that the Committee may take a view accordingly.

The Member Secretary, State Environmental Impact Assessment Authority has attended the EAC meeting along with his team and briefed about the appeals (No. 263 of 2018 & 264 of 2018) filed before the Hon'ble NGT. The representative of Central Pollution Control Board was also present. In addition to this representative of Policy Sector of IA Division was also present during the meeting. The Committee deliberated the issues and the Member Secretary, State Environmental Impact Assessment Authority expressed his inability to explain the various technical matters on appraisal done at the level of State Expert Appraisal Committee (SEAC), UP and suggested that SEAC members may be called for detailed presentation/discussion before the next EAC meeting to be held in March 2019 for briefing EAC (non-coal mining) on technical appraisal done by SEAC.

The Committee, after detailed deliberation, deferred the proposals and suggested that these cases may be placed before the next EAC meeting scheduled to be held in March 2019 and the Member Secretary, SEIAA, UP, SEAC, UP (2-3 members) and DMG, Govt. of UP may be called for the next EAC meeting for their detailed presentations on the procedures followed by the SEIAA/SEAC during appraisal of the projects as per the provisions of the EIA Notification, 2006.

The Committee also suggested that the Ministry may examine the information submitted by SEIAA, UP and also obtain comments of policy sector on the same. The Committee also observed that SEIAA UP should submit the KML files for study area 1 to 5 in polygon format as the information so far submitted is in the point form.

(2.3). Appraisal of 12 ECs for Minor Minerals granted by the SEIAA, UP in the Appeal No. 263 of 2018 in the matter of Amit Upadhaya Vs State Level EIA Authority & Ors. before the Hon'ble NGT - Court Related Matters

Sr. No.	File No.	Project Proponents	PROPOSAL NUMBERS
1	4510-4404	M/s New Eoan Associates	SIA/UP/MIN/29418/2018

2	4512-4384/2018	M/s Eureka Mines and Minerals LLP	SIA/UP/MIN/29419/2018
3	4513-4406	M/s Harihar Minerals LLP	SIA/UP/MIN/29422/2018
4	4335	M/s Chaudhary Int Udyog	SIA/UP/MIN/29573/2018
5	4437	M/s Satyam Construction	SIA/UP/MIN/28562/2018
6	4528-4439	M/s Disha Enterprises	SIA/UP/MIN/28574/2018
7	4529-4429	M/s Yadav And Sons	SIA/UP/MIN/28494/2018
8	4533-4438	M/s New Praveera Infraheight Private Limited	SIA/UP/MIN/28568/2018
9	4534-4446	Shri Rahul Kumar Gupta	SIA/UP/MIN/28608/2018
10	4531-4420	M/s Kanhaiyalal And Sons	SIA/UP/MIN/28402/2018
11	4532-4426	M/s Kamalnath Enterprises Private Limited	SIA/UP/MIN/28470/2018
12	4538-4433	M/s Shri Construction	SIA/UP/MIN/28510/2018

The Hon'ble NGT, in its order dated 31.01.2019, in the I.A. No. 14/2019, I.A. No. 15/2019, I.A. No. 16/2019, I.A. No. 17/2019 & I.A. No. 68/2019 IN Appeal No. 263/2018 I.A. No. 67/2019 IN Appeal No. 264/2018 [Amit Upadhaya versus State Level Environmental Impact Assessment Authority & Ors.], has inter-alia, directed the followings:

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required, remains to be considered and for such consideration, report of MoEF&CC has to be seen.

Being technical matter, we require assistance of MoEF&CC on the subject of validity of the EIAs. We further direct Central Pollution Control Board may also be involved in the process by the MoEF&CC and report furnished to this Tribunal before the next date.

Even after hearing the project proponents and SEIAA, we do not find any ground to modify interim order dated 17.12.2018 as on precautionary principle, without proper EIA, grant of mines in Category – I and II can be detrimental to the environment.

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In view of the above, the Ministry has placed the projects before the EAC in its meeting held during February 20-21, 2019. The Ministry has also requested the State Environmental Impact Assessment Authority, UP to submit the facts before the EAC so that the Committee may take a view accordingly.

The Member Secretary, State Environmental Impact Assessment Authority has attended the EAC meeting along with his team and briefed about the appeals (No. 263 of 2018 & 264 of 2018) filed before the Hon'ble NGT. The representative of Central Pollution Control Board was also present. In addition to this representative of Policy Sector of IA Division was also present during the meeting. The Committee deliberated the issues and the Member Secretary, State Environmental Impact Assessment Authority expressed his inability to explain the various technical matters on appraisal done at the level of State Expert Appraisal Committee (SEAC), UP and suggested that SEAC members may be called for detailed presentation/discussion before the next EAC meeting to be held in March 2019 for briefing EAC (non-coal mining) on technical appraisal done by SEAC.

The Committee, after detailed deliberation, deferred the proposals and suggested that these cases may be placed before the next EAC meeting scheduled to be held in March 2019 and the Member Secretary, SEIAA, UP, SEAC, UP (2-3 members) and DMG may be called for the next EAC meeting for their detailed presentations on the procedures followed by the SEIAA/SEAC during appraisal of the projects as per the provisions of the EIA Notification, 2006.

The Committee also suggested that the Ministry may examine the information submitted by SEIAA, UP and also obtain comments of policy sector on the same. The Committee also observed that SEIAA UP should submit the KML files for study area 1 to 5 in polygon format as the information so far submitted is in the point form.

(2.4). Proposed Captive Limestone Mine (Karhi-Chandi Limestone Deposit), ML Area 242.127 Ha, Limestone Production Capacity 1.5 Million TPA, 0.45 Million TPA Inter-Burden (Total Excavation: 1.95 Million TPA) with installation of Crusher of 1200 TPH at Villages- Karhi, Chandi and Khapradih, Tehsil –Simga, District- Balodabazar-Bhatapara, Chhattisgarh by M/s. Shree Cement Limited- (File No. J-11015/64/2017-IA.II (M); Proposal No. IA/CG/MIN/65291/2017)-Consideration of Environmental Clearance

The proposal of M/s Shree Cement Limited is for Karhi-Chandi Limestone Deposit with production capacity of 1.5 Million TPA of limestone (ROM), 0.45 Million TPA Inter-Burden (Total Excavation: 1.95 Million TPA) with installation of Crusher of 1200 TPH in the mine lease area of 242.127 ha. The mine is located at Villages- Karhi, Chandi and Khapradih, Tehsil–Simga, District- Balodabazar-Bhatapara, Chhattisgarh. The mine lease area falls between 21°36'12.247"N to 21°37'40.574"N and 82°01' 31. 413"E to 82°02' 34.111"E on Survey of India Toposheet No. 64 K/2. The Project is located in Seismic zone-II.

The proposal of TOR was earlier considered by the Expert Appraisal Committee in its meeting held during July 24, 2017 to determine the Terms of Reference (TOR) for undertaking detailed EIA study. The TOR was issued by the Ministry vide letter no. J-11015/64/2017-IA.II (M) dated September 5th, 2017 and amended letter dated January 03rd, 2018 for the production capacity of 1.95 MTPA (ROM) (1.5 MTPA Limestone and 0.45 MTPA Inter-burden). The Proponent submitted the EIA/EMP Report online to Ministry for seeking environmental clearance.

The PP submitted that the total mine lease area 242.127 ha which falls near village Karhi, Chandi and Khapradih. Out of total area of 242.127 ha, Government land is 20.331 ha, 119.428 ha private land and 102.368 ha owned by Shree Cement Limited land. PP reported that a part of Chandi Village habitation falls in ML area which will not be disturbed. PP also submitted that as per rehabilitation Policy of Chhattisgarh Government the Land is being/will be purchased through mutual agreement and negotiation. Letter of Intent (LOI) has been issued for Karhi Chandi Limestone Deposit in favor of M/s Shree Cement Limited over an area of 242.127 ha vide letter no. F 3-03/16/12 dated March 28th, 2016 and amended vide letter no. F3-03/16/12 dated September 16th, 2016. The LOI is valid up to 27.03.2019. The Mining Plan & Progressive Mine Closure Plan has been approved by the Regional Controller of Mines Indian Bureau of Mines (IBM) vide letter no. Baloda bazar/Chup/MP-53/2016 –Raipur/238 dated June 8th 2017.

Project Proponent reported that the mining operations will be carried out by mechanized opencast mining method i.e. by combination of shovel and dumper with drilling and blasting. Bench height and bench width will be maintained at 12 m and 30 m respectively. Drilling will be carried out by crawler mounted DTH hammer Drill machine. Conventional blasting will be done using ANFO and high explosives with use of stock tube detonator. Loading will be done by Hydraulic Excavators and transport of limestone and inter-burden will be done by dumper to crusher (located in lease area). The crushed

limestone will be transported from the mine site to cement plant by covered Conveyor belt. Crusher of 1200 TPH Production capacity is proposed to be installed within the Mine Lease area of 242.127 ha. In the Crusher feed size of the mineral will be maximum 1.25 m and output size of the mineral will be -90mm. Total minable reserves are 68.2 Million Tonnes. Life of mine will be 49 years. At the end of life of mine, total 24.04 Million tonnes of waste will be generated. 18.9 Million Tonnes waste will be backfilled in the excavated area and plantation will be done over it after spreading top soil over it and remaining 5.1 Million Tonnes waste will be dumped in 17 ha area, which will be stabilized by plantation later. PP further submitted that the total water requirement for proposed project will be 150 KLD, which will be sourced from ground water. However later on mine water will also be used which will be available due to intersection of mining with ground water table i.e. de-watering and rainwater collected in mine pits and accordingly ground water will be reduced. Total manpower for the project will be 43 persons.

The PP reported that at the conceptual stage, the total excavated area will be 141 ha, out of which 52 ha area will be backfilled followed by plantation and remaining 89 ha area will be converted into water reservoir. Total 80 ha area will be covered under Green belt and plantation. Plant species i.e. Babul (*Acacia Arabica*), Safed siris (*Albizia procera*), Sisam (*Dalbergia latifolia*), Neem (*Azadirachta indica*), Gulmohar (*Delonix regia*), Subabul (*Laucaena leucocephala*), Cassia semiya, Copperpod (*Peltaphorum*), Karanj (*Derris indica*), Mahaneem (*Melia azedarachta*), Bamboo plant (*Bambusa dendrocalmus*), Humata Grass etc are proposed to be planted.

The PP reported that no Protected Forest, National Parks/Wildlife Sanctuaries/Biosphere Reserves/Wildlife Corridors/Tiger/Elephant Reserves are located within the 10 km study area of the mine lease. However, one Reserve Forest i.e. Dhabadih Reserved Forest is located at a distance of approx 4.0 Km in the NE direction of the Mine site. No forest land falls within the lease area. Letter showing No forest land, No national park, Wild life sanctuary and for authentication of List of flora and fauna separately for core & Buffer zone has been obtained from Forest Department vide S. No/va. tha.aa./Mineral/1342 dated April 17th, 2018.

The PP submitted that the primary baseline data for specific micro – meteorology data, ambient air quality, water quality, noise level, soil quality and flora & fauna has been collected during Post Monsoon season i.e. October to December 2017. The concentrations of PM₁₀ and PM_{2.5} for all the 15 AAQM stations were found between 59.7 to 84.2 µg/m³ and 24.3 to 43.2 µg/m³ respectively. 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. PP submitted that the ambient noise levels were measured at 15 locations around the mine site. Noise levels varies from 49.5 to 65.6 Leq dB (A) during day time and from 38.2 to 58.8 Leq dB(A) during night time. The surface water analysis for all the 6 sampling stations shows that pH varies from 7.86 to 8.15, total hardness varies from 68.30 mg/l to 212.84 mg/l & total dissolved solids varies from 96 mg/l to 299 mg/l. The ground water analysis for all the 10 sampling stations shows that pH varies from 7.36 to 8.02, total hardness varies from 216.46 mg/l to 552.29 mg/l and total dissolved solids varies from 234.0 mg/l to 801.0 mg/l. PP also submitted that the soil samples collected from identified locations indicate pH

value ranging from 7.60 to 8.05. The organic matter ranges from 0.87% to 1.18% in the soil samples, nitrogen is found in the ranges from 215.45 kg/ha to 306.54 kg/ha, phosphorous is from 30.22 kg/ha to 55.60 kg/ha and potassium is found to be ranging from 215.90 kg/ha to 492.07 kg/ha. The PP also mentioned that the maximum incremental GLCs due to the Limestone mining projects and the Integrated Cement plant for PM₁₀ is 8.50 µg/m³, PM_{2.5} is 6.78 µg/m³, SO₂ is 5.25 µg/m³, and for NO₂ is 7.58 µg/m³.

The PP reported that the major source of Air and Noise pollution in the mining lease area is drilling, blasting, crushing and transportation activities. Proper protection measures such as wet drilling, use of sharp drill bits, use of rock breaker, controlled blasting, regular water spraying on haul roads, proper maintenance of machineries, plantation & green belt development, periodic air & noise quality monitoring, use of bag filters, development of green belt in the vicinity of the crusher to tarp fugitive dust etc. will be taken to reduce the impact of mining and crushing activity on air & noise environment. PP also submitted that the no waste water will be generated from the mining activities. Domestic waste water generated from mine office will be disposed off into soak-pit via septic tank. Waste water generated from washing of HEMM will be used in crusher for dust suppression after oil and grease separation. Garland drains along with Retaining walls having water holes at the toe of temporary dumps will be constructed to avoid the soil wash out and around the mine pit to prevent surface run off entering into the mine pit. Periodical Ground water level and quality monitoring will be carried out. PP further submitted that the habitations in the mine lease will not be disturbed during mining operation and safety barrier will be maintained around the same.

The PP reported that there is one nala within the mine lease area. In first 5 years plan, the nala will not be touched. At the conceptual stage, the nala will be diverted into outside the mining lease area. Water bodies like Mahanadi Canal, Banjari Nala, Ameri Division Canal, Chitawar Nala, Kukurdih Talav, Tengna Nala, Jamuniya Nadi, Jhorki Nala and Khorsi Nala also exists in the study area. PP also submitted that the general Ground level is 267 m AMSL. Water table level in Pre monsoon season is 262 to 257 m AMSL (5 to 10 mbgl) and in Post Monsoon is 264 to 262 m AMSL (3 to 5 mbgl) and Ultimate working depth of the mining operation will be 230 m AMSL (37 m bgl). PP further mentioned that the water table will be intersected due to mining activities and prior permission for Ground water table intersection will be taken from the Concerned Authority and the application for withdrawing the Ground Water has been submitted to CGWA.

The PP submitted that the Public Hearing was conducted on August 4th, 2018 at Near Village Chandi of Project Site (Ground Near Panchayat Bhawan), Tehsil – Simga, Dist-Balodabazar – Bhatapara, Chhattisgarh. The Public Hearing was presided over by Shri Jogendra Naik, Additional District Magistrate. The PP also submitted that the detailed action plan with budgetary allocation of Rs. 85.3 Lakhs for the period of 15 years against points raised in Public hearing i.e. socio- economic development of the area, employment, plantation, land, use of DMF fund, Environment, Pollution control & Monitoring, Blasting, Water level in the area and others etc. has been given prepared. PP reported that total affected family will be 592 in which 537 families have their land and 55 families have their houses in the mine lease. The PP also mentioned that the compensation for the land falling

inside the as per the norms of the rehabilitation Policy of Government is Rs. 6.0 lakhs per acres. Whereas SCL will provide the compensation Rs. 15 lakh per acres which include the solatium cost of the land and the compensation for the R&R amount both. The total R&R compensation amount for the affected family will be 8220.868 lakhs.

The PP submitted that the total cost of the project is Rs. 34.10 Crores. Capital Cost for environmental protection measures is Rs. 3.95 Crores /- and the Recurring cost is Rs. 0.22 Crores/-. No Litigation is pending against this project.

The Committee, after detailed deliberations, **deferred** the proposal and sought the following requisite information/clarification: -

- (i) The Committee observed that the LOI is valid only up to 27.03.2019 and accordingly the PP needs to submit the extension of validity of LOI beyond March 2019. PP needs to submit the letter from PCCF, Government of Chhattisgarh regarding the details of Forest land, if any, involved in the mining lease area.
- (ii) PP reported that a part of Chandi Village habitation falls in ML area which will not be disturbed. PP needs to resubmit the detailed R&R plan along with budget as the mine lease area involves the habitations. PP also needs to submit the mitigation measures to protect the habitations involved in the MLA.
- (iii) The Committee observed that there are roads and water bodies, nalas are in the mine lease area; However, the mitigation measures have not properly addressed by the PP in the EIA/EMP Report. PP needs to submit the details of mitigation measures to protect the same along with timelines and budgetary provisions.
- (iv) The Committee noted that the bench height is mentioned as 12 m, a detailed justification needs to be submitted. PP mentioned that the water table will be intersected during mining activities. The Committee deliberated the issues and suggested that the PP needs to conduct detailed hydrogeological study from reputed Institution and details of CGWA approval needs to be submitted.
- (v) PP needs to resubmit the details of the activities and budget earmarked for Corporate Environmental Responsibility (CER) which shall be as per Ministry's O.M No 22-65/2017-IA. II (M) dated 01.05.2018 and its action plan on the activities proposed under CER. The Committee suggested that the CER may be taken w.r.t. three years.
- (vi) PP has submitted the copy of proceedings of the Public Hearing, however there is no mentioning of letter number and date of the letter etc. in the proceedings. State Pollution Control may be requested to submit the copy of proceedings with latter no. and date. Authenticated translated copy of the PH proceedings shall also be submitted.

- (vii) The PP needs to submit the details of the equipment will be used for top soil removal and the capacity of trucks and the trips. The details mitigation measures also needs to be submitted.
- (viii) The Committee observed that the TOR compliances no. 6, 15 and 16 are not adequate. The PP needs to resubmit the details of TOR compliances.
- (ix) The Committee observed that the PP assured the employment will be based on education. The PP needs to submit the details of the training to be provided for uneducated people before offering employment and their time line with budgetary allocation so that uneducated people may also get the employment.
- (x) The PP needs to submit the details of total quantity of explosives will be used per round and its mitigation measures. The Committee observed that there are no details submitted by the PP about carbon footprint. In this regard, PP needs to submit the same and also the details of noise and dust emission control in the crusher point.
- (xi) The Committee observed that the PP submitted the list of Flora and Fauna and schedule I and II species, however, conservation plan for the same is not submitted. The PP needs to submit the conservation plan for the same and details of approval taken by the CWLW, if any.

(2.5). Mining of "Quartz, Feldspar, and associated Minor Mineral (Quartzite and Stone) at Village -Musnota, Tehsil -Narnaul, District -Mahendragarh, Haryana over an area -79.32 Ha, of Production capacity of Quartz (10000 MTPA), Feldspar (50000 MTPA) and associated Minor Mineral (Quartzite & stone) (29,40,000 MTPA) by Mr. Satish Kumar Garg S/o Shri Ajudhya Prasad (File No. J-11015/21/2019-IA.II(M); Proposal No. IA/HR/MIN/91088/2019) - Consideration of TOR

The proposal of Mr. Satish Kumar Garg S/o Shri Ajudhya Prasad is for mining of "Quartz, Felspar, and Associated Minor Mineral (Quartzite and Stone) with production capacity of Quartz (10000 MTPA), Feldspar (50000 MTPA), and associated Minor Mineral (Quartzite & stone) 29,40,000 MTPA in mining lease area 79.32 Ha at Village -Musnota, Tehsil – Narnaul, District-Mahendragarh, Haryana. The Mining Lease area is a part of the Survey of India Topo sheet No. 45 M/13 & 54 A/1. The site falls between Latitude 27°52'01.48" N - 27°52'30.40" and Longitude 76°01'03.95"E - 76°01' 40.10" E with an altitude varying from 302 to 334 m above MSL and falls in seismic zone-II.

As per EIA Notification dated 14th September, 2006 as amended from time to time, the project falls under Category "B", Project or Activity 1(a) as the Mining lease area is less than 100 Ha but as the inter-State boundaries of State of Rajasthan is within 5 KM of the project site the General condition is applicable for this project and should be treated as Category 'A' project.

The Member Secretary informed the Committee that PP vide letter dated 19.02.2019 informed that he is **unable to attend the meeting due** to some un-avoidable circumstances. The Committee therefore **deferred** the proposal and is of the view that proposal may be consider only after PP submits the i) a cluster certificate as per S.O. 141(E) dated 15.01.2016 & S.O. 2269(E) dated 1.07.2016, ii) Complete details viz. court case, court order, letters of forest department etc for the issue pertaining to falling of the mining lease in the Aravalli /Aravalli plantation area, iii) life of mine and mineral reserves, iv) quantity of waste to be generated and total excavation from the mines and its break up, and v) Ground Water level and ultimate pit limit.

(2.6). Chopan Limestone mine of M/s RCCPL Private Ltd (formerly Reliance Cement Company Pvt. Ltd), with production capacity of 1.0 MTPA of Limestone (ROM) over an area of 247.38 Ha, located at villages Chopan and ChanaiKhurd, Tehsil: Korpana, District: Chandrapur, State: Maharashtra (File No. J-11015/20/2019-IA.II(M); Proposal No. IA/MH/MIN/90975/2019) - Consideration of TOR

The proposal of M/s RCCPL Private Ltd (formerly Reliance Cement Company Pvt. Ltd) is for production of 1.0 MTPA of Limestone (ROM) from Chopan Limestone mining project [MLA 247.38 Ha]. The mine is located villages Chopan and ChanaiKhurd, Tehsil: Korpana, District: Chandrapur, Maharashtra. The project falls under Schedule 1(a) of mining and is a Category- "A" as the mining lease area is greater than 100 Ha. The PP applied online on 10.01.2019 for grant of ToR and submitted Form-1 & PFR. PP reported that the limestone will be used at captive source for cement plant (2.9. MTPA Clinker, 4.8 MTPA cement) located at Mukutaban village, Yavatmal District, Maharashtra.

The PP submitted that Letter of Intent (LoI) was issued by Govt. of Maharashtra vide No. MMN-1010/CR.3339/ind-9, dated 13.06.2018 over an area of 247.38 Ha in the name of M/s Reliance Cementation Private Limited. This letter of intent is valid for one year i.e. up to 12.06.2019. The PP submitted that name of Reliance Cementation Private Limited was changed to Reliance Cement Company Private Limited on 8.8.2011. The name of Reliance Cement Company Private Limited was changed to RCCPL Private Limited on 1.08.2018. The PP also submitted a letter No. MMN-1010/F.No./3338/Industries-9 dated 4.01.2019 issued by Industry, Energy & Labour Dept., Govt. of Maharashtra addressed to Director, Directorate of Geology & Mining wherein it has mentioned that *"as per section 62 of Mineral Concession Rules, 1960, with respect to their 247.38 Ha Prospecting License/Mining lease in village Chopan and ChanaiKhurd, Tehsil: Korpana, District: Chandrapur; company has informed regarding change of name of company within stipulated time. In case prospecting license/mining lease of the company, government hereby approves to take note of change of name of the company as M/s RCCPL Pvt. Limited instead of M/s Reliance Cementation Private Limited. Henceforth, correspondence with the company is to be made in the name of M/s RCCPL Pvt. Limited."*

The PP submitted that the total mine lease area is 247.38 Ha, out of which falling under Pardi Reserve Forest and require clearance under Forest Conservation Act, 1980. PP

reported that there are no national parks, wild life sanctuaries and eco-sensitive zones in the proposed study area. However, one protected forest (PF) exist within 5km., and three RFs exist within 5 – 10 km distance from the boundary of proposed mining area. PP reported that they had submitted the forest diversion proposal vide proposal no. FP/MH/MIN/37147/2018. Total water requirement is 170 KLD.

Based on the presentation made and discussion held, the Committee **deferred** the proposal and is of the view that the proposal may be considered only after submission of the following information:-

- (i). Letter of Intent (LoI) was issued by Govt. of Maharashtra vide No. MMN-1010/CR.3339/ind-9 dated 13.06.2018 over an area of 247.38 Ha in the name of M/s Reliance Cementation Private Limited and further name of Reliance Cementation Private Limited was changed to Reliance Cement Company Private Limited on 8.8.2011, Accordingly the PP need to obtain the LOI/Lease in the name of M/s RCCPL Private Ltd.
- (ii). PP need to provide detailed land break up involved in the mine lease area.
- (iii). PP should clearly bring out the safeguards for protecting the river, Nallah, water bodies exist in and around the mine lease are from the operation of the mine.
- (iv). PP should submit the detailed R&R plan for the PFA's involved in the mine lease area.
- (v). The Committee noted that the mine lease area is 247.38ha however, the proposed production capacity is very less. PP needs to submit the detailed cost benefit analysis (loss of agriculture land Vs production) of the project involving very less production capacity and more mine lease area.
- (vi). Committee noted that the PP in Form-I (s. No. 7) mentioned that the general Condition applicable to the project as Maharashtra – Telangana boundary is located within 6 Km. However as per MoEF&CC notification the General Condition criteria is 5 Km. Accordingly PP needs to revised the Form-I.
- (vii). The Committee noted that there is court case of Mumbai High Court at Nagpur bench (Case No. 4056/2014). PP needs to submit the details of court case along with copy of order.

(2.7). Pillidhar Bauxite Mine (M.L. area 121.4054 ha) with Enhancement in production capacity of bauxite from 80,000 TPA to 3,00,755 TPA (Total excavation 5,31,635 TPA including Bauxite 3,00,755 TPA, Topsoil 8,800 TPA & OB/waste 2,22,080 TPA) At survey no. 136/P(New)- 110/P (Old) in village- Virpur, Taluka- Kalyanpur, District- Dev Bhumi Dwarka, State- Gujarat by M/s Dalmia Refractories Ltd. (Earlier M/s Shri Nataraj Ceramic & Chemical Industries Limited) (Consultant: M/s Kadam

**Environmental Consultants) (File No. J-11015/168/2006-IA.II(M);
Proposal No. IA/GJ/MIN/78691/2018) - Consideration of TOR**

The proposal of M/s Dalmia Refractories Ltd. is for mining of bauxite with enhancement in production capacity of bauxite from 80,000 TPA to 3,00,755 TPA (Total excavation 5,31,635 TPA including Bauxite 3,00,755 TPA, Topsoil 8,800 TPA & OB/waste 2,22,080 TPA) in the mining lease area of 121.4054 ha. The mining lease area is located at survey no. 136/P(New)- 110/P (Old) in village Virpur, Taluka Kalyanpur, District Devbhoomi Dwarka, Gujarat. The mining lease area falls between the latitudes of 22°15'41.8161"N to 22°16'46.5717"N and longitudes of 69°18'24.0503"E to 69°19'36.7427"E on the Survey of India Toposheet No. 41F/7.

The PP mentioned that the mining lease was initially granted to M/s. B.P. Abrasives and Chemical Industries Pvt. Ltd., by Government of Gujarat vide order No. MCR-1578(B-15)-4999/CHH dated 07.07.1979 and the date of execution was 16.10.1979 for the 20 years with effect from dated 16.10.1979. Later it was transferred to M/s. Shri Nataraj Ceramic and Chemical Industries Limited vide Government of Gujarat Order No. MGR-1589-(N-17)-695-CHH dated 13th February, 1990. The PP mentioned that the application for renewal of lease has been filed on 5th October 1998 and mine is operating under deemed renewal of the lease. The PP also mentioned that the said lease is now valid upto 31st March, 2030 as per the Mines and Minerals (Development and Regulation) Amendment Act, 2015, **However, the application of extension of lease validity is under consideration by the State Government.** In addition, the PP mentioned that the application for changing the name from M/s. Shri Nataraj Ceramic and Chemical Industries Limited to M/s Dalmia Refractories Ltd. in lease deed is submitted to Commissioner Geology & Mining, Gandhinagar & the District Geologist, Devbhumi Dwarka in 2014 and **also PP represented their case to Geology and Mining Department on 28th August 2018 for the name change but the name change in lease deed is not yet completed.**

The PP submitted that the Ministry has accorded the environmental clearance to M/s. Shri Nataraj Ceramic and Chemical Industries Limited under the provisions of EIA Notification, 1994 for enhancement of production of bauxite from 65,463 tonnes per annum (TPA) to 80,000 TPA vide letter No. J-11015/168/2006-IA-II (M) dated 27th August, 2007. The PP mentioned that on 28.03.2014 under Section 21 of the Companies Act, 1956, the company name has changed into M/s Dalmia Refractories Ltd. from M/s. Shri Nataraj Ceramic and Chemical Industries Limited.

The PP submitted that the total mining lease area of the project is 121.4054 ha, comprising of waste land as per the state Government of Gujarat. PP also mentioned that no court case against the project. The PP submitted that the mining will be carried out by Semi mechanized open cast method with the use of drilling, blasting, excavation etc., if the rock is hard & compact. The PP also submitted that the transportation within the mining lease is being done by tractor trolley combination. The water requirement will be 21-28 KLD, out of which 10-12 KLD for domestic & drinking purpose, 7-10 KLD for dust suppression and 4-6 KLD for plantation. The PP also submitted that the Marine National Park is ~ 5.20 km North, Marine Sanctuary is ~ 1.8 km NW and Mangrove swamp is ~

0.86 km NW, respectively. The PP also mentioned 3 Reserve Forest within the study area and nearest one is about 0.6 km NE. The PP mentioned that 144 employees are currently working in the mine and additional 137 employments shall be generated for the expansion.

The Committee observed that uploading of incomplete information, not submitting the required documents, submitting the misleading facts during the appraisal of the proposal is an un-professional behavior of the consultant. The NABET Accredited Consultants are entrusted to assist the Committee in taking a decision on the various environmental issues associated with the proposal. Thus, Committee is of the view that Consultant [Consultant: M/s Kadam Environmental Consultants] should be warned for the same.

Based on the presentation made by PP, the Committee observed that the **name change in mining lease document is not yet completed. In addition, the transfer of EC in the name of M/s Dalmia Refractories Ltd. from M/s. Shri Nataraj Ceramic and Chemical Industries Limited is not carried out since the name change. The Committee also observed from the past production details that the PP is continuously mining without EC transfer. In view of the above, the Committee returned the proposal in present form and suggested the Ministry may examine the non-compliance of EC conditions or any violation, if any, and initiate necessary action w.r.t. mining without transfer of EC.**

(2.8). Brishyrnot Limestone Deposit-I with proposed production of Limestone capacity of 2.507 Million TPA and Proposed Shale Production Capacity of 0.217 Million TPA in the Mine Lease area of 42.051 ha, by M/s Star Cement Meghalaya Ltd., located at Villages Brishyrnot, Tehsil -Khliehriat, District-East JaintiaHills , Meghalaya [Proposal No. IA/ML/MIN/90345/2019 & File No.]-11015/17/2019-IA.II(M); Environmental Consultant: Perfect Envirosolutions Pvt. Ltd., New Delhi]- Consideration of TOR

The proposal of M/s Star Cement Meghalaya Ltd. is for Mining of Limestone for production of 2.507 Million TPA of Limestone and Shale Production Capacity of 0.217 Million TPA, in the mining area of 42.051 ha located at Villages Brishyrnot, Tehsil - Khliehriat, District-East JaintiaHills, Meghalaya. Proponent submitted that mining lease area falls under Survey of India Topo-Sheet No. 83C/8 (Restricted). The lease is located at following latitude 25°10'12.310" N to 25°10'05.524" N, and longitude 92°24'50.260" E to 92°25'49.366"E. Seismic Zone V. The PP presented the KML file during the presentation to indicate the location of mine lease on Google Earth/ DSS. The Committee deliberated the issues.

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

Sanctuary. The PP vide proposal No IA/ML/MIN/90354/2019 applied online for grant of ToR and submitted Form-1 and Pre-Feasibility Report.

PP reported that the PL over the area of 427 ha was granted by the Government of Meghalaya vide grant letter No.MGS/2008/33, dated 09.09.2009. The Prospecting License (PL) deed was executed on 09.10.2009. Further, the PP applied for Mining Lease (ML) over an area of 42.051ha on 04.02.2011 within the afforested PL area. The Letter of Intent (LoI) vide order no MG.63/2012/128 dated 4th May, 2018 was issued by Department of Mining & Geology, Government of Meghalaya, under sub-section 2(b) of section 10A of the Mines and Minerals (Development and Regulation) Amendment Act, 2015. The total mining lease is 42.051ha. There is no forest land involved in the Mine lease area. PP also reported that the Um Lunar river is adjacent to Eastern boundary, Umso nallah (adjacent to Northern boundary, Ludha river is located at 1.38km in SE direction from the mine lease area.

PP also reported that the Mine plan vide letter no. IBM/GHY/MEG/EJH/LST/MP-88 dated 24.10.2018 was approved by the Indian Bureau of Mines, Guwahati Regional Office in respect of Brishyrnot Limestone Deposit-I over an mine lease area of 42.051ha. PP submitted that mining will be fully mechanized open cast mining with drilling and blasting. The total geological reserves are estimated at 49.809 Million Tonnes for Limestone and 0.742 Million Tonnes for Shale and mineable reserves is estimated 22.834 Million T for limestone and 0.656 Million Tonnes for Shale. The life of mine is 11 years. PP also reported that no overburden will be generated during the mining period, and about 19960m³ top soil will be generated during the mining, the same will be used for plantation. the ultimate maximum bench height will be up to 9m and width will be 9m. The mining will be done upto depth of 78.75 mRL from the top of the quarry. PP also submitted that during the mining water table will not be intersected. Total water requirement for proposed project will be 40 KLD which will be sourced from clinker plant through water tankers (Drinking and domestic purpose 10 KLD, Dust suppression 25 KLD and 4 KLD will be used for Plantation and Green Belt development). The proponent submitted that the estimated project cost shall be Rs 16Crores and employment generation will be approximately 70 persons.

The PP submitted that the Boundary of Narpuh Wildlife Sanctuary is located at distance of 1.46 km in SE direction from the Mine lease area and Boundary of ESZ of Narpuh Wildlife Sanctuary is 0.25KM away from the mining lease area. PP also submitted certificate vide letter no JH/CMCL/2011-12/584/A/449 dated 20th August, 2018 from the Divisional Forest Officer, Jaintin Hills Territorial Division, Jowal, Govt. of Meghalaya, stating that the Boundary of Narpuh Wildlife Sanctuary is located 1.46 km away from the Mining lease area and Boundary of ESZ of Narpuh Wildlife Sanctuary is 0.25KM away from the mining lease area, the same was confirmed vide letter no JH/ACF(p)/2017-18/CORR dated 20th August, 2018 by the Assistant Conservator of Forest, Jaintin Hills Territorial Division, Jowal, Govt. of Meghalaya. PP also reported that there are three Schedule-I species namely *Arctonyx collaris* (Hog Badger), *Felis bengalensis* (Leopard Cat), *Bambusicola fytchii hokinsoni* (Assam Bamboo Partidge). PP submitted that a Certificate showing that No forest land involved within the ML area has been obtained from the Office of the Principal Chief Conservator of Forests (HoFF), Department of Forests and Environment, Government of

Meghalaya, vide letter no. MFG.16/50/CMCL/Vol-III/7849-855 dated 29.08.2018. PP submitted 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

Based on the discussion held and document submitted by the PP, the Committee **recommended** the proposal for **prescribing Standard TOR** (Annexure-I) along with the following **specific Term of Reference**:

- a) PP should clearly bring out the safeguards for protecting the River, Nallah, Water bodies exist in and around the mine lease area.
- b) A detailed Disaster Management and mitigation Plan shall be prepared and included in the EIA/EMP Report.
- c) The PP should submit the detailed plan in tabular format (year-wise for 30 years) 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, 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 30 years) 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.
- d) 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 ground water by developing alternative source of water through rain water harvesting measures. The capital and recurring expenditure to be incurred needs to be submitted.
- e) 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).
- f) 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.
- g) PP should submit the measures to be adopted for prevention of illegal mining and pilferage of mineral needs to be submitted. The procedure for re-conciliation of the material excavated from the mines needs to be submitted, frequency of re-conciliation of the material excavated with material dispatched, material stored within the mining lease area, waste/O.B/reject dumped in the mining lease area, top

soil dumped and utilized needs to be submitted. The provision of internal and external audit and how the records of re-conciliation will be maintained. In addition to these details of security arrangements, use of surveillance system, installation of weighbridge, GPS tracking system etc. needs to be submitted. In addition to this conversion factor i.e. specific gravity of all type of material available in the mining lease needs to be submitted along with test certificate from the authorized agency.

- h) PP should submit the detailed mineralogical and chemical composition of the mineral and percentage of free silica from a NABL/MoEF&CC accredited laboratory.
- i) 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 supported with the line source modeling and isopleths. Further, frequency of testing of Poly Aromatic 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.
- j) 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.
- k) 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.

(2.9). Itoura limestone mining with production capacity of 0.8 Million TPA (ROM) by M/s RCCPL Private Ltd. (formerly Reliance Cement Company Private Limited), located at villages Bachwai, Karhi Pawai, Giduri, Itoura and Rewra, Tehsil: Raghurajanagar, District: Satna, Madhya Pradesh in mine lease area of 747.817 ha, (File No. J-11015/16/2019-IA.II(M); Proposal No. IA/MP/MIN/87775/2018)-Consideration of TOR

The proposal of M/s RCCPL Private Ltd.(formerly Reliance Cement Company Private Limited is for mining of Limestone with production capacity of 0.8 Million TPA (ROM) in the mine lease area of 747.817 Ha. The mine is located at villages Bachwai, Karhi Pawai, Giduri, Itoura and Rewra, Tehsil: Raghurajanagar, District: Satna, Madhya Pradesh. The area is located on Survey of India Toposheet no. 6D/10, D/11, D/14, D/15. The project falls under Seismic Zone – II.

The PP presented the KML file during the presentation to indicate the location of mine lease on Google Earth/ DSS. The Committee noted on the KML/DSS that the mining activities have been carried out in the mine lease area from 2011 to 2018, accordingly the

committee is requested to **Ministry to seek the comments/Report from the Department of Mines and Geology, Government of Madhya Pradesh in this regards and to confirm whether PP had carried out the mining activities or not or some other illegal mining carried out in the mine lease area.**

PP reported that the Letter of Intent (LoI) vide letter no F.3-35/2010/12/1 dated 03.01.2018 was granted by the Department of Mineral Resource, Govt. of Madhya Pradesh for the mine lease area of 747.817 Ha in the name of M/s Reliance Cement Company Private Limited and the name of the company has been changed from M/s Reliance Cement Company Private Limited to M/s. RCCPL Private Ltd and PP did not obtain the LOI in the name of M/s. RCCPL Private Ltd. for which the recent proposal is under consideration.

The Committee deliberated the issues and suggested that first PP needs to transfer the name change in LoI/Lease in favour of present PP i.e. M/s RCCPL Private Ltd. which is the basic requirement for consideration of TOR proposal. In view of the above, the Committee **returned the proposal in the present form** and the same may be considered after receipt of the above mentioned information.

(2.10). Mining of limestone @ 50,000 MT/annum in an ML area of 4.15 hectares, located at village Zantrag, Khrew, Tehsil Pampore, District Pulwama, Jammu and Kashmir by Mr. Devinder Verma (File No. J-11015/24/2019-IA.II(M); Proposal No. IA/JK/MIN/87704/2018) - Consideration of TOR

The proposal of M/s Devinder Verma is for mining of Limestone for Production Capacity 50000 MT/annum, in the mine lease area of 4.15 ha, located at Village: Zantrag, Khrew, Tehsil Pampore, District Pulwama, Jammu and Kashmir. The area is located on Survey of India Toposheet no. 43N/4.

The Committee noted that **PP did not attend the meeting.** However, the Consultant has come without documents/ presentations/authority letter. Therefore, the Committee **returned the proposal** in present form.

(2.11). Expansion in Limestone with Production Capacity from 1.3 Million TPA to 5.0 Million TPA (ROM) and Top Soil 2.322 Million TPA & OB/SB/IB 5.590 Million TPA (Total excavation of 12.912 Million TPA) and installation of new crusher of 1200 TPH by M/s Prism Johnson Limited, located at Village: Bagahai, Tehsil Rampur Baghelan, District Satna, Madhya Pradesh (ML Area- 512.317 ha) (File No. J-11015/25/2019-IA-II(M); Proposal No. IA/MP/MIN/87816/2018; Consultant: JM EnviroNet Pvt. Ltd.,) - Consideration of TOR

The proposal of M/s Prism Johnson Limited is for mining of Limestone for expansion of production Capacity from 1.3 Million TPA to 5.0 Million TPA (ROM) and Top Soil 2.322

Million TPA & OB/SB/IB 5.590 Million TPA (Total excavation of 12.912 Million TPA) and installation of new crusher of 1200 TPH, in the mine lease area of 512.317 ha. The mine is located at Village: Bagahai, Tehsil Rampur Baghelan, District Satna, Madhya Pradesh. The area is located on Survey of India Toposheet no. G44U14 & G44V2. The Latitude and Longitude of the mine site falls between 24°32'46.4" N to 24°34'37.8" N and Longitude of 81°02'01.1" E to 81°04'47.9" E respectively. The PP presented the KML file during the presentation to indicate the location of mine lease on Google Earth/ DSS. The Committee deliberated the issues. The project falls under Seismic Zone – II. The PP applied online for grant of ToR under Category A: 1(a) and submitted the Form-1 and Pre-Feasibility Report. 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 reported that the project has already been granted integrated EC by the Ministry vide letter dated No J-11011/949/2007-IA.II(I) dated 27.07.2015 for Clinker Production Unit (3.0MTPA), Cement (6.7 MTPA) and Mines (Hinunti & Sijhata I-772.067ha, Hinouti & Sijhata II-99.416ha, Mendhi-117.594ha, and Bagalhai 512.317ha) at Makahari, P.O. Bathia, District Satna, MP. Now PP came for expansion of production capacity from 1.3 Million TPA to 5.0 Million TPA (ROM) and Top Soil 2.322 Million TPA & OB/SB/IB 5.590 Million TPA (Total excavation of 12.912 Million TPA) and installation of new crusher of 1200 TPH for Bagalhai mine for the MLA of 512.317ha.

PP reported that total Mining Lease area is 512.317 ha, out of which 511.246 ha is Private land and 1.071 ha is Government land. There is no Forest land involved in the Mine lease area. Bagahai Limestone Mines over an area of 512.317 ha in Village-Bagahai, District-Satna, Madhya Pradesh has been executed in favour of Prism Cement Limited on 14.02.2011 for the period of 30 years w.e.f. 28.02.2011 to 27.02.2041, further PP reported that the name PP has been changed from M/s Prism Cement Limited to "M/s Prism Johnson Limited, accordingly the mine lease name has been changed from M/s Prism Cement Limited to "M/s Prism Johnson Limited by the Office of Collectorate (Mine Branch) District Satna vide letter No 4397/1825/2018/12/1 dated 20.9.2018.

Mining Plan with Progressive Mine Closure Plan has been approved by Indian Bureau of Mines (IBM) vide letter no. MP/Satna/Limestone/MPLN/MOD-30/2018-19 dated 14.12.2018 as per the Mining plan the mining operations carried out by fully mechanized open cast mining method with drilling and blasting. PP reported that 2.324 Million tonnes of Top Soil & 5.590 Million Tonnes of OB/SB/IB will be generated per annum during the mining operations and the same will be used for in the backfilling of the excavated area and will be stabilized by the plantation.

PP reported that there is no National Park, Wild Life Sanctuary, Biosphere Reserve, Tiger Reserve and Wildlife Corridor etc. exists within 10 km radius of study area. There are three patches of Sathari Reserved Forest, Khanod Jalwar Reserved Forest, Jamori Reserved Forest exist within study area. Water body like DilaNadi, KariariNadi, MainhaNala, SharmavatiNala, Jura Nala, BaknaNala, MagardahaNala, Nar Nadi, Tons or Tamasa Nadi and few small village ponds exist in the study area.

PP reported that the total water requirement after expansion in Limestone Production Capacity will be 90 KLD which will be sourced from Mine pit & ground water. PP also submitted the renewal of NOC for ground water withdrawal 1,500m³/day (not exceeding 5,47, 500m³/year) from the Central Ground water Authority, Ministry of Water Resources, Government of India. PP submitted the Past production details since 2011-12 to 2018-19, which is not breach the capacity of Consent vide letter no 6378/TS/MPPCB/Mine/2012 dated 29.08.2012, No. 6185/TS/MPPCB/Mine/2013 dated 26.08.2013, no.5857/TS/MPPCB/ Mine/2014 dated 10.09.2014, granted by the Madhya Pradesh Pollution Control Board for the mining of Limestone capacity of 1.3MTPA

The PP submitted that the estimated project cost shall be Rs 110 Crore/- and employment generation will be approximately 302 persons directly and indirectly. The Capital Cost for Environment Protection is Rs. 1.35 Crores/- with Recurring cost of Rs. 37 lakh/annum.

Based on the discussion held and document submitted by the PP, the Committee **recommended** the proposal for prescribing **Standard TOR (Annexure-I) subject to examination of issues related to Common cause Judgment dated 02.08.2017, if any, applicable to the project** along with following additional Term of Reference (ToRs):

- (i). Details of year wise break up of soil, OB, Limestone along with its use since operation of mine should be included in the EIA/EMP Report.
- (ii). Details of mitigation measures to prevent the impact of Air pollution, Noise pollution, Water Pollution should be included in the EIA/EMP Report.
- (iii). Details of mining process along with transportation of mineral from mine to cement plant and its impact should be included in the EIA/EMP Report.
- (iv). Details of cumulative impact study needs to be included in the EIA/EMP report.
- (v). Details of backfilling and details of return of agriculture land to the farmers needs to be included to the EIA/EMP report.
- (vi). IBM may examine the reduction of agricultural land in the mine lease area at the time of approval of mining plan.
- (vii). 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.

- (viii). PP should submit the details of statutory clearances, permissions, No objection certificates, consents etc. required for this project under various Acts, Rules and regulations.
- (ix). The PP should submit the detailed plan in tabular format (year-wise for 30 years) 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, 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 30 years) 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.
- (x). 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 ground water by developing alternative source of water through rain water harvesting measures. The capital and recurring expenditure to be incurred needs to be submitted.
- (xi). 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).
- (xii). 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.
- (xiii). PP should submit the measures to be adopted for prevention of illegal mining and pilferage of mineral needs to be submitted. The procedure for re-conciliation of the material excavated from the mines needs to be submitted, frequency of re-conciliation of the material excavated with material dispatched, material stored within the mining lease area, waste/O.B/reject dumped in the mining lease area, top soil dumped and utilized needs to be submitted. The provision of internal and external audit and how the records of re-conciliation will be maintained. In addition to these details of security arrangements, use of surveillance system, installation of weighbridge, GPS tracking system etc. needs to be submitted. In addition to this conversion factor i.e. specific gravity of all type of material available in the mining lease needs to be submitted along with test certificate from the authorized agency.
- (xiv). PP should submit the detailed mineralogical and chemical composition of the mineral and percentage of free silica from a NABL/MoEF&CC accredited laboratory.

- (xv). 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 supported with the line source modeling and isopleth. Further, frequency of testing of Poly Aromatic 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.
- (xvi). 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.
- (xvii). 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.
- (xviii). PP should provide the measure to be taken as the River is flowing adjacent to mining lease for the safety of mines and for the protection of the River.
- (xix). PP has reported dolomite as waste, thus same needs to be certified by IBM/State Government that the dolomite present in mining lease is below the cut-off grade as per the threshold value notified by Ministry of Mines from time to time. The dolomite in the mining lease does not have any market value and should be treated as waste.
- (xx). The PP did not submit the details of the proved reserves (UNFC 111). Thus PP needs to submit the timeline for completing the exploration as required by Ministry of Mines.

Day 2: February 21, 2018 [Thursday]

- (2.12). Sivalarpatti Limestone Mine Lease -II with proposed production capacity of 0.21 Million TPA of limestone (0.24 Million TPA of ROM) by M/s The Ramco Cements Limited, located at Kulakattankurichi, Pudur, Muthusampuram Sialarpatti and Vannipatti Villages, Vilathikulam Taluk, thoothukudi District, Tamil Nadu (MLA: 129.72ha) (File No. J-11015/126/2016.IA.II (M); Proposal No. IA/TN/MIN/51673/2016)- Re-consideration of EC**

The proposal of M/s The Ramco Cements Limited is for production capacity of 0.21 Million TPA of limestone (0.24 Million TPA of ROM) of Sivalarpatti Limestone Mine Lease -II having mining lease area 129.72 ha. The mine is located at Kulakattankurichi, Pudur, Muthusampuram Sialarpatti and Vannipatti Villages, Vilathikulam Taluk, thoothukudi District, Tamil Nadu. The mine area is a part of the Survey of India Topo-sheet No.58 K / 3

between coordinates Latitude 9 0 17'47" to 9 0 19'59" N and Longitude 78°08'33" to 78°09'54" E. The project falls under Schedule 1(a) of mining and is a Category- "A" project as per EIA notification 14th September 2006 as the mining lease area is more than 100 Ha.

The PP vide proposal No IA/TN/MIN/51673/2016 applied online for grant of ToR on 16.03.2016 and submitted Form-1 and Pre-Feasibility Report. The proposal was considered in EAC meeting held on April 25-26, 2016 wherein the Committee recommended for grant of ToR for Sivalarpatti Limestone Mine Lease -II with Proposed Production capacity of 0.21 Million TPA of limestone (0.24 Million TPA of ROM) (MLA: 129.72ha). The ToR was issued by the Ministry vide Lr. No. J-11015/126/2016-IA.II (M) dated 13.05.2016.

The total mine lease area of 129.72ha, consists of 0.975ha of Government Poramboke land and 128.745ha of private patta land. State Government of Tamil Nadu, vide letter dated 29.04.2013, has issued LOI to prepare to Mine Plan and take necessary clearances. The PP vide proposal No. IA/TN/MIN/51673/2016 applied online for grant of EC on 10.12.2016. The proposal was considered in EAC meeting held during 15th -16th December 2016 wherein the Committee observed that proposed mine lease has various dumps as seen using by Decision Support System. The Project Proponent could not explain the details of dumps in the proposed MLA and surrounded other mine leases on the decision support system. The Committee also noted that the compliance of TOR is not adequate. The Committee could not appraise the proposal due to deficiencies of documents and KML/SHP file and therefore deferred the Proposal and the same may be considered after submission of above mentioned details. Based on the information submitted by the PP, the Proposal is now placed before the EAC in its meeting held during 20-21 February 2019.

The PP reported that application for mining lease was made by M/s Madras Cement Ltd. on 16.10.1997. The State Govt. issued precise area communication vide letter dated 29.04.2013 wherein PP was requested to submit approved mining plan and Clearance from MoEF for issuance of the order of grant of mining lease. The State Govt. also issued ERRATA to the Annexure -1 of the letter dated 29.04.2013 vide letter dated 17.12.2015. The State Govt. has granted mining lease in favour of M/s The Ramco Cements Ltd , for Limestone, over an area of 129.72 ha for 50 years, vide G.O. dated 06.01.2017. The mining lease was executed on 10.01.2017. The PP submitted that the Mining Plan & Progressive Mine Closure Plan was approved by Indian Bureau of Mines vide LR No. T TN/TKD/MP/LST-1978-MDS dated 23.05.2016.

PP submitted that mine shall be mechanized, using a system of deep hole drilling and blasting. The bench height will be maintained at a maximum of 9 meters and the pattern of drilling shall be 3.5 m X 2.5 m spacing and burden with 115 mm diameter. PP submitted that nonelectric system using Shock tube detonators & Noiseless Trunk line delays as initiation system will be used for blasting. The mining will be carried out by forming the benches of 9 meter height and width 9 meters. PP submitted that ration of ore to waste shall be 1:0.52. PP submitted that individual bench slope shall be maintained 60° and

overall pit slope shall be maintained at 45°. PP submitted that Limestone, which is mined from this mine, i.e. +35% CaO will be transported directly to the crusher located in the Pandalgudi premises. It will be blended with limestone from other mines and crushed, based on the grade requirements. Generation of sub grade mineral does not arise. PP submitted that the entire proved mineral reserves of 2.48 Million tonnes are estimated as mineable reserves. Based on mineable reserves with production rate of 0.21 Million TPA of clean limestone (0.24 Million TPA of ROM), the life of mine will be 11 years. PP submitted that 01 Nos. excavator of capacity 3.3 m³, 01 Nos. backhoe loader of capacity 0.9 m³, 01 Nos. air compressor of capacity 400 cfm, 1 Nos. BVB 25 drill of 112 mm dia, 01 Nos. dewatering pump of capacity 9000 lpm, 01 Nos. rock breaker of secondary of capacity 100 TPH, 10 Nos. Taurus for production transport & development of capacity 30 T, 01 Nos. jeep, 01 Nos. water sprinkler of capacity 8 KLD and 01 Nos. explosive van of capacity 10 T shall be deployed.

PP submitted that out of total mine lease area of 129.72 Ha, an area of 0.975 Ha is Government Poramboke land and 128.745 Ha is dry patta land. The entire patta lands is owned by TRCL. PP reported that there is no major vegetation except for some thorny bushes. PP submitted that no beneficiation process is involved in this lease area. However, the ROM from lease is taken to the nearby Pandalgudi crushing Plant after physical separation of waste if any for further processing. PP submitted that out of 129.72 Ha. granted lease area, about 13.79 Ha. is mineralized extent and the balance 115.93 Ha of land is non-mineralized area, where the reject dumps are in existence over an extent of 43.48 Ha just adjacent to the already existing mining lease of TRCL granted vide G.O. Ms. No. 334 dated 23.12.1994. There are Five blocks namely Block – 1 to Block – 5 in this lease. Only part of Block – 5 is mineralized area where mining operations will be carried out.

The PP submitted that about 1.279 million Tonnes (0.468mil.cum) of waste comprising 0.086 Million tonnes (0.051 million Cu.M) of topsoil, 1.193 million tonnes (0.417 million Cu.M) of OB& ISR is likely to be generated till the end of life of mine. PP submitted that the topsoil will be stacked separately and will be used for reclamation purposes. The waste/OB will be accommodated in the proposed dump earmarked in the non-mineralized area and some Quantity of this waste will be utilized for road repairs/bund formation. The PP submitted that at the end of life of mine, around 6.0 Ha of Mined out area will be left as water body, 1.46Ha of roads will be left for public use, dump plantation will be carried out in 47.09 Ha of Dump area & Topsoil storage area of 1.20 Ha will also be covered with plantation. Besides, Green belt over an area of 23.64 Ha will be carried out along mine periphery, virgin area and safety area left from cart track, EB lines, mine boundary and along the mine hauling roads. PP submitted that about 71.93 Ha covered under Green Belt/ Dump Plantation in the total lease area of 129.72 Ha in post operational period. About 47.33 ha will be left as unused land.

The PP submitted that the ground water table during pre-monsoon season ranges from 10-12 m bgl in core zone and 12-15 m bgl in buffer zone and during the post monsoon season 9-14 m bgl in core zone and 7-9 m bgl in buffer zone. PP submitted that the mine working will intersect the ground water table. PP submitted that application

regarding Groundwater clearance / NOC for dewatering of groundwater during mining has been submitted to PWD, TN and the approval is awaited. PP submitted a letter issued from Water Resources Department, Public Work Department, Government of Tamil Nadu in reply of application made by PP wherein some information has been sought from the PP regarding NOC of ground water clearance. PP submitted that total water requirement for Sivalarpatti lease - II mine will be 50 KLD out of which 5.0 KLD for domestic sanitary needs and 45 KLD shall be used for industrial activities Dust suppression and green belt development etc. PP submitted that initially, the industrial as well as the domestic water requirement will be met from the exhausted Pit at Pandalgudi Mine of the company being utilized as Water Reservoir. Subsequently, rainwater, seepage water if any collected in the mine pit sump shall meet the industrial water requirement.

Observation of EAC: The Committee observed that the Ministry vide O.M No 21-103/2015-IA.III dated 02.11.2018 issued terms of reference related to ground water withdrawal wherein it has mentioned that following ToR shall be invariably incorporated to address the issues while prescribing ToRs for various developmental projects:

a) In the projects where ground water is proposed as water source, the project proponent shall apply to the Central Ground Water Authority (CGWA)/State Ground Water Authority (SGWA), as the case may be, for obtaining No Objection Certificate (NOC), if applicable, the MoEF&CC/SEAC may ensure that such application has been made.

b) Approval/permission of CGWA/SGWA shall be obtained before drawing ground water for the project activities. State Pollution Control Board (SPCB) concerned shall not issue Consent to Operate (CTO) till the project proponent obtains such permission.

The Committee observed that provision of above O.M is also applicable for this project.

The PP submitted that during the initial 5 year period, Green belt/plantation is proposed over 33.77 Ha covering Safety Zone & Road Side (12.74Ha) , the 5 old dumps (21.03Ha). PP submitted that in the conceptual period, 38.16 Ha covering Safety Zone, proposed waste dump and top soil dump is proposed for plantation. PP submitted that 5400 plants in 4.5 Ha shall be planted in Safety Zone & virgin area and during 7032 plants/ year in 1.65 ha in Safety Zone & Road Side & 4.21 ha area shall be planted during 1st to 5th year. PP submitted that 45792 plants in Safety Zone, Proposed Waste Dump, and rehandled Top Soil Dump in 38.16 ha shall be planted during 6th to 11th year.

PP submitted that there is no Forest Land is involved in the mining lease area. PP submitted that no forest land certificate is obtained from the District Forest Officer, Thoothukudi district vide letter C.NO.D/5975/2016 dated 09.02.2017. PP submitted that there is no Wild Life Sanctuary or National Park or Biosphere within the study area of 10 km. Certificate in this regards stating "No National park, sanctuaries, Biosphere reserves, Wildlife corridors within 10km of Mining lease hold area" obtained from District Forest Officer, Thoothukudi, vide letter No.C.No.D/5975/2016/-1 dated 24.07.2017. The PP submitted that there is only one schedule-1 species viz. Peafowl is present in the study

area. PP submitted that Conservation Plan for Pea Fowl (*Pavo cristatus*) was prepared and forwarded by District Forest Officer, Thoothukudi on a combined basis for TRCL vide letter C.No. D/5975/2016 dated 05.04.2017 with budgetary allocation budgetary allocation of Rs. 5 Lakh (Rs 0.75/year for Habitat improvement and Rs 0.25/year during 1st year to 5th year).

Observation of EAC: Conservation plan is combined plan for all the mines in Pandalgudi area and RR Nagar Cement Plant. Further the budgetary provision is only for five years but life of mine is 50 years. Thus, Conservation Plan should be prepared for entire life of mine and also for post mining period (at least for 5 more years) and may be approved by Chief Wild Life Warden.

PP reported that the baseline data on micrometeorology, Air, Water, Noise & Soil has been generated during summer season (March – May 2016). The monitoring results of ambient air for SO₂, NO₂, PM₁₀ and PM_{2.5} are within the prescribed CPCB limits for “Industrial, Residential, Rural & other areas”. The water quality of ground water samples were found to be within the prescribed IS: 10500 norms. The mine pit water quality is found to be within the prescribed TNPCB Norms. The monitored ambient noise levels were within the limit values for Residential areas. PP reported that there is no court case/litigation pending against the project.

Public hearing for the project was conducted on 29.11.2016 at T.R. Subbaraj Kalyana Mahal, Paralachi Road, Pudur, Villathikulam Taluk, Thoothukudi District through District Collector -Thoothukudi. The advertisement for public hearing was published in ‘Dhinamani’ (25.10.2016) and ‘Indian Express’ (25.10.2016). The Committee deliberated on the issues raised during the public hearing and the major issues raised by the local people were related to cart road, plantation, socio-economic development, employment, rain water in the fields from the dumps, to form a Committee to observe the impacts or to record observation/concerns of villagers, filling of the deeper pits, clearing of bushes, ground water drop, construction of check dams, training, etc. The Commitment made during PH by PP includes a budget of Rs 55 Lakh (Capital) & 47 Lakh (Recurring) for EMP, Rs 1.50 lakhs for drinking water supply is earmarked for villages around this mine. Every year sufficient amount is spent for plantation in villages, Rs 2 Lakhs per annum for Medical related Expenses from this project to the surrounding villages, Capital Budget of Rs 2.75 Lakhs and Annual maintenance charges of Rs 5 Lakhs has been allocated for systematic development and care of Garland Drains, check weirs etc for regulating storm water around the Mine boundaries. Rs 12 Lakhs per annum has been earmarked towards Green Belt Plantations & reclamation of old dumps, Rs 4 Lakhs per annum for Education and Rupees 2 lakhs per annum for training of village women for skill development has been earmarked from this project. The PP proposed a budget of 75 Lakh (Rs. 15 Lakh/annum) under CER activities. The PP submitted that the as no (R & R) is involved in this project this does not apply to this case.

The Project Proponent submitted that the total project cost shall be ₹ 307.28 lakhs and shall give direct employment to 32 and indirectly to 150 persons for allied services like logistics. The Project Proponent submitted that the budget earmarked for Environmental

Management Plan (EMP) shall be ₹ 55 Lakh which includes (a) ₹ 30 Lakh for Mobile water sprinkler (1 No.) during 1st year, (b) ₹ 2.75 lakh for Garland drain, settling ponds and other surface runoff management structures for existing old waste dumps during 1st and 2nd year, (c) ₹ 15 Lakh for Scientific studies like Blasting vibration studies, Slope stability studies, Environment etc. during 1st and 2nd year, (d) ₹ 5 Lakh for Procurement of Blasting vibration meter, Noise level meter during 1st year, (e) ₹ 2.25 Lakh for Safety instruments, equipment's etc. during 1st year.

The PP submitted that the total budget for occupational health plan shall be Rs. 3.00 Lakh/annum which includes (a) Rs. 0.75 lakh/annum for initial & Periodical Medical examination of workers by qualified doctors as per DGMS circulars covering one fifth of employees every year, (b) Rs. 1.0 Lakh for Conducting tests on staff/workers which include spirometry, audiometry, vision test, x-ray, ECG, etc., (c) Rs. 0.25 Lakh for Regular awareness campaigns amongst staff and workers about AIDS, Malaria, etc., (d) Rs. 1.00 lakh for Occupational health checks up and assessment being done by trained Doctors for Occupational Health. Health report and advise on mitigative measures will be given to employees regularly after health checkups.

The PP has submitted the disclosure of the consultant wherein it has mentioned that consultant organization shall be fully accountable for any mis-leading information mentioned in this statement.

Observation of EAC: The PP and Consultant should give an undertaking that all the ToR points are complied with and information /data provided in the EIA Report and all other submission made to the Ministry are factually correct and they are fully accountable for the same.

PP has not applied in Form-2 but submitted duly filed Form-2 with the EIA/EMP Report.

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

- (i). The Ministry may examine the matter in light of common cause order dated 2.08.2017 as the dumping has been made in the mining lease area by examining the conditions of the earlier EC granted for adjacent mining lease, in case of any violation action under EPA, 1986 may also be taken.
- (ii). PP should address all the issues raised during PH and submit time-bound activity-wise action plan along-with with budgetary provision for the implementation of the same.
- (iii). PP should submit the revised budget for the conservation plan for life of mine and post mining period.

- (iv). PP should submit the time-bound activity wise plan for CER (for 03 years), Occupational Health Surveillance, EMP with budgetary provisions, PP should submit the plantation plan.
- (v). The PP should submit the detailed plan in tabular format (year-wise for 50 years) 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, 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 30 years) 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.
- (vi). As the mining lease is in 5 block and not contiguous PP should submit the comments of State Government as per Section 6 (1) (C) of MMDR, 1957 for grant of mining lease which is not continuous.
- (vii). The Committee noted that the baseline data has been conducted during March-May 2016. First time the EC proposal was considered before the EAC in its meeting held during December 15-16, 2016 wherein the Committee deferred the proposal. Now after 2 years the PP is coming for grant of EC. Committee asked the PP to conduct the baseline data for one month and verify with earlier baseline data.
- (viii). The PP needs to submit how they will reduce the water consumption over the years. Target for rain-water harvesting and reduction in water use needs to be explored and submitted.
- (ix). Undertaking from PP & Consultant to the effect that all the ToR Points have been complied and information/data provided in the EIA Report and other submissions made to the Ministry are factually correct.
- (x). PP should submit the NABET Certificate of the Consultant engaged for the period during which it is associated with the project.

The Committee also noted that the Ministry has earlier granted one EC to M/s The Ramco Cements Limited for Sivalarpatti Limestone Mine Lease -I, located at Kulakattankurichi, Pudur, Muthusampuram Sialarpatti and Vannipatti Villages, Vilathikulam Taluk, thoothukudi District, Tamil Nadu. The Committee has deliberated the compliances of the EC and noted that PP has not complied the EC conditions, viz. (i) The Project Proponent need to 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. However there is no green belt development done by the PP, (ii) Specific condition no. x on corpus fund has not complied, (iii) The Project Proponent need to 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.

However no plantation observed by the Committee, (iv) 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. However, there is no compliance of the EC conditions observed by the EAC. Moreover the dump and waste management is very poor, (v) 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. PP has not constructed the adequate garland drain.

The Committee deliberated the issues and observed that there is a lot of non-compliances of earlier EC of **Sivalarpatti Limestone Mine Lease -I, which is located adjacent to Sivalarpatti Limestone Mine Lease -II. The Committee suggested that the Ministry may examine the non-compliances of EC conditions and accordingly necessary action under section 15 & 19 of E(P) Act, 1986 may be taken. The Committee deferred the proposal. The proposal may be considered after submission of the above mentioned information/actions.**

(2.13). Ghoraburhani - Sagasahi Iron Ore with proposed production of 7.16 Million TPA of Iron ore (ROM) along with Crushing & Screening Plant and Beneficiation Plant with capacity of 6.7 Million TPA Capacity by M/s ESSAR Steel India Limited, located at village- Ghoraburhani, Sagasahi and Kalmang, Tehsil Koira, District Sundargarh, Odisha (MLA 139.165ha) (Consultant: Creative Engineers & Consultants) [F. No. J-11015/192/2016-IA-II(M), Proposal No. IA/OR/MIN/56152/2016]-Re-Consideration of EC

The proposal of M/s ESSAR Steel India Limited is for Ghoraburhani – Sagasahi Iron ore block with proposed production of 7.16 Million TPA of Iron ore (ROM) along with Crushing & Screening Plant and Beneficiation Plant with capacity of 6.7 Million TPA Capacity in mine lease area of 139.165ha. The mine lease area is located at Ghoraburhani, Sagasahi and Kalmang villages, Koira tehsil of Sundargarh district of Odisha. The lease area is bounded by Latitude 21° 56' 08.83896" to 21° 57' 09.61956" North and Longitude 85° 17' 02.54580" - 85° 17' 57.53148" East and falls in Survey in India Topo Sheet No.73 G/1 & 73 G/5. The PP presented the KML/SHP file to indicate the location of mine lease area on Google Earth/DSS.

The proposal of EC was earlier appraised before the EAC in its meeting held during February 26-27, 2018 wherein the PP has informed that the company is in bidding process and likely to approach the National Company Law Tribunal (NCLT) regarding the bids received as part of the steelmaker's insolvency resolution process since both the bidders are facing eligibility issues. In this context, the Committee is of the view that when PP is

under bidding process it may be advisable to appraise the project with new PP. But, the PP requested to consider the project as they felt that grant of EC would add value to the company asset and raised valuation of the company.

The Committee, in its meeting held during February 26-27, 2018, has also deliberated the proposal and noted that there were various discrepancies in the Report/Presentation. Some of the discrepancies are as (i) TOR-wise compliance is not adequate and presentation was very confusing as PP has not read the report and also could not made the presentation w.r.t. TOR wise; The Consultant has not properly understood the meaning of TOR and given the vague information; (ii) TOR no. 7 w.r.t. environmental policy is in-adequate and old i.e. before issuance of TOR and it seems that it does not relate to this project; (iii) Slide no. 15 of presentation w.r.t. top soil data having errors; (iv) Action Plan of issues raised during Public Hearing is in-adequate; (v) Revised report w.r.t. PM2.5 needs to be submitted as per CPCB guidelines; (vi) TOR no. 31 w.r.t. green belt development plan is inadequate; (vii) R&R plan is inadequate; (viii) Analysis w.r.t. surface water samples is wrongly reported, may be laboratory error; The Consultant has not done any root cause analysis; (ix) Conceptual Cross Section Plan in slide no. 18 is not adequately presented; and (x) TOR 23 w.r.t. air quality modeling is inadequate. The Committee was of the view that the Consultant to be warned from furnishing misleading and in-adequate information in the EIA/EMP Report and making vague assessments with a letter be written to QCI-NABET for necessary action. The Committee deliberated at length the information submitted by PP and deferred the Proposal. The Committee was of the view that there were several discrepancies in the EIA/EMP report therefore a revised EIA/EMP report rectifying the errors shall be submitted for further consideration.

In view of the above, the PP has submitted the revised EIA/EMP Report and accordingly the proposal is placed before the EAC in its meeting held during February 20-21, 2019. The Committee noted that the PP/Consultant has not removed all the discrepancies as raised by the EAC in its meeting held during February 26-27, 2018. The Committee deliberated the revised EIA/EMP report submitted by the PP and further observed various discrepancies/lacunas in the report which are as below:

- (i). The EAC in its earlier meeting has also asked the detailed Action Plan on the issues raised during Public Hearing along with budgetary allocation and time line. **However, the PP is unable to submit the same. The Committee again suggested PP to resubmit the Action Plan on the issues raised during Public Hearing along with budgetary allocation and time line.**
- (ii). The Committee noted that PP has submitted Form II wherein it is mentioned that there is no court case with this project. However, on perusal of record it is noted that there is one court case filed in Hon'ble NGT vide OA No. 34/2018/EZ. **The PP has misled the information which is very crucial in nature. The Committee suggested that explanation from PP/Consultant may be called.**

- (iii). PP mentioned the list of Flora and Fauna and their conservation plan only, however, the conservation plan is not yet approved by the CWLW. **The Committee also noted that the conservation plan is not adequate and PP needs to resubmit the conservation plan along with budgetary provisions and time lines.**
- (iv). The Committee observed that there are no details submitted by the PP about carbon footprint. In this regard, PP needs to submit the same and also the details of noise and dust emission control in the crusher point.
- (v). The Committee observed that the proposed lease is surrounded by many other leases however, the PM_{2.5} and PM₁₀ values and other parameters are very low and the PP/consultants are incapable to explain the reasons. **The Committee is of the view that the mine is surrounded by other leases; however, the predicted incremental concentration for the parameters are very less and suggested that PP needs to re-calculate the prediction for all the parameters and submit before the EAC for further deliberations.** In view of the above PP needs to redo the modeling and submit the details with inputs on Air Quality modelling along with incremental ground level concentration due to mining and allied activities along with ore transportation on account of additional vehicles. The PP needs to submit the dust emission control strategies and its emission rate.
- (vi). PP has not submitted detailed information about the dedicated corridor and transportation in the EIA/EMP report. PP need to submit the detailed information and the status of other FC approval required for mining and other allied activities.
- (vii). PP has not submitted the adequate details of total excavation w.r.t. mineral, OB, Inter-burden, Waste etc. PP needs to submit the details of the same.
- (viii). The PP presented that the LOI is valid up to 27.03.2019 and mentioned that submitted the application for extension of LOI validity period, however, PP did not submit any valid proof for the submitted application. PP needs to submit the extension of validity letter to the Ministry.
- (ix). The PP needs to submit how they will reduce the water consumption over the years. Target for rain-water harvesting and reduction in water use needs to be explored and submitted.
- (x). PP needs to submit the details of the activities and budget earmarked for Corporate Environmental Responsibility (CER) which shall be as per Ministry's O.M No 22-65/2017-IA. II (M) dated 01.05.2018 and its action plan on the activities proposed under CER.
- (xi). The Committee noted that the Ministry of Mines, vide Notification No.S.O.2817 (E) dated 22nd November, 2010 had appointed a Commission of Inquiry consisting Justice M.B. Shah, retired Judge of the Supreme Court of India, for the purpose of making an inquiry in to mining of iron ore and manganese ore in contravention of the provision

of various Statues and the rules and regulations issued there under, in various States including the State of Odisha. In view of Justice Shah Commission report (2013), the Ministry of Environment, Forest and Climate Change (MoEF&CC) has entrusted the work to CSIR-NEERI to conduct a Carrying Capacity Study. In this context, CSIR-NEERI conducted the study encompassing collection of primary data for various environmental components (viz. air, noise, water, soil/land, biological and socio-economic aspects), collection and analysis of environmental quality data by different mines in the region, modeling for transport scenario and infrastructure need assessment, and meetings/workshops with different stakeholders. NEERI has submitted the report along with the recommendations. **The Committee noted that PP has not submitted the adequate action plan on the implementations of the recommendations of the report of carrying capacity study. The responses are vague and general in nature. In view of the above, the PP needs to resubmit the action plans/compliance on the recommendations of the report of carrying capacity study [Recommendations of carrying capacity study Report is at Annexure –III].**

- (xii). The Committee observed that as per the recommendations of NEERI report the State Government has to complete the SOTM within 5 years and as the EC capacity is >5 Million TPA, therefore, SOTM 1 may be applicable to this project and the Ore transport mode should be 100% by private railway siding or conveyor belt up to public railway siding or pipeline for captive mines and 70 % for non-captive mines. The Committee asks the PP to submit the development on the SOTM, if any, made by the Government of Odisha and actions taken by the PP.
- (xiii). The PP needs to implement the recommendations of the report of carrying capacity study and necessary arrangement to be made to arrest "zero dust re-suspension". The details needs to be submit by PP.
- (xiv). The Committee observed that as per the recommendations of NEERI report and its condition no. 6, the PP needs to construct cement concrete road from mine entrance and exit to the main road with proper drainage system and green belt development within one year. The Committee deliberated the issues and is of the view that PP needs to complete the recommendations of the carrying capacity study report and accordingly action plan on the recommendations needs to be submitted.
- (xv). The Committee in earlier meeting noted that the analysis w.r.t. surface water samples were wrongly reported, may be laboratory error; The Consultant has not done any root cause analysis. The same problem exists now also. **The Committee suggested that the Consultant may be warned again and request QCI/NABET to take necessary action.**
- (xvi). The Committee noted that the Consultant has not prepared the EIA/EMP report as per Appendix III (Generic Structure of Environmental Impact Assessment Document) of EIA Notification, 2006. **The report should contain 12 chapters whereas PP has submitted only 11 Chapters with different titles other than**

mentioned Appendix in the EIA/EMP Report. In this context Consultant needs to revise the EIA EMP report as per Appendix III of EIA Notification, 2006 and resubmit the same before EAC.

Based on the presentation made and the discussion held, the Committee recommended to **return the proposal in present form and the proposal may be considered only after submission of revised EIA/EMP report along with above mentioned information.**

The Committee also observed that uploading of wrong information, not submitting the required documents, submitting the misleading facts during the appraisal of the proposal is an un-professional behavior of the consultant and PP. Thus, Committee is of the view that Consultant (M/s Creative Engineers & Consultants) may be warned for the same and the Ministry may request QCI-NABET for necessary action. The Committee after detailed deliberation returned the proposal in present form.

(2.14). Persoda limestone mine of M/s RCCPL Private Limited with total Excavation of 2.9 MTPA [2.0 MTPA of Limestone (ROM), waste and dolomite of 0.815 MTPA and topsoil of 0.085 MTPA] for production of 2.0 MTPA Limestone (ROM), located at villages: Persoda, Kothoda Khurd, Kothoda Buzurg, Govindpur, Korpana tehsil, Chandrapur district, Maharashtra (MLA 756.14ha) (File No. J-11015/22/2019-IA.II(M); Proposal No. IA/MH/MIN/89273/2018) - Consideration of TOR

The proposal of M/s RCCPL Private Ltd (formerly Reliance Cement Company Pvt. Ltd) is for production of 2.0 MTPA of Limestone (ROM) from Persoda limestone mining project [ML Area: 756.14 ha]. The mine is located at Villages: Persoda, Kothoda Khurd, Kothoda Buzurg, Govindpur, Korpana tehsil, Chandrapur district, Maharashtra. The Project Proponent submitted that mining lease area falls under Survey of India Topo-Sheet 56-I-13 and 56- I-14 and between Latitude: N 19°43' 54.10" to N 19°46' 09.78" & Longitude: E 78°50' 41.18" to E 78°52' 23.39". The project falls under Schedule 1(a) of mining and is a Category- "A" as the mining lease area is greater than 100 Ha. The PP applied online on 3.10.2018 for grant of ToR and submitted Form-1 & PFR.

The PP previously applied vide proposal No. IA/MH/MIN/81125/2018 on 3.10.2018 and the proposal was considered in the EAC meeting held on 15-16 November, 2019 wherein the Committee, returned the proposal in present form and asked the PP to apply for total excavation /annum with all above information.

The PP now applied a fresh vide proposal no IA/MH/MIN/89273/2018 on 22.01.2019 and submitted revised Form-1 and PFR. The PP submitted in the Fomr-1 that production capacity of mine shall be 2.0 MTPA (Limestone) in the PFR PP submitted that the total excavation from the mine shall be 2.9 MTPA (2.0 MTPA Limestone, waste & dolomite 0.815 MTPA and top soil 0.085 MTPA).

The PP submitted that Letter of Intent (LoI) was issued by Govt. of Maharashtra vide No. MMN – 1010 / CR.3338 / ind-9 dated 13.06.2018 over an area of 756.14 Ha in the name of M/s Reliance Cementation Private Limited. This letter of intent is valid for one year i.e. up to 12.06.2019. The PP submitted that name of Reliance Cementation Private Limited was changed to Reliance Cement Company Private Limited on 8.8.2011. The name of Reliance Cement Company Private Limited was changed to RCCPL Private Limited on 1.08.2018. The PP also submitted a letter No. MMN-1010/F.No./3338/Industries-9 dated 4.01.2019 issued by Industry, Energy & Labour Dept. Govt. of Maharashtra addressed to Director, Directorate of Geology & Mining wherein it has mentioned that *"as per section 62 of Mineral Concession Rules, 1960, with respect to their 756.14 Ha Prospecting License/Mining lease in village Persoda Kothoda Buzurg and Govindpur, Tehsil: Korpana, District: Chandrapur; company has informed regarding change of name of company within stipulated time. In case prospecting license/mining lease of the company, government hereby approves to take note of change of name of the company as M/s RCCPL Pvt Limited instead of M/s Reliance Cementation Private Limited. Henceforth, correspondence with the company is to be made in the name of M/s RCCPL Pvt Limited."*

The PP submitted that proposal does not require clearance under Forest Conservation Act, 1980, Wildlife Protection Act, 1972 and C.R.Z notification, 2011. PP submitted that general condition is applicable to the project as mining lease is falling within 5 KM of the inter-state boundary. There are no national parks, wild life sanctuaries and eco-sensitive zones in the proposed study area. However, two reserve forests are within 2 km distance from the boundary of proposed mining area at distance of 0.8 Km and 10 forest pockets within 2-10 KM.

The PP submitted that it is proposed to produce 2.0 Million TPA of limestone by opencast mechanized method of mining. During the production of limestone, waste and dolomite of 0.815 MTPA and topsoil of 0.085 MTPA will also be generated. Thus total excavation will be 2.9 MTPA. The PP submitted that method of mining will be fully mechanized opencast mining with deep hole drilling & blasting. The excavation of mineral & waste is by deploying loader/excavator and transportation is through dumpers. The size of machinery will be as per approved mining plan. Site will be cleared with the help of dozer / loader and top soil will be utilized for plantation or stacked separately for future use. Removal of over burden will be done by loader / excavator. Drilling in hard strata will be done by DTH drills of hole dia. 115 mm. For blasting, explosives such as ANFO, slurry / emulsion explosives, Nonel detonator, Electric detonator etc. will be used. The PP submitted that the mineral reserves are 40.77 Million Tones and the life of mine is 23 years. PP submitted that water requirement for the project will be 234 KLD for dust suppression, washing of mining machinery, plantation and domestic purpose, initially (5 years) from ground water and thereafter fresh water requirement will be reduced as the water will be sourced from mine pit. The total project cost will be ₹ 352.0 Crores including environment management, pollution control measures and community development. PP submitted that during the development phase the total employment requirement will be 15 direct and 105 indirect. During operation phase the total employment requirement will be 25 direct and 80 indirect.

Based on the discussion held and document submitted by the PP, the Committee **recommended** the proposal for prescribing **Standard TOR (Annexure-I)** along with following additional Term of Reference (ToRs):

- (i). Details of cumulative impact study needs to be included to the EIA/EMP report.
- (ii). Details of backfilling and details of return of agriculture land to the farmers needs to be included to the EIA/EMP report.
- (iii). Details of hydro geological study needs to be included to the EIA/EMP report.
- (iv). Details of mitigation measures to protect the water bodies including the River etc.
- (v). IBM may examine the reduction of agricultural land in the mine lease area at the time of approval of mining plan.
- (vi). 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.
- (vii). PP should submit the details of statutory clearances, permissions, No objection certificates, consents etc. required for this project under various Acts, Rules and regulations.
- (viii). The PP should submit the detailed plan in tabular format (year-wise for 30 years) 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, 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 30 years) 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.
- (ix). 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 ground water by developing alternative source of water through rain water harvesting measures. The capital and recurring expenditure to be incurred needs to be submitted.
- (x). 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).

- (xi). 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.
- (xii). PP should submit the measures to be adopted for prevention of illegal mining and pilferage of mineral needs to be submitted. The procedure for re-conciliation of the material excavated from the mines needs to be submitted, frequency of re-conciliation of the material excavated with material dispatched, material stored within the mining lease area, waste/O.B/reject dumped in the mining lease area, top soil dumped and utilized needs to be submitted. The provision of internal and external audit and how the records of re-conciliation will be maintained. In addition to these details of security arrangements, use of surveillance system, installation of weighbridge, GPS tracking system etc. needs to be submitted. In addition to this conversion factor i.e. specific gravity of all type of material available in the mining lease needs to be submitted along with test certificate from the authorized agency.
- (xiii). PP should submit the detailed mineralogical and chemical composition of the mineral and percentage of free silica from a NABL/MoEF&CC accredited laboratory.
- (xiv). 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 supported with the line source modeling and isopleth. Further, frequency of testing of Poly Aromatic 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.
- (xv). 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.
- (xvi). 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.
- (xvii). PP should provide the measure to be taken as the River is flowing adjacent to mining lease for the safety of mines and for the protection of the River.
- (xviii). PP has reported dolomite as waste, thus same needs to be certified by IBM/State Government that the dolomite present in mining lease is below the cut-off grade as per the threshold value notified by Ministry of Mines from time to time. The

dolomite in the mining lease does not have any market value and should be treated as waste.

- (xix). The PP did not submit the details of the proved reserves (UNFC 111). Thus PP needs to submit the timeline for completing the exploration as required by Ministry of Mines.

(2.15). 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-11015/23/2019-IA.II(M); Proposal No. IA/TN/MIN/92952/2019) - 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/92952/2019 dated 25.01.2019 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 19-20 February, 2019. The PP submitted that the mine lease 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 Committee observed that M/s Ramco Cements Limited (PP) has submitted the Form-I and PFR for the mining project and mentioned the name of Consultant as M/s Ensyscon Enviro Solutions (Ensyscon). **The Committee noted that the Consultant-M/s Ensyscon Enviro Solutions (Ensyscon) is not accredited for category 'A' project and their accreditation is under consideration at QCI-NABET.** However the PP has quoted the name of consultant with NABET Accreditation S.No. 383 of list dated 05.09.2018. The information is misleading.

The Committee observed that uploading of wrong information, not submitting the required documents, submitting the misleading facts during the appraisal of the proposal is an un-professional behavior of the consultant and PP.

Thus, Committee is of the view that Consultant [M/s Ensyscon Enviro Solutions (Ensyscon)] may be warned for the same and the Ministry may request QCI-NABET for necessary action. The Committee after detailed deliberation returned the proposal in present form.

(2.16). Proposed Vadakkunatham Lime Kankar Quarry (Lease-V); Extent 123.26.5 Ha & Production ROM Kankar @ 0.5 MTPA & Clay (BC Soil) @ 0.025 MTPA in S.F. Nos. Parts of 7 to 15, 17 to 32, 34, 40, 101 to 103, 107 to 109, 113, 118,, etc. of Vadakkunatham village, Aruppukottai Taluk, Virudhunagar District of Tamil Nadu - Environmental Clearance under EIA Notification 2006- Minor Minerals; In Cluster with RCL Maravarperungudi Quarry Lease-I- SI. Nos. 1(a); Category 'A'- TOR Application by The Ramco Cements Limited, (File No. J-11015/177/2018-IA.II(M); Proposal No. IA/TN/MIN/82849/2018) – Consideration of TOR

The proposal of M/s The Ramco Cements Ltd is for Production of 0.5 MTPA of Lime Kankar & 0.025 MTPA of Clay (BC Soil) from Vadakkunatham Lime Kankar Quarry Lease (Lease-V) having mining lease area of 123.26.5 Ha comprising of S.F. Nos. Parts of 7 to 15, 17 to 32, 34, 40, 101 to 103, 107 to 109, 113, 118, etc. of Vadakkunatham village, Aruppukottai Talukm Virudhunagar District of Tamil Nadu. The Project Proponent submitted that mining lease area falls under Survey of India Topo-Sheet 58 K/3 and between Latitude: N 9°19' 04" to N 9°20' 07" & Longitude: E 78°12' 32" to E 78°13' 38".

The project falls under Schedule 1(a) of mining and is a Category- "A" as the mining lease area is greater than 100 Ha. PP submitted that proposed Maravarperungudi Quarry Lease-I (QL-I) is adjacent to QL-V to its north north-west direction at 0.1 km. The PP applied online on 17.10.2018 for grant of ToR and submitted Form-1, PFR, Mining Plan and Letter of Intent and the proposal was placed in EAC meeting held on 15.11.2018 wherein Committee deferred the proposal. PP then submitted the information and the proposal is now placed in EAC meeting held during 20-21 February 2019.

The Committee observed that M/s Ramco Cements Limited (PP) has submitted the Form-I and PFR for the mining project and mentioned the name of Consultant as M/s Ensyscon Enviro Solutions (Ensyscon). **The Committee noted that the Consultant-M/s Ensyscon Enviro Solutions (Ensyscon) is not accredited for category 'A' project and their accreditation is under consideration at QCI-NABET.** However the PP has quoted the name of consultant with NABET Accreditation s.no. 383 of list dated 05.09.2018. The information is misleading.

The Committee observed that uploading of wrong information, not submitting the required documents, submitting the misleading facts during the appraisal of the proposal is an un-professional behavior of the consultant and PP. Thus, Committee is of the view that Consultant [M/s Ensyscon Enviro Solutions (Ensyscon)] may be warned for the same and the Ministry may request QCI-

NABET for necessary action. The Committee after detailed deliberation returned the proposal in present form.

(2.17). Proposed T. Koppuchitampatti Lime Kankar Quarry (Lease-IV); Extent 294.18.5 Ha & Production ROM Kankar @ 1.227 MTPA & Clay (BC Soil) @ 0.040 MTPA in S.F.Nos. Parts of 208 to 229, 232 to 235, 246 to 248, 253, etc. of T.Koppuchitampatti village, Aruppukottai Taluk, Virudhunagar District of Tamil Nadu - Environmental Clearance under EIA Notification 2006- Minor Minerals- SI. Nos. 1(a); Category 'A' Project by The Ramco Cements Limited (File No. J-11015/176/2018-IA.II(M); IA/TN/MIN/82742/2018) –Consideration of TOR

The proposal of M/s The Ramco Cements Ltd is for Production of 1.227 MTPA of Lime Kankar & 0.040 MTPA of Clay (BC Soil) from T. Koppuchitampatti Lime Kankar Quarry (Lease-IV) having mining lease area of 294.18.5 Ha comprising of S.F. Nos. Parts of 208 to 229, 232 to 235, 246 to 248, 253 etc. located at Koppuchitampatti village, Aruppukottai Taluk, Virudhunagar District of Tamil Nadu. The Project Proponent submitted that mining lease area falls under Survey of India Topo-Sheet 58 K/3 and between Latitude: N 9°26' 08" to N 9°24' 33" & Longitude: E 78°06' 42" to E 78°06' 03".

The project falls under Schedule 1(a) of mining and is a Category- "A" as the mining lease area is greater than 100 Ha. The PP also submitted that there is no mining lease within 500 meters radius thus not forming the cluster situation. The PP applied online on 16.10.2018 for grant of ToR and submitted Form-1, PFR, Mining Plan and Letter of Intent and the proposal is placed in EAC meeting held on 15.11.2018 wherein Committee deferred the proposal due to shortcomings. PP then submitted the information and the proposal is now placed in EAC meeting held during 20-21 February 2019.

The Committee observed that M/s Ramco Cements Limited (PP) has submitted the Form-I and PFR for the mining project and mentioned the name of Consultant as M/s Ensyscon Enviro Solutions (Ensyscon). **The Committee noted that the Consultant-M/s Ensyscon Enviro Solutions (Ensyscon) is not accredited for category 'A' project and their accreditation is under consideration at QCI-NABET.** However the PP has quoted the name of consultant with NABET Accreditation s.no. 383 of list dated 05.09.2018. The information is misleading.

The Committee observed that uploading of wrong information, not submitting the required documents, submitting the misleading facts during the appraisal of the proposal is an un-professional behavior of the consultant and PP. Thus, Committee is of the view that Consultant [M/s Ensyscon Enviro Solutions (Ensyscon)] may be warned for the same and the Ministry may request QCI-NABET for necessary action. The Committee after detailed deliberation returned the proposal in present form.

(2.18). Limestone Mines of M/s My Home Industries Pvt. Ltd. with production capacity of 1.0 MTPA (ROM) of Limestone, located at Villages: Mellacheruvu & Yepalamadhavaram, Mandal: Mellacheruvu, District: Suryapet, Telangana (MLA: 252.407 ha) (File No. J-11015/21/2017-IA-II(M); Proposal No. IA/TG/MIN/62819/2017)–Re-Consideration of TOR

The proposal of M/s My Home Industries Pvt. Ltd. is for Production of 1.0 MTPA of Limestone from its mining project [ML Area: 252.407 ha] located at Mellacheruvu & Yepalamadhavaram Villages, Mellacheruvu Mandal, Suryapet District, Telangana. The Project Proponent submitted that Mining Lease area is a part of the Survey of India Topo sheet No. 56 P/13. The site falls between Latitude 16° 47' 13.20"N - 16° 48' 41.90"N and Longitude 79° 55' 57.30" E - 79° 57' 0.70"E with an average altitude of 100 m above MSL. The project falls under Schedule 1(a) of mining and is a Category- "A" as the mining lease area is greater than 100 Ha. The PP applied online on 14.03.2017 for grant of ToR and submitted Form-1 & PFR. The Proposal was placed in EAC meeting held during April 27-28, 2017 wherein Committee deferred the proposal for want of requisite information. As the PP did not submit the information within the time limit the proposal was de-listed on 17.01.2018. The Proposal was re-listed on 17.01.2019 and proposal is now placed in EAC meeting held during 19-20 February, 2019 wherein PP has submitted following information.

The proponent submitted that mine is spread over an area of 252.407 Ha, out of which 42.3 ha is Govt. land & De-Forest land and 210.107 ha. is Patta land under the jurisdiction of Mellacheruvu & Yepalamadhavaram Villages, Mellacheruvu Mandal, Suryapet District, Telangana State. Mining Lease was granted by Government of Telangana State, Industries & Commerce (M-II) Department, issued Order vide Memo No. 5863/M.II(1)/2016-1, dated: 24.09.2016. The subject limestone mine will be a captive of MHIPL Cement plant located at 1.0 km distance. The PP also submitted Lr No 476/2018/S3 dated 27.12.2018 issued by Forest Department Govt. of Telangana wherein it has inter-alia mentioned that the mining lease in question has 49 acres of de-reserved forest land and department has no objection for the said project.

The proponent submitted that the mine has about 138.95 Million Tonnes of mineable reserves (approx.) which will last for about 138 years with proposed production capacity of 1.0 Million Tonnes Per Annum (MTPA). The mine operation will be by Opencast Mechanized method of mining. Limestone produced from this mine will be transported initially to the existing crusher located at cement plant through haul roads. Later crusher is proposed to be installed in the subject mine. No over burden waste material generation is envisaged during the life of the mine. The entire estimated/generated quantity of limestone is planned to be consumed in the process and no waste would be generated during mining operations. Hence no waste dumps would be formed.

The proponent submitted that water requirement for the proposed mine is about 100 m3/day. Drinking water facilities will be provided from Cement plant and water required for Dust suppression and greenbelt development will be sourced from existing Mine pits of MHIPL. The proponent submitted that there is no Wildlife Sanctuary, National Park, Tiger Reserve, Elephant Corridor, Eco-Sensitive Area within the 10 km radius of the project site. The capital cost for Environment Management is estimated as Rs. 1.0 crore and the capital

Investment Cost of the project is estimated as Rs 10.0 crores and shall give employment to 40 persons.

Based on the discussion held and document submitted by the PP, the Committee **recommended** the proposal for prescribing **Standard TOR (Annexure-I) along with following additional Term of Reference (ToRs):-**

- (i). The PP submitted Lr No 476/2018/S3 dated 27.12.2018 issued by Forest Department Govt. of Telangana wherein it has inter-alia mentioned that the mining lease in question has 49 acres of de-reserved forest land and department has no objection for the said project. The committee suggested that this letter may be verified from the PCCF, Government of Telangana.
- (ii). IBM may examine the reduction of land in the mine lease area for mining purpose at the time of approval of mining plan.
- (iii). Details of cumulative impact study needs to be included to the EIA/EMP report.
- (iv). The EIA/EMP Report should be prepared for Total excavation from the Mining lease (limestone, waste, O.B, Top Spoil etc.). The total excavation quantity in TPA should be clearly provided in the EIA/EMP Report. The impact should also be ascertained for the total excavation.
- (v). 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.
- (vi). PP should submit the details of statutory clearances, permissions, No objection certificates, consents etc. required for this project under various Acts, Rules and regulations.
- (vii). The PP should submit the detailed plan in tabular format (year-wise for 30 years) 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, 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 30 years) 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.
- (viii). 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 ground water by developing alternative source of water through rain water harvesting

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

- (ix). 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).
- (x). 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.
- (xi). PP should submit the measures to be adopted for prevention of illegal mining and pilferage of mineral needs to be submitted. The procedure for re-conciliation of the material excavated from the mines needs to be submitted, frequency of re-conciliation of the material excavated with material dispatched, material stored within the mining lease area, waste/O.B/reject dumped in the mining lease area, top soil dumped and utilized needs to be submitted. The provision of internal and external audit and how the records of re-conciliation will be maintained. In addition to these details of security arrangements, use of surveillance system, installation of weighbridge, GPS tracking system etc. needs to be submitted. In addition to this conversion factor i.e. specific gravity of all type of material available in the mining lease needs to be submitted along with test certificate from the authorized agency.
- (xii). PP should submit the detailed mineralogical and chemical composition of the mineral and percentage of free silica from a NABL/MoEF&CC accredited laboratory.
- (xiii). 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 supported with the line source modeling and isopleth. Further, frequency of testing of Poly Aromatic 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.
- (xiv). 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.
- (xv). 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.
- (xvi). PP should provide the measure to be taken for the protection of the nearby forest land and safety distance to be left.

(xvii). PP needs to submit the timeline for completing the exploration as required by Ministry of Mines.

(2.19). Expansion of Mining Project of China Clay from 5000 TPA (ROM) to 17,58,163 TPA (ROM) and Quartz from 2000 TPA (ROM) to 10829 TPA (ROM) by M/s B.R. Minerals, located at Village-Lohari Khurd Deva KaKhera, Tehsil –Hindoli, District-Bundi, Rajasthan Mine Lease Area 61.0Ha. (File no. J-11015/67/2018-IA-II(M); Proposal No. IA/RJ/MIN/75545/2018) –Re-Consideration of TOR

The proposal of M/s B.R. Minerals for expansion of Mining Project of China Clay from 5000 TPA (ROM) to 17,58,163 TPA (ROM) and Quartz from 2000 TPA (ROM) to 10829 TPA (ROM) in the mining lease area 61.0Ha located at Village-Lohari Khurd Deva KaKhera, Tehsil –Hindoli, District-Bundi, Rajasthan. The Project Proponent submitted that mining lease area falls under Survey of India Topo-Sheet G43P5, G43P6, G43P9 & G43P10 and between Latitude: 25° 39' 31.23" N to 25° 40' 12.71" N & Longitude: 75° 25' 54.76" E to 75° 26' 17.16" E.

The project falls under Schedule 1(a) of mining and is a Category- "A" as the mining lease area is greater than 100 Ha. The PP applied online on 23.06.2018 for grant of ToR and submitted Form-1 and PFR. The proposal was considered in EAC meeting held on 19-20 July 2018 wherein Committee deferred the proposal due to shortcomings. PP then submitted the information and the proposal is now placed in EAC meeting held during 20-21 February 2019. The PP **did not attend the meeting** and Committee therefore **deferred** the proposal.

(2.20). Nuagaon Iron Ore Mine of M/s Kamaljeet Singh Ahluwalia, located at village(s) Nuagaon, Guali, Topadihi, Barapada and Katasahi, Tehsil – Barbil, District – Keonjhar, Odisha (MLA 767.284 ha) [File No: J-11015/1156/2007-I.A.II(M); Proposal No: IA/OR/MIN/7226/2007]-Amendment in EC

The proposal of Nuagaon Iron Mine of M/s Kamaljeet Singh Ahluwalia is for amendment in EC. The mine is located at village(s) Nuagaon, Guali, Topadihi, Barapada and Katasahi, Tehsil – Barbil, District – Keonjhar, Odisha in the mining lease area of 767.284 ha. The lease area is bounded by Latitude 21°57'11.09"N to 21°59'34.31"N and Longitude 85°16' 6.04" to 85° 19' 24.93" East and falls in Survey in India Topo Sheet No. 73G/5.

The Environmental clearance for 5.62 MTPA iron ore production was issued by the Ministry vide letter no: J-11015/1156/2007-IA.II (M) dated 02.02.2010. The EC stipulates a specific condition (Item no. v) *Alternative transport system such as dedicated railway siding for transportation of mineral from their mine shall be studied and put in place at the earliest*

but not later than five years. No mineral transportation by road shall be permitted beyond 5 years. The Ministry has also granted the EC vide letter no. J-11015/317/2009-IA.II (M), dated 16.02.2012 for beneficiation plant with capacity of 2.0 million TPA throughput involving the project area of 4.0 ha within the same existing mine lease area of 767.284 ha.

Total mine lease area is of 767.284 ha. Out of the total lease area, forest land is 639.823Ha and Non-forest land is 127.461Ha. Permission for diversion of 371.192 ha of forest area within the mining lease area was granted vide letter no F.No.8-17/2001-FC dated 21st April 2004. The project proponent has deposited Rs. 46,70,70,790/- towards NPV for the entire forest land over 639.823 ha in the mining lease area as per the demand raised by DFO vide Demands dated 15.02.2007 for Rs. 26,22,61,850/-; dated 05.06.2010 for Rs.12,15,44,410/-; and dated 05.06.2010 for Rs. 8,32,64,530/-. Project Proponent has submitted that mine lease is valid up to 31st March 2020. The supplementary leased deed executed on 8th May, 2015. PP has mentioned that the Modified Mining Plan for expansion of Iron Ore production from 5.62 Million TPA to 7.99 Million TPA has been approved by the IBM, vide letter No-MSM/FM/48-ORI/BHU/2017-18/322, dated 23.04.2018.

The State Government of Odisha vide email dated 26.08.2016, reported that Nuagon Iron Ore mine of M/s Kamaljeet Singh Ahluwalia was operated in 2015-2016 and produced @3.649 million tonnes of iron ore and the permitted dispatch @3.369 million tonnes of iron ore. Further, the mine is in operation in 2016-2017 and produced @2.115 million tonnes of iron ore and permitted dispatch 1.792 million tonnes of iron ore (as on 22.08.2016). PP shall not transport the mineral by road beyond 5 years of grant of EC, i.e. after 02.02.2015, however, it is noted that this is a case of continuing violation of EC conditions since 02.02.2015 and action on violation may be initiated as per the provisions of Environment (Protection) Act, 1986.

The proposal is for amendment of EC condition item no. (v) was earlier placed in the EAC meeting held during 16-17 December 2013. The Committed noted that the Project Proponent had not taken any compliance action on this EC stipulation during the last three years, nor had they informed the Ministry about their intent not to fulfill the same. The Committee deferred the proposal. After submission of the information, the Proposal was reconsidered in the EAC meeting held during March 16-18, 2015 wherein the Committee deferred the proposal as the PP was unable to submit the details sought by EAC. The proposal was again reconsidered in the EAC meeting held during May 27-29, 2015 wherein the Committee recommended the proposal for amendment in EC.

Based on the recommendation of EAC, the Ministry has issued amendment in the EC dated 02.02.2010 vide letter No. J-11015/1156/2007-IA.II (M) dated 31.03.2017 **w.r.t grant of temporary permission of two years for completing the installation of conveyor belts in the Nuagaon Iron ore mining project from the issue of this letter".** Also, the Ministry has issued a letter to Department of Environment, State Government of Odisha for taking necessary action on violation of EC conditions by invoking power under section 15 and 19 of the Environment (Protection) Act, 1986. In addition, a letter to RO Bhubaneswar MoEF&CC was issued for seeking status update on installation of conveyer belt.

In pursuance of the Supreme Court order dated 02.08.2017 in CWP no. 114/2014, the Deputy Director of Mines, Joda Circle, Dist. Keonjhar and Department of Steel and Mines, Govt. of Odisha has issued the demand notice no. 6112 dated 13.12.2017 for Rs.1072,60,31,101/- (Rupees One Thousand Seventy Two Crore Sixty Lakhs Thirty One Thousand One Hundred One) towards violation of EC conditions. The PP has deposited Rs.1072,60,31,101/- vide e-Challan ID 27DDFEAF11 (Rs.6031101/-), 27DE0DFEA9 Rs. (1720000000/-) and 27DE0E0EEC (Rs. 5000000000/-), 27DE0E0ECB (Rs. 4000000000/-) dated 28.12.2017 and 29.12.2017 (Total: 6031101 + 1720000000 + 5000000000 + 4000000000 = Rs. 1072,60,31,101/-). In addition, in pursuance of the Supreme Court order dated 02.08.2017 in CWP no. 114/2014, the Deputy Director of Mines, Joda Circle has issued the demand no. 5136 dated 23.10.2017 for 23357557 (Rupees Two Crore Thirty Three Lakh(s) Fifty Seven Thousand Five Hundred Fifty Seven Only) towards compensation under Section 21 (5) of MMDR Act, 1957 for production without the Forest Clearance.

The Collector and District Magistrate, Keonjhar has filed prosecution against the above mentioned project for violation of EC conditions in the court of the JMFC, Balbil vide Criminal Case No. 2 @ C.C. No. 88 of 2013 on 17.07.2013 to take cognizance of offence section 15 of the E.P. Act 1986 which is still subjudice.

The RO Bhubaneswar MoEF&CC submitted the compliance report vide letter no.101.391/EPE/158 dated 22.01.2019. The RO Bhubaneswar MoEF&CC report indicated that the applicability of the conveyer belt system for the transportation of the iron ore from Nuagaon to Jaroli railways siding is not feasible due to following reasons.

- (i). About 5 hectares of prime forest land will be required. Surrender of such huge chunk land forest land for conveyor system may not be desirable.
- (ii). Bucket change points may be required every 2 km, each bucket change point will cause dust pollution in surroundings areas which is not desirable.
- (iii). The alignment of 16 km conveyor system would have been passing from numbers of other private mining lease, which is very difficult and time consuming exercise to get approval from these private institutes.
- (iv). Similarly, there is hardly any space near exists at Jaroli siding where additional land available for staking of conveyed iron ore from Nuagaon mines

In addition, the RO Bhubaneswar MoEF&CC mentioned that the PP has complied or are in the process of complying with the conditions stipulated by the Ministry. **In the context, the information/action plans have been sought on following points:**

- (i). **It is required to maintain the retaining wall, guard drain, guard pond, slope of OB dump etc before and after the monsoon.**
- (ii). **It is required to increase the green belt area by planting more plants and also put stress to achieved optimum plantation density i.e., 2500 plant per ha in plantation area/non-plantation area including safety zone.**

The Committee noted that the Ministry of Mines, vide Notification No.S.O.2817 (E) dated 22nd November, 2010 had appointed a Commission of Inquiry consisting Justice M.B. Shah, retired Judge of the Supreme Court of India, for the purpose of making an inquiry in

to mining of iron ore and manganese ore in contravention of the provision of various Statutes and the rules and regulations issued there under, in various States including the State of Odisha. In view of Justice Shah Commission report (2013), the Ministry of Environment, Forest and Climate Change (MoEF&CC) has entrusted the work to CSIR-NEERI to conduct a Carrying Capacity Study. In this context, CSIR-NEERI conducted the study encompassing collection of primary data for various environmental components (viz. air, noise, water, soil/land, biological and socio-economic aspects), collection and analysis of environmental quality data by different mines in the region, modeling for transport scenario and infrastructure need assessment, and meetings/workshops with different stakeholders. NEERI has submitted the report along with the recommendations. The Committee observed that as per the recommendations of NEERI report the State Government has to complete the SOTM within 5 years and as the EC capacity is >5 Million TPA, therefore, SOTM 1 may be applicable to this project and the Ore transport mode should be 100% by private railway siding or conveyor belt up to public railway siding or pipeline for captive mines and 70 % for non-captive mines.

Further PP informed that, in regard to NEERI recommendation, State Govt. conducted meeting on 21.06.2018 with all department official, respective district collectors towards its implementation. Recommendation with regard to new railway lines has been forwarded to the Ministry of Railway/Rail Board through Commerce & Transport Department for appropriate action. Further, one step ahead State Govt. of Odisha formulated Odisha Rail Infrastructure Development Ltd. (A JV of Govt. of Odisha & Ministry of Railways) for development of new railway lines with sidings in Joda-Barbil-Koira area, which will give benefit to all Lessees in different cluster.

PP submitted that, installation of new railway siding and conveyor belt from mine lease to nearby existing public railway siding is quite difficult being a single entity and request to grant the amendment of EC condition to allow transport the mineral from the mines through existing road network/public railway siding. Further, they will abide by the guidelines formed, as State Govt. is vigorously working towards laying new railway lines & sidings/ Conveyor belt facilities in a cluster approach.

The Committee deliberated the information submitted by PP and the Committee **deferred** the proposal. **The Committee has observed that there is no ground seems for further relaxation of transportation of mineral through the road network. The Committee is of the view that first the PP has to demonstrate what environmental and social benefits that project can bring to the local area through the activities that it wants to continue beyond 31st March, 2019. The reasons quoted for relaxation were no alignment with Directions of MoEF&CC given in 31st March 2017. Let the PP submit detailed study report in support of no damage to the environment by current practices and measures taken by the PP that it proposes to improve environmental quality for further consideration if felt by the Ministry.**

(2.21). Serangdag Bauxite Mine Block-1 with proposed production capacity of 1.2 Million TPA by M/s Mineral Exploration Corporation Ltd., located at Village-Serangdag, Tehsil-Samari, District-Surguja, Chhattisgarh (MLA-257.923ha) [(File No. J-11015/198/2014-IA.II(M); Proposal No. IA/MIN/CG/23667/2014) (Consultant: M/s Ramky Enviro Services Private Ltd.)- Consideration of Amendment in EC

The proposal of M/s Mineral Exploration Corporation Ltd. is for amendment in EC dated No. J-11015/198/2014-IA.II(M), dated 5th January, 2017. The mine lease area is located at Village-Serangdag, Tehsil-Samari, District-Surguja, Chhattisgarh in the mining lease area of 257.923ha. The latitude and longitude of the mine lease area lies between 23°20'00" N and 23°21'45" N and Longitude 83°54'00" E and 83°55'30"E. The mine area is located on Survey of India Toposheet no.64M/15.

The PP requested the following amendment in EC :-

- (i). PP wants to modify the coordinates of the mine lease area. In this context, the Committee is of the view that first State Mines and Geology Department may be requested whether the proposed modified coordinates of the Mine lease area are the same from LOI/Lease/Mining Plan or different or there is any shift of lease area from the original location of mine.
- (ii). PP wants to amend the Specific conditions no. (2), *The Mahuadanr Wildlife Sanctuary is located at 8.3 km from mine lease area. This Environmental Clearance is subject to obtaining requisite NBWL Clearance from the Standing Committee of National Board for Wildlife as applicable for this Mining Project.* The PP presented that as per the GPS coordinates of the MoEF&CC Notification S.O.3336 (E) dated 30.11.2015 the distance of the Mahuadanr Wildlife Sanctuary is 8.3 km from mine lease area. However, as per the coordinates of the MoEF&CC Notification S.O.779 (E) dated 21.02.2018, the distance is 10.85 km, so the Mahuadanr Wildlife Sanctuary is beyond 10 km from the mining lease boundary. However, the Committee observed that this is the draft notification only and not yet notified by the Ministry. Furthermore, the Principle Chief Conservator of Forests letter no.2139 dated 24.12.2018 mentioned that as per the Palamau Tiger Reserve Administration Report, *"For the revised exercise, the MECL has changed the mining lease area boundary mentioned in the EC letter dated 05.01.2017 and not given the earlier co-ordinates mentioned in this letter of the GoI"*. The letter also mentioned that, it is evident that the distance of the mining lease area is well within 10 kms of the nearest point of MWS. **The Committee also suggested that this is premature proposal for consideration of the amendment in this specific condition and returned the proposal in present form.** Therefore, the Committee is of the view that as per the EC dated 05.01.2017, the PP needs to take NBWL clearance before mining activities, However, the PP has not still obtained the NBWL clearance.

The Committee noted that the submission/reports submitted by PP/Consultant are not in proper order and not legible, even the photocopy of the pages is not made adequately. The Committee observed that uploading of

incomplete in-adequate information, not submitting the required documents, submitting the misleading facts during the appraisal of the proposal is an un-professional behavior of the consultant. The NABET Accredited Consultant are entrusted to assist the Committee in taking a decision on the various environmental issues associated with the proposal. Thus, Committee is of the view that Consultant [M/s Ramky Enviro Services Private Ltd.] should be warned for the same.

(2.22). Mineral Beneficiation of M/s Vedanta Washery& Logistic Solutions Pvt. Ltd. Located at Village-Kunkuni, Tehsil-Kharsia, District Raigarh, Chhattisgarh (1.2 MTPA Iron Ore & iron Ore fines Beneficiation unit ha)-(File No. J-11015/346/2014-IA.II (M); Proposal No. IA/CG/MIN/25101/2014) - Consideration of amendment in TOR

It is an Industry-I sector project and the project was placed before the EAC meeting (Industry-I Sector) held during 10-12 December, 2018 and 9-11 January 2019. The project proponent did not attend both the EAC meetings and the Committee recommended to return the proposal in present form. The project placed again for consideration in the current EAC meeting (Non-coal mining sector) and the PP did not attend meeting. **After detailed deliberations, the Committee observed that this is standalone beneficiation project and to be handled by EAC (Industry-I sector) and not in non-coal mining sector and therefore recommended to return the proposal in present form.**

(2.23). Pachhtardi Limestone Mine (Area- 18.03.88 ha) with Production Capacity 0.35 million TPA (ROM) by M/s Shee Digvijay Cement Co. Ltd., located at Village: Pachhtardi, Taluka: Bhanvad, District: Devbhumi Dwarka (Erstwhile Jamnagar), Gujarat (File No. J-11015/240/2016-IA.II(M); and Proposal No. IA/GJ/MIN/65781/2017)-Amendment of TOR

The proposal of M/s. Shree Digvijay Cement Company Limited is for mining of 0.35 MTPA limestone from Pachhtardi Limestone Mine in the mining lease area of 18.03.88 ha (one eight point zero three point eight eight hectare). The mine is located at Village: Pachhtardi, Taluka: Bhanvad, District: Devbhumi Dwarka (Erstwhile Jamnagar), Gujarat. The Mine lease fall between the Latitude of 21° 51' 16.39"N to 21° 51' 38.11"N and the Longitude of E 69° 40' 58.74"E to 69°41' 33.83"E.

The project was placed in the EAC meeting held during 21-22 December 2017 and prescribed the ToR and the ToR was issued by the Ministry vide letter No J-11015/240/2016-IA.II (M) dated 9th January, 2018 for mining of 0.35 MTPA limestone from Pachhtardi Limestone Mine in the mining lease area of 18.03 ha.

The project proponent requested the Ministry vide their letter no Pacdi/C/301 dated 02.05.2018 for amendment in the ToR letter. The PP requested the Ministry to correct the

total mining lease area, mining procedure and the total employment potential mentioned in the para 1 (Line 3), para 2 (Line 3), para 3 (Line 2-4 and 13) and para 5 (Line 3) of the ToR letter dated 09 January 2018.

Based on the information furnished and presentation made by the PP and discussions held, the committee **recommended the** amendment in the TOR **subject to confirmation from the State Mines and Geology w.r.t. mine lease area.** The details amendments are as below:

- (i). The total mine lease area is 18.03.88 ha (one eight point zero three point eight eight hectare).
- (ii). The mining will be done using Surface Miner with loader/Dozer-Ripper with Excavator combination or without drilling-blasting. Loading operations will be carried out by Loaders/Excavator.
- (iii). The total employment potential is 73 persons.

The meeting ended with thanks to the Chair.

Annexure-I

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 pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the unit in the pre-dominant downwind direction. The mineralogical composition of PM₁₀, particularly for free silica, should be given.
- 33) Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modeling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.
- 34) The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.
- 35) Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be secured and copy furnished.
- 36) Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.

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

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 + dX	105	129	153	177	201
<u>Next year allocation = Average of EC Capacity and Last year production</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, PM_{2.5}, 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 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.	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. 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.	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 roads from respective mine to the main road</u>	<u>Respective Mine Lease Holders</u>	<u>Continuous 6 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	Upto 45% by 2020 and upto 40% by

		/ Academic Institutes	2025
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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, OSPCB, 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.


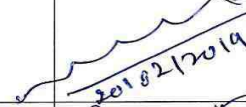


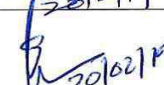

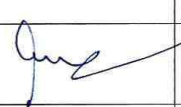
XI. Miscellaneous

- 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 MOEF&CC & 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.

ATTENDANCE SHEET FOR 2nd MEETING OF THE RECONSTITUTED EXPERT APPRAISAL COMMITTEE (NON-COAL MINING), SCHEDULED DURING 20-21 FEBRUARY, 2019

Sl. No.	Name and address	Designation	20.02.2019	21.02.2019
1.	Dr. S.R. Wate, 148/149, Nagar Vikas Society, Narendra Nagar, Nagpur-440015, Maharashtra	Chairman		
2.	Dr. Ajay Deshpande, Flat A-101, Pristine Privilege Apartments, Opposite Prism, Near Rohan Nilay, 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, SubhavanaNiketan, 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. Asha Rajvanshi, 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.	Shri Santosh 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. Mukesh Khare, Department of Civil Engineering, IIT, Delhi	Member		
12.	Representative of DGMS, Dhanbad, Jharkhand	Member		
13.	Shri Mantu Biswas, 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.	Dr. R.B. Lal, Additional Director IA-Division (Non-coal Mining sector) Vayu-305, Indira ParyavaranBhawan, Ministry of Environment, Forest&Climate Change, Jorbagh Road, New Delhi-110003	Member Secretary		
16.	Nagumudhe, Central Pollution Control Board	S.E		
17.	Sanjay Kumar Asst. Director, D.M.G., Bihar			