

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

SUMMARY RECORD OF 36th MEETING OF THE RECONSTITUTED COMMITTEE OF THE EXPERT APPRAISAL COMMITTEE FOR ENVIRONMENTAL APPRAISAL OF NON-COAL MINING PROJECTS CONSTITUTED UNDER EIA NOTIFICATION, 2006.

The 36th meeting of the Reconstituted Expert Appraisal Committee for Environmental Appraisal of Mining Projects (Non-Coal) of the Ministry of Environment, Forest and Climate Change was held during **September 28-29, 2018**. 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 35th EAC Meeting:

The Minutes of the 35th Meeting of EAC held during **August 24, 2018** 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.

Dated: September 28, 2018 [Friday]

Consideration of Proposals

(2.1). Environmental Clearance for River Rao, Aneki Hetampur Sand, Bajri & Boulder Mining Project (Area: 64.892 Ha), located near Village: Aneki Hetampur, Tehsil & District: Haridwar, Uttarakhand by M/s Garhwal Mandal Vikas Nigam Ltd. [File No. J-11015/329/2013-IA-II (M); Proposal No IA/UK/MIN/19633/2013]-Consideration of EC

The Project Proponent through their consultant vide their email dated 26.09.2018 informed Ministry that the mining lease area in question has been surrendered to the State Government by GMVN Ltd. and the Project Proponent wants to withdraw the said project from the MoEF&CC as the mining lease in the name of PP does not exist now. The Committee **accepted the request of PP** and asked the Ministry to **delete** the proposal from the portal.

(2.2). Aniali Rana Bordi Limestone mine with production capacity of 1,75,000 TPA by M/s Tata Chemicals Limited, located at Village: Aniali, Tehsil: Rananav, District: Porbandar, State: Gujarat (MLA: 12.27 ha.) (File No. J-11015/100/2018-IA-II(M))-Consideration of TOR

The proposal of M/s Tata Chemicals Limited is for the mining of 175000 TPA of limestone from in a mine lease area of 12.27 ha in Aniali Rana Bordi Limestone mine at Village: Aniali, Tehsil: Rananav, District: Porbandar, State: Gujarat. The mine lease area lies in Latitude: 21° 42' 4.5352" N Longitude: 69° 49' 31.769" E. The project has been submitted to the Ministry as it is category 'A' project as Barda Wild life Sanctuary is about 4 km in the NW direction.

The project proponent submitted that the mining lease area covering 12.27 hectares having Survey No 207/P consists of non-forest waste land. The concerned mine lease was granted in favor of M/s Tata Chemicals Ltd. by the State Industries and Mines Department, Gandhinagar, vide letter No.MCR-1565-13876-Chh, dated 02.02.2018 have informed that the State Government has decided to extend the lease period upto 31.03.2030.

The project has already been granted EC vide letter dated No J-11015/304/2012-IA.II(M) dated 27.07.2015 for the capacity of 14,000 TPA. Now the project proponent submitted that they wanted to expand their production capacity to 1,75,000 TPA. The project proponent submitted that open cast semi-mechanized mining method is proposed to be adopted to mine out the minerals. Sizing, sorting and blending will be carried out manually by raising & crushing through mechanical means. Excavation by diesel operated hydraulic excavator into tipper trucks transportation of mineral from mine site to destination through tipper trucks.

The proposal for grant of ToR was considered in the EAC meeting held during 28-29 September 2018. The committee after due deliberation noted that the EC vide letter dated No J-11015/304/2012-IA.II(M) dated 27.07.2015 was granted with a specific condition that the project proponent must obtain NBWL clearance before commencing mining activity. The committee noted that the project proponent had not obtained NBWL clearance but had mined 12.150 Tons during 2017-18 without amending the specific condition of the EC. The project proponent submitted that the final ESZ Notification of Barda Wild life Sanctuary was issued vide S.O. 1365(E) dated 28.04.2017 and that they have mined after the ESZ was declared as their mine lease area falls outside the ESZ area. The project proponent also submitted the certified map from the State Forest Department that the mine lease area falls outside the ESZ of Barda Wild life Sanctuary.

Based on the information submitted and presentation made by PP, the proposal was **recommended for Standard TOR as per Annexure-I.**

(2.3). Expansion of Captive Nimbeti Limestone Mine of M/s Shree Cement Ltd. from 25.3 to 32.8 Million TPA Limestone Production and 10.35 Million TPA Inter-burden along with increase of Crusher Capacity from [4 crushers of 1200 TPH] to [5 crusher 1200 TPH & 1 Crusher of 400 TPH] from ML Area of 750 ha, ML No. 9/93, located Near Villages Nimbeti&Jawangarh, Tehsil Jaitaran, Dist. Pali, Rajasthan. [File No J-11015/101/2018-IA-II (M); Proposal No: IA/RJ/MIN/75994/2018; Consultant: J.M. EnviroNet Pvt. Ltd]- Consideration of TOR

The proposal of M/s Shree Cement Ltd. is for Expansion of Captive Nimbeti Limestone Mine from 25.3 to 32.8 Million TPA Limestone Production and 10.35 Million TPA Inter-burden along with increase of Crusher Capacity from [4 crushers of 1200 TPH] to [5 crusher 1200 TPH & 1 Crusher of 400 TPH] from ML Area of 750 ha, ML No. 9/93, located Near Villages Nimbeti&Jawangarh, Tehsil Jaitaran, Dist. Pali, Rajasthan. The Mining Lease area is bounded between latitudes of 26⁰14'14.61" N to 26⁰16'57.49" and longitudes of 74⁰10'5.96" E to 74⁰11'9.62 E. The area is located on Survey of India Toposheet no. G43I3 & G43I4. The Project is located in Seismic Zone -II.

The Project is Category A project as the mining lease area is more than 100 Ha as per S.O. dated 14.08.2018. The Proposal also involved Mineral Beneficiation (Wobblers). Due to this PP applied in Form-1 under Schedule 1(a) - Mining of minerals activity & 2(b)-Mineral beneficiation. The information submitted by the project proponent and observation of the Committee are as follows:

The Proponent submitted that the total mining lease area of 750 ha was granted in favour of Shree Cement Limited vide the Government order no. P-3(65/Khan/Group - 1/91) dated 06.08.1996 and was effective for a period of 20 years from 14.11.1996 to 13.11.2016. The PP submitted that Mining lease period has been extended till date 13.11.2046 as per Section 8A (5) of M.M.D.R. Amendment Act, 2015. PP submitted that the Supplementary lease has been executed for 50 years having validity up to 13.11.2046 by Department of Mines & Geology, Government of Rajasthan, Jodhpur, vide letter no. ME/Sojat/Major/ML/9/1993 dated 27.11.2015.

The PP submitted that modified Mining Plan & Progressive Mine Closure Plan has been approved by Regional Controller of Mines, Indian Bureau of Mines (IBM), vide letter dated 23/03/2018. The PP submitted that mining will be carried out by fully mechanized Opencast Conventional mining method, by a combination of shovel and dumper with drilling and blasting. PP submitted that bench height and bench width will be maintained at 12 m and 30 m respectively. PP submitted that drilling will be carried out by crawler mounted DTH hammer drill machine. PP submitted that the controlled blasting will be done using ANFO and high explosives. PP submitted that loading will be done by Hydraulic Excavators and transport of mineral is will be done by dumper to crusher (located within the mining lease area). The PP submitted that there are 4 nos. of existing crusher of capacity 1200 TPH each and two additional crushers of 1200 TPH and 400 TPH crusher capacity are proposed to be installed within the mine lease area. PP submitted that after

blasting, Limestone will be transferred from face to crusher by dumpers and then crushed limestone from crusher to proposed cement plant by conveyor belt for clinker manufacture. PP submitted that total Mineable reserves are 626.90 Million Tonnes. PP submitted that the baseline study has already been conducted for Summer Season (March - May, 2018) as Baseline Study Period.

The PP submitted that there are no National Park, Wild Life Sanctuary, Biosphere Reserve, Tiger Reserve and Wildlife Corridor etc. exists within 10 km radius of study area. PP submitted that one protective forest i.e. Gopalpura Block PF and three reserve forests i.e. BabraGiri Block RF, Salarmal Block RF, Asarlai Jor Block RF and two water bodies i.e. Lilri River and Sukri River are present within 10 km radius study area of the Mining Lease Boundary. PP submitted that a Certificate showing No forest land involved within the ML area has been obtained from the Forest Department, vide S. No. / F () DCF/Survey/2012 – 13/8626 Dated: 06.12.2012. PP submitted that there was one Schedule –I Specie "Indian Peafowl." PP submitted that the conservation plan for the same has been approved by the Principal Chief Conservator of Forest and Chief Wild life Warden vide letter no. F()DEV/(CLWL)/2014/1042 dated 12.12.2014.

The PP submitted that the mine working is planned maximum 15 meter below general ground level and the water table is varying from 25 to 30 meter below the general ground level. PP submitted that the intersection of ground water level is not anticipated in the mining area in the present mining plan period. PP submitted that the ultimate depth of Pit will be 252 mRL (123 mbgl) which shows that Mining activities will intersect the ground water table and prior CGWA permission for intersection of ground water table will be obtained. PP submitted that the acknowledgement for the same has been taken from Central Ground Water Authority for workings below ground water vide letter no. 21-4 (12)/WR/CGWA/2005-1805 dated: 04.12.15. PP submitted that at the conceptual stage, total 302 Million tones waste will be generated. Out of which, total 86 Million tones of waste will be dumped (193 ha area) in the non-mineralized zone of the Mining Lease area and will be stabilized by the plantation. Remaining 216 Million tones of the waste will be partially backfilled (260 ha area) in parts of the worked out area.

PP submitted that total water requirement after Expansion in Limestone Mining project will be 650 KLD, which will be sourced from Rainwater Stored in Pit and from groundwater. PP also submitted that permission for withdrawal of ground water for 4,000 KLD for existing cement plant, mines and colony has already been granted by CGWA vide letter no. 21-4(12)/ WR/ CGWA/ 2005-616 dated 23rdMay, 2011, 21-4(12)/ WR/ CGWA/ 2005-1220 dated 12thJuly, 2013, 21-4(12-B)/ WR/ CGWA/ 2005-255 dated 11thFebruary' 2014 and renewal applications submitted on 20.1.2017.

PP submitted that the mining lease area is 750 ha and about 250 ha of the total mining lease area will be developed as green belt/Plantation to increase aesthetic beauty of the area. Out of 250 Hectares of green belt/plantation area, 193 ha will be on three nos. of external waste dumps and remaining 57 ha will be on virgin land. PP submitted that the

Life of mine would be 19 years. PP submitted that total manpower after the proposed expansion of mine will be 626 persons (6 nos. of employees of Environment Cell & Horticulture). PP submitted that the total cost of project will be Rs. 73.63 Crores. PP submitted that the Capital Cost for Environment Protection shall be Rs. 1.0 Crore/- with Recurring cost of Rs. 25 Lakhs per annum. PP submitted that the budget of CSR shall be Rs. 1.84 Cr for next 15 years.

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

- (i). The Committee observed that the efforts made by the Industry in development of green belt and afforestation is not that much encouraging. The Committee also observed that now in India there are many agencies that are developing the forest in short interval of time and Industry shall engage any of such agency for the development of the green belt and afforestation in and around the mining lease area & in Cement Plant. The Committee was of the view that PP may submit a clear plan (tabular as well as map) clearly showing the area already under green belt with latitude and longitude so that same can be verified on satellite imaginary and in field, the area proposed to be put in for green belt development and afforestation with complete details viz. area proposed under green belt/afforestation, time period for development of the same, number of trees to be planted, target for survival rate, method to be adopted for faster plantation, species to be planted, budget earmarked for the same and agency to be engaged for the same. In addition to this Committee was of the view that PP should immediately start green belt development & afforestation activities. The PP ensured the Committee that before EC presentation effective steps will be taken in this regard. The Committee is also of the view that it is important for the PP to implement the progressive mine closure activities.
- (ii). The Committee observed that the PP did not report the top soil to be generated during the mining. PP informed that there is no top-soil but it is evident from the photographs submitted in the presentation that there are agricultural fields around the mining lease area and top-soil is available. As per the KML file Committee observed that waste is dumped without removing the top soil and the Ministry may inform the observation of the Committee to the concerned authorities for taking necessary action. Thus, PP needs to submit a clarification for the same along with an undertaking to the effect that mining operation shall be carried out in a scientific manner including the conservation and proper utilization of the top soil. PP should also bring out the details plan for top-soil management.
- (iii). The PP proposed for expansion from 25.3 to 32.8 Million TPA Limestone Production and 10.35 Million TPA Inter-burden. In addition to this PP has proposed for enhancement of crushing capacity. The Committee observed that the crushing capacity is more than limestone excavation capacity. PP submitted that crushing will be more than excavation capacity as it depends on the running hours. The

Committee asked the PP to provide the material balance for throughput of the crusher but the PP was not able to explain that from where additional material will come for crushing. The Committee therefore was of the view that PP should submit the material balance and explicitly define the throughput of the crusher. In addition to this the crushed material will be sent to stacker and reclaimer but the PP did not mention about the material handling capacity of stacker and reclaimer and did not propose any change in the same, thus detailed pertaining to any plant and machinery that will undergo any change needs to be mentioned explicitly.

- (iv). PP should submit the past production details, EC details, CTE, CTO and Mining Plan details in the format provided during the meeting for examining the proposal in light of Supreme Court Order dated 2.08.2017 and Ministry's Notification S.O. 804(E) dated 14.03.2017.
- (v). The Committee observed that as per KML file mine working at some places is seems to be outside the lease boundary and thus was of the view that mining lease boundary should be authenticated by Department of Mining & Geology and based on authenticated coordinate the KML file should be submitted. PP should also submit a certificate from the Department of Mining & Geology to the effect that the mining operations (excavation & dumping) are within the mining lease area.
- (vi). The Committee observed that as per submission of the PP the mine working will intersect the ground water table and the intersection of the ground water table may affect the water regime of the area as the mining project is located in Rajasthan which is a water scarcity area. Thus, it is essential to optimize the water requirement and simultaneously steps needs to be taken for augmentation of the ground water table of the area. Thus, PP should also submit the compliance of the condition imposed by CGWA while granting permission for withdrawal of the ground water, the details of the activities proposed for enhancement of the groundwater level of the area. The PP needs to submit the scenario of ground water table for past few years so as to ascertain the increased or decreased in ground water level of the area. In addition to this PP needs to submit the year-wise target for reduction in the utilization of ground water &also for recharging of the ground water table by creating alternative source of water bodies such as rain water harvesting pits and structures.
- (vii). The Committee observed that PP submitted that at the conceptual stage, total 302 Million tones waste will be generated. Out of which, total 86 Million tones of waste will be dumped (193 ha area) in the non-mineralized zone of the Mining Lease area and will be stabilized by the plantation. Remaining 216 Million tones of the waste will be partially backfilled (260 ha area) in parts of the worked out area. The Committee was of the view that as the life of the mine is only 19 years and progressive mine closure activities needs to be initiated simultaneously. The Committee was of the view that PP should submit the year-wise details of the activities proposed for the mine closure.

(2.4). Sheopura-Kesarpura Limestone Mine of M/s Shree Cement Limited for mining of limestone with reduction in limestone production capacity from 4.0 Million TPA to 1.5 Million TPA & Inter Burden 0.65 MTPA (Total excavation of 2.15 Million TPA) [existing EC granted with capacity of 4.0 Million TPA under EIA Notification, 1994] and existing operating crushers of 800 TPH, located near Village Sheopura & Kesarpura, Tehsil Masuda, District Ajmer, Rajasthan (ML Area 856.8 ha) [File No: J-11015/102/2018-IA-II(M); Proposal No IA/RJ/MIN/75624/2018; Consultant: J.M. EnviroNet Pvt. Ltd]-Proposal appraised under the provision of Notification dated 06.04.2018 regarding

The proposal of M/s Shree Cement Limited is for reduction in production capacity of Limestone from 4.0 Million to 1.5 Million TPA, OB-Nil, IB-0.65 Million TPA (Total excavation of 2.15 Million TPA), from mining lease area 856.8 ha & ML No. 24/97 (R). The mine is located near Village Sheopura & Kesarpura, Tehsil Masuda, District Ajmer, Rajasthan. The Project Proponent submitted that mining lease area falls under Survey of India Topo-Sheet No 45 J/8, 45 J/12, 45 K/5 & 45 K/9 between Latitude: N 260 01'25.25" to N 260 05' 21.63" & Longitude: E 740 22'16.18" to E 740 25'07.60" Seismic Zone -II.

The project falls under Schedule 1(a) of mining and is a Category- "A" as the mining lease area is greater than 100 Ha. Further, PP submitted that M/s Shree Cement Ltd. has obtained EC under the EIA Notification 1994, vide Ministry's letter No. J-11015/170/2004-IA. II (M), dated 31/03/2005 for the expansion of limestone production from 2.0 to 4.0 Million TPA. PP submitted that the mine has not undergone modernization, expansion and change in mining technology. So far the limestone production not exceeded the 2.0 Million TPA along with operation of existing crusher of 800 TPH.

As per the Ministry's Notification S.O. 1530(E) dated 6.04.2018 wherein it has mentioned that "the Hon'ble Supreme Court vide judgment dated the 7th February, 2018 in Special Leave to Appeal (Civil) No. 32138 of 2015 in the matter of Goa Foundation versus M/s Sesa Sterlite Ltd., & Ors. has reiterated that the validity of the environmental clearance for mining projects granted under the EIA Notification, 1994 shall be five years" and "whereas, all mining projects mentioned in clause (b) of fourth paragraph above are required to obtain environmental clearance under the EIA Notification, 2006, in pursuance of the aforesaid judgments of the Hon'ble Supreme Court". The clause (b) of the notification is "mining projects, which were granted environmental clearance under the EIA Notification, 1994, and but not obtained environmental clearance for expansion / modernization / amendment under the EIA Notification, 2006." In the instant case the PP has obtained the EC under EIA Notification 1994 and now applied for EC for reduced capacity from 4.0 Million to 1.5 Million TPA limestone. The Total excavation proposed by the PP is 2.15 Million TPA [reduction in limestone production from 4.0 Million TPA to 1.5 Million TPA & Inter Burden 0.65 MTPA]. As per the notification the PP shall make application within six months from the date of issue of this notification in Form-1 as given in Appendix-II of the EIA Notification, 2006, for grant of environmental clearance under the provisions of the EIA Notification, 2006, and all such applications shall be considered

by the concerned Expert Appraisal Committee or the State Level Expert Appraisal Committee, as the case may be, who shall decide on the due diligence necessary including preparation of Environmental Impact Assessment Report and public consultation and the application shall be appraised accordingly for grant of environmental clearance.

The Committee noted that as per the above notification dated 06.04.2018, the Project Proponent applied for ToR on 27th August 2018 and submitted the Form-1 and Pre-Feasibility Report. The proposal is now placed in the present EAC meeting held during 28-29 September, 2018. The information submitted by the PP and observation of the Committee are as follows:

PP submitted that the initially mining lease was granted in favor of M/s Shree Digvijay Cement Company Limited, Jamnagar, Gujarat over an area of 10 Sq. km near village Sheopura & Kesarpura, Tehsil Masuda, District Ajmer vide order no P4 (69) Khan/Group-4/78 dated 12.06.1980 by Government of Rajasthan for a period of 20 years and the limestone production was started from the year 1984-85. The Proponent submitted that the mining lease was transferred to M/s. Shree Cement Ltd. Vide order no. P4 (69) Khan/Group-2/82 dated 08.06.1982. PP submitted that the lease deed was executed on 02.08.1982 and the mining operation was started at Sheopura Kesarpura Limestone on 01.09.1984. PP submitted that the first renewal of mining lease was granted vide letter no. Pa.16(9)/Khan/Group-1/2000 dated 08.02.2001 for 20 years period i.e. 28.08.1998 to 27.08.2018 over an area 8.568 Sq. kms. The lease was executed on 14.09.2001 and registered in Form-K on 19.10.2001. PP submitted that the lease was further extended up to 31/03/2030 as per section 8A of MMDR Amendment Act, 2015 by State Government vide letter dated 16.04.2015 issued by Department of Mining & Geology, Beawar, Govt. of Rajasthan.

PP submitted that the CTO under water Act, 1974 and Air Act, 1981 was obtained for Sheopura-Kesarpura Limestone Mine (Capacity-2 MTPA) vide File no. F(Mines)/Ajmer(Masauda)/1161(1)/2017-18/2761-2765 granted on 03.07.2017 and valid upto 31.03.2022. PP submitted that the CTO under the Water Act, 1974 and Air Act, 1981 was obtained for Limestone Crusher vides File no. F (Mines)/Ajmer (Masauda)/6(1)/2017-2018/9670-9672 granted on 21.08.2018 and valid up to 30.09.2022. The Proponent submitted that the mined Limestone shall be used as raw material for clinker manufacturing in Integrated Cement Plant to the tune of 3.27 Million TPA Clinker Capacity (2 Units)), for control of SO₂ emission in 300 MW TPP and 44 MW CPP and manufacturing of 1350 TPD Synthetic Gypsum unit located at village Andheri Deori, Tehsil Masuda, District Ajmer, Rajasthan.

The Proponent submitted that there is no change in method of mining. It is a fully mechanized opencast mine with wet drilling, controlled blasting, combination of Shovel & Dumper for excavation & transportation, use of Rock breaker in place of secondary blasting and Crusher (800 TPH) with water sprinkling arrangement at unloading and inside the crusher for environmental sound management practices. The Proponent submitted that there is one crusher of single stage rotary impact crusher system of capacity 800 TPH. PP submitted that the limestone is being and proposed to be

transported from mines by dumpers to the crusher and finally the crushed limestone will be sent to the cement plant by conveyor belt.

The Proponent submitted that total mineable reserves of the mine is 15.02 Million Tonnes as on 1st Sep 2017 and 6.75 Million Tonnes of waste will be generated. PP submitted that the Life of Mine shall be 10 years. PP submitted that the ultimate dumping site will be spread covering an area of 55 Hectares, with maximum height of 30 m, the maintenance of dump yard will be performed by mechanical means. Smooth surface will be maintained by dozing operations. Ramps are well dressed and safe. PP submitted that garland drain will be made at the bottom of dump yard and the same will be extended as the dumping site will be advanced. The Proponent submitted that the excavated limestone is 42.44 Million Tonnes and total waste generated from the Quarry is 26.45 million tonnes (24.84 million tonnes in waste dump & 1.61 million tonnes in backfilled area). PP submitted that there are two pits exists in the ML area in which one pit divided into two parts i.e. western pit and eastern pit. PP submitted that there are 4 OB dumps exists in the ML area. PP submitted that in conceptual stage part of worked out area of 136 Ha area, 20 ha will be back filled up to general ground level by waste material generated during mining operation. Rest part of Worked out area 116 Ha area will be left to serve as water reservoir. PP submitted that the present mining is above the ground water level. Max working depth of mining is 473 MRL. It is below the ground water table. The Mining will intersect the ground water. Post Monsoon: 490 mRL or 10 m bgl. Pre Monsoon: 488 mRL or 12 m bgl.

PP submitted that presently 59.40 ha of green belt developed with plantation of 84500 saplings in the Mining lease area with maintaining 80 % Survival rate. PP submitted that the total green belt area will be 283 ha i.e. 55 ha on OB dumps and 20 ha on Back filling area+ 208 ha on virgin area. 80% survival rate will be maintained. Local plant species i.e. Ker, Babool, Ber and Neem, will be planted. Total power requirement of 7308 KW/day is being sourced from Captive Power Plant. PP submitted that total water requirement will be 150 KLD which will be sourced from Rain water collected in Mine pits. 140 KLD is being used for dust suppression, 2 KLD for Drinking & Utility and 8 KLD for HEMM Washing. HEMM washing water (5 KLD) is being used for spray in crusher after removal of oil and grease contents. PP submitted that waste water is being discharged from office utilities (1KLD) which is being disposed in Soak Pit via Septic Tank. PP submitted that the area represents an undulating topography with small mounds & hillocks followed by a prominent chain of hills extending in North East – South West direction. The general surface level of the area is 500 mRL.

PP submitted that there is no forest land within mine lease area. No National Park, Biosphere Reserve, Wild Life Sanctuary falls within 10 km radius the study area. PP submitted that one Reserved Forests and 5 Protected Forests present in study area of 10 km radius. The mine lease area fall near to NH 8 km (~ 6 Km in SE direction) and State Highway (0.5 Km in N direction); it thus has excellent road connectivity.

PP submitted that the capital cost of the mine at the present operating capacity is Rs. 34.49 Crores. Cost of Environmental Protection Measures is Rs. 270 lakhs and recurring cost is Rs. 25 Lakhs. PP submitted that total manpower shall be 26 which includes 01 Mine manager, 03 assistant manager/ Mining Engineer, 01 assistant manager (Blasting), 03 mines engineer/mines foreman, 02 geologist, 01 mine surveyor, 01 engineer in charge, 03 mechanical engineer, 01 electrical engineer, 10 HEMM operators, 01 environmental engineer/scientist, 01 horticulture, 01 occupational health and safety.

Based on the documents submitted, presentation made and discussion held the Committee has **following observations** regarding shortcoming and submission of the requisite information for **appraisal for grant of EC under the EIA Notification, 2006:-**

- (i). The Committee observed that the efforts made by the Industry in development of green belt and afforestation is not that much encouraging. The Committee also observed that now in India there are many agencies that are developing the forest in short interval of time and Industry shall engage any of such agency for the development of the green belt and afforestation in and around the mining lease area & in Cement Plant. The Committee was of the view that PP may submit a clear plan (tabular as well as map) clearly showing the area already under green belt with latitude and longitude so that same can be verified on satellite imagery and in field, the area proposed to be put in for green belt development and afforestation with complete details viz. area proposed under green belt/afforestation, time period for development of the same, number of trees to be planted, target for survival rate, method to be adopted for faster plantation, species to be planted, budget earmarked for the same and agency to be engaged for the same. In addition to this Committee was of the view that PP should immediately start green belt development & afforestation activities. The PP ensured the Committee that before EC presentation effective steps will be taken in this regard. The Committee is of the view that PP should implement the progressive mine closure activities.
- (ii). The Committee observed that PP has submitted that the excavated limestone is 42.44 Million Tonnes and total waste generated from the Quarry is 26.45 million tonnes (24.84 million tonnes in waste dump & 1.61 million tonnes in backfilled area). The Committee was of the view that as the life of the mine is only 10 years and progressive mine closure activities needs to be initiated simultaneously. The Committee was of the view that PP should submit the year-wise details of the activities proposed for the mine closure.
- (iii). The PP submitted that there are 4 OB dumps exists in the ML area but in the proposal only excavation of inter-burden is proposed. This shows that the entire overburden has already been removed and now only inter burden is available in the mine. The Committee was of the view that PP should submit the details of the dumps viz. area, height, active dump , inactive dump, location of the dump (coordinates), dump proposed for the next 10 years, amount of material proposed to

be dumped in each dump yard in next 10 years, planning for stabilization of the dumps and its timelines. In addition to this in the proposal the top soil quantity is not mentioned but it has observed that there are many agricultural fields in the mining lease area. Thus, PP is required to submit the details of top-soil and its management. It has observed that dump has be developed without removing the top soil and PP needs to submit a clarification for the same along with an undertaking to the effect that mining operation shall be carried out in a scientific manner including the conservation and proper utilization of the top soil. The mining plan that will be submitted for the EC should address the quantum of generation of top soil and its management.

- (iv). The Committee observed that as per KML file mine working at some places is seems to be outside the lease boundary and thus was of the view that mining lease boundary should be authenticated by Department of Mining & Geology and based on authenticated coordinate the KML file should be submitted. PP should also submit a certificate from the Department of Mining & Geology to the effect that the mining operations (excavation & dumping) are within the mining lease area.
- (v). The Committee observed that as per submission of the PP the mine working will intersect the ground water table and the intersection of the ground water table may affect the water regime of the area as the mining project is located in Rajasthan which is a water scarcity area. Thus, it is essential to optimize the water requirement and simultaneously steps needs to be taken for augmentation of the ground water table of the area. Thus, PP should submit whether the permission of CGWA has been obtained for withdrawal of ground water or not. PP should submit the details of the activities proposed for enhancement of the groundwater level of the area. The PP needs to submit the scenario of ground water table for past few years so as to ascertain the increased or decreased in ground water level of the area. In addition to this PP needs to submit the year-wise target for reduction in the utilization of ground water &also for recharging of the ground water table by creating alternative source of water bodies such as rain water harvesting pits and structures.
- (vi). The PP is also required to submit the other details as per format provided during the meeting for examining the proposal in light of Supreme Court Order dated 02.08.2017 and Ministry's Notification S.O. 804(E), dated 14.03.2017.
- (vii). The PP has proposed to install crusher thus complete flow chart and material balance needs to be submitted.

The Committee observed that as reported by the PP the public hearing was conducted on 28-05-2003 for expansion of limestone production from 2.0 to 4.0 Million TPA. As the concerns of the general public have already been obtained for the higher capacity the same is not required for reduction of production capacity. But as the baseline data is more than 3 years old PP needs to collect the fresh data and prepare EIA/EMP report. The Report inter-

alia shall include the standard conditions of TOR and other above mentioned information. The mine plan/scheme should be prepared in-line with observation of the Committee as mentioned above. Further in the EIA/EMP report the concerns of the general public as per previous PH needs to be mentioned along with compliance of the commitment made during the PH held on 28-05-2003.

The Committee observed that there is no separate window for proposal which has already obtained EC under EIA Notification 1994 and applied now as per Notification dated 06.04.2018. Further as per this notification dated 06.04.2018, the PP shall make an application within six months from the date of issue of this notification **in Form-1** as given in Appendix-II of the EIA Notification, 2006, for grant of environmental clearance under the provisions of the EIA Notification, 2006, and all such applications shall be considered by the concerned Expert Appraisal Committee or the State Level Expert Appraisal Committee, as the case may be, who shall decide on the due diligence necessary including preparation of Environmental Impact Assessment Report and public consultation and the application shall be appraised accordingly for grant of environmental clearance. In the instant case the Committee is of the view that as reported by the PP the public hearing has already been conducted on 28-05-2003 for expansion of limestone production from 2.0 to 4.0 Million TPA and the concerns of the general public have already been considered for the higher capacity i.e. 4.0 million TPA and the same is not required for reduction in the production capacity i.e. from 4.0 million TPA to 1.5 million TPA.

The Committee therefore **recommended the proposal for applying in EC portal** with EIA/EMP Report with fresh baseline data as the data previously collected is more than 3 years old. The Committee is of the view that as reported by the PP the public hearing has already been conducted on 28-05-2003 for expansion of limestone production from 2.0 to 4.0 Million TPA and the concerns of the general public have already been considered for the higher capacity i.e. 4.0 million TPA and the same is not required for reduction in the production capacity i.e. from 4.0 million TPA to 1.5 million TPA. The EIA/EMP Report should inter-alia include the standard conditions of TOR and other information as mentioned above. The mine plan/scheme should be prepared in-line with observation of the Committee.

(2.5).Nuagaon Iron ore mine of M/s Kamaljeet Singh Ahluwalia for Expansion of iron ore production from 5.62 Million TPA to 7.99 Million TPA (ROM), along with existing 2.0 Million TPA Beneficiation Plant and Crusher and Screen plants, located in the village(s) of Nuagaon, Guali, Topadihi, Barapada and Katasahi, Tehsil-Barbil, Keonjhar District, Odisha (MLA 767.284Ha)-(F. No. J-11015/103/2018-IA-II (M); Proposal No. IA/OR/MIN/75586/2018) (Consultant: Creative Engineers & Consultants)-Consideration of TOR

The Proposal of M/s Kamaljeet Singh Ahluwalia is for Expansion of Nuagaon iron ore production capacity from 5.62 Million TPA to 7.99 Million TPA (ROM), along with existing 2.0 Million TPA Beneficiation Plant and Crusher & Screen plants, located in the village(s) Nuagaon, Guali, Topadihi, Barapada and Katasahi, Tehsil-Barbil, Keonjhar District, Odisha

in the MLA 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.

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.

Project Proponent submitted that the Ministry has granted the environmental clearance vide letter No. J-11015/1156/2007-IA.II (M), dated 02.02.2010 for annual production capacity of 5.62 million tons per annum of iron ore involving the mine lease area of 767.284 ha. The Ministry has further amended the EC vide letter no. J-11015/1156/2007-IA.II (M), dated 31.03.2017 w.r.t. permission of two years for completing the installation of conveyor belts in the Nuagaon iron ore mining project. The Ministry has also directed to State Government of Odisha for taking action against the PP under section 19 of E (P) Act, 1986. In this context, Govt. of Odisha, vide letter No. 24541, dated 28.11.2017 asked Collector Cum District Magistrate Keonjhar to take credible action taken under section 19 of E (P) Act 1986. The Collector Cum District Magistrate Keonjhar given its reply with proceeding vide its letter no. 81/Judl, dated 10.01.2018. The State Govt. has submitted the action taken report to Ministry vide letter no. 2267 dated 30.01.2018. 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.

Project Proponent reported that there are no ecologically sensitive features like National Parks, Biospheres, Sanctuaries, etc. within 10 km radius of the mine lease area. In the 10 km buffer zone, water bodies namely Karo Nadi – adjacent – NW, Kalmang Nala-0.3Km (SE), Suna Nadi - 0.5Km (SE), Teherei Nala-4.5Km (S), Suna Nala-0.5Km (SE), Samij Nala-5.7Km (W), Korai Nala-5.2Km (SW), Kakarpani Nala – 2.9Km(SE), Kunduru Nala – 3.7km (NE) are located from the lease area. Topadihi Nala passes adjacent to the North Eastern boundary of the lease area. Forests like Mendhamaruni R.F- 1.8Km (SSW), Sidhhamath R.F-1.3Km(E), Lakhraghat R.F-0.6Km(N), Uliburu R.F-1.5Km(N), Karo R.F 0.6Km(W), Kathamala R.F-5.3Km(SW), Bhabaniparah R.F-8.3Km(SE), Baitarani R.F-4.7Km(E) and Karampada R.F-4.3Km(NW) are located in the buffer zone. KaroKarampada Elephant corridor is located at a distance of 12.5km from lease area in NW direction. The PP presented the KML file during the presentation to indicate the location of mine lease on Google Earth/ DSS. The Committee deliberated the same.

Project Proponent submitted that the area is characterized by hilly as well as flat ground having elevation from 520 m to 702m above M.S.L. Exploration has already been carried out by drilling in the form of 215 no's of bore hole from 1999 onwards. A total of 12878.60 Meterage of drilling has been undertaken to assess the resource/reserve. The bore holes of 2012-13 to 2017-18 have been taken into consideration for the resource estimation. Total mineable reserve of iron ore under all the categories (proved and Probable) within the area has been worked and it is estimated that 346.998 Million Tonne having +45 % Fe grade available as on 01.01.2018 as per present exploration data. Total waste generation will be 22.753 Million M³. Presently Open cast fully mechanized mining method with drilling, blasting with shovel dumper combination is adopted and the same will be continued after expansion also. Presently there are 4 waste dumps and 29 subgrade dumps within the lease area. Both lateral and depth ward development in the pit and dump re-handling has been proposed to be undertaken to achieve the targeted production. The working pits in all these quarries have been proposed to be developed with a bench height of 10m in Barpada block and in other block the height of the benches will be kept at 6m.

PP submitted that the Out of 22.753 Mm³ of waste to be generated totally, 0.098 Mm³ is to be utilized as minor mineral, 4.712Mm³ for the internal haul road maintenance, 1.716 Mm³ is to be dumped at the at the earmarked dump sites and 16.227 M.cum will be utilized for backfilling & reclamation of mined out land. Waste to be generate from the beneficiation plant is proposed to be dumped at waste dump in the plan period and in the conceptual period will be used for backfilling. At the end of life of mine, 654.936 Ha of lease area will be developed with plantation and the remaining area of 112.348 Ha will be left for public use. Part of the generated sub grade ore / mineral rejects will be blended directly; part will be up graded in the existing 2.0 MTPA beneficiation plant. Mineral rejects has been proposed to be stacked temporarily for future use. The life of the iron ore mine is estimated to be 44 years. PP submitted that the water requirement for the mines is mainly for green belt, dust suppression, domestic purpose & in beneficiation plant for make-up purpose. The total water requirement will be 1225 KLD. The water requirement is met from bore well. Ground water permission has already been obtained from CGWB. The total man power is 709 persons comprising 116 persons on direct basis and 593 on contract basis. Total project cost is Rs. 50 Crores.

Project Proponent reported that the mine is in operation with due compliance of the Hon'ble Supreme Court Order dated 02.08.2017 in W.P.(C) No-114/2014. The details are as follows:

Sl. No.	Issues	PP' submission
1	Details of demand if any raised by Dept. of Mining and Geology, Govt.	In pursuance of the Supreme Court order dated 02.08.2017 in CWP no. 114/2014, the DDM, Joda Dept. of Mining and Geology, Govt. of Odisha has raised the demand notice of Rs. 1072,60,31,101/- (Rupees one thousand seventy two crores sixty lakhs thirty one thousand one hundred one

	of Odisha.	only) vide no. 6112, dated 13.12.2017 towards environmental clearance. Besides, in pursuance of the Supreme Court order dated 02.08.2017 in CWP no. 114/2014, the DDM, Joda Dept. of Mining and Geology, Govt. of Odisha has raised the demand notice of Rs. 2,33,57,557/- (Rupees Two crore thirty three lakhs Fifty seven thousand five hundred fifty seven only) vide no. 5136 dated 23.10.2017 towards forest matter.
2	Details of payment, if any made to Dept. of Mines and Geology, Govt. of Odisha	The Project Proponent has deposited Rs. 1072,60,31,101/ (Rupees one thousand seventy two crores sixty lakhs thirty one thousand one hundred one only) vide treasury e-challans no. 27DDFEAF11, dated 28.12.2017 (for Rs.60,31,101/-), no. 27DE0DFEA9, dated 29.12.2017 (for Rs.172,00,00,000/-), no. 27DE0E0EEC, dated 29.12.2017 (for Rs.500,00,00,000/), and no. 27DE0E0ECB, dated 29.12.2017 (for Rs.400,00,00,000/-). The project proponent has also deposited Rs. 2,33,57,557/- (Rupees Two crore thirty three lakhs Fifty seven thousand five hundred fifty seven only vide treasury e-challan no. 27DEID4A02 dated 30.12.2017.
3	Validity of mine lease	The Government has executed the Supplementary Lease Deed on 8 th May, 2015 which is valid up to 31.03.2020.
4	Status of Mine whether working or not	The mine is in operation with due compliance of the Hon'ble Supreme Court Order.
5	Details of the past production of mines since its inception, duly authenticated by Dept. of Mines and Geology, Govt. of Odisha.	The details of the past production figure from 1990-91 to 2017-18 is duly authenticated by the DDM, Joda Circle, District Keonjhar, has been submitted by the PP. The Committee noted that as per the Certificate provided by the Govt. of Odisha dated 31.07.2018, the PP has not enhanced the production capacity after grant of EC on 02.02.2010 and mined out the mineral within the EC capacity of 5.62 million TPA of Iron Ore. The Committee also noted that the PP has made the production of 56,02,000 TPA in 2017-18 (i.e. about 99.67 % in last financial year). The PP has submitted an affidavit dated 07.09.2018 in compliance of Ministry's OM dated 30.05.2018 in respect of the order of Hon'ble of Supreme Court dated 02.8.2017.

It is informed to the Committee 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), Minutes of EAC meeting held during September 28-29, 2018

the Ministry of Environment, Forest and Climate Change (MoEF&CC) has entrusted the work to CSIR-NEERI to conduct a Carrying Capacity Study with an objective to develop (i) a sustainable development plan for mining activities in the impact area of about 1000 sq.km. in the State of Odisha and (ii) an environmental management plan for current as well as future developmental scenario.

CSIR-NEERI has 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 (like Department of Steel & Mines, Directorate of Mines, IBM-HQ & Regional Office, SPCB, GSI, MoEF&CC, State Forest Dept. etc. as well as senior executives from respective mines). NEERI has submitted the report along with the recommendations. **The Committee deliberated the recommendations and is of the view that the recommendation of CSIR-NEERI report on carrying capacity study may be included in the TOR condition w.r.t. mining proposal of Iron Ore and/or manganese in the State of Odisha.**

Based on the information submitted and presentation made by PP, the proposal was **recommended for Standard TOR for mining.** Further, the TOR may have the specific conditions as recommended by CSIR-NEERI on carrying capacity study as per **Annexure III.** PP shall also submit the details of final mine closure plan in the EIA/EMP Report.

(2.6). Proposed Limestone Mine of M/s UltraTech Cement Ltd. with Production Capacity of 1.5 million TPA (ROM) from Bela Cement Limestone Mine -01, located at Villages Devra, Tehsil-Rampur Baghelan, and Village-Kothar Tehsil-Amarpatan, District-Satna, Madhya Pradesh (Area: 415.097 Ha) - (File No. J-11015/4/2018-IA-II(M); Proposal No. IA/MP/MIN/71986/2017)- Re-consideration of ToR

The proposal of the M/s UltraTech Cement Ltd. is for limestone production of 1.5 million TPA (ROM) from Bela Cement Limestone Mine -01, located at Villages Devra, Tehsil-Rampur Baghelan, and Village-Kothar, Tehsil-Amarpatan, District-Satna, Madhya Pradesh. The mining lease comes under Survey of India Topo-Sheet No. 63 H/2 and falls between Latitude: 24° 29'55" N to 24° 31' 33" N and Longitude: -81° 07'52" E to 81° 09' 26" E. The mining lease falls in seismic Zone -II as per IS: 1893 (Part-I): 2002

The proposal was earlier considered in the EAC Meeting held during 18-19th January, 2018 wherein the Committee deferred the proposal as the PP did not attend the meeting. The proposal is re-considered in EAC Meeting held during 22-23rd March, 2018. The KML file was analyzed on Google Earth. The Committee observed that there are habitations inside the mining lease area, there are agricultural lands in the mining lease area and there is a road passing through the mining lease area. The Committee asked the proponent to provide the number of project affected families (PAFs) in the mining lease area. As the information pertaining to (PAFs) is not available with the PP the Committee **deferred** the proposal and was of the view that project may be considered only after

submission of the following, (i) Number of villages in the mining lease area, (ii) Details pertaining to Project Affected Families viz. number of families, number of household within ML, number persons having land within ML area, cropping pattern, source of livelihood, average annual income of PAFs etc. and (ii) Letter from DMG to the effect that no mining has been carried out by the PP in this area.

In this context, the PP had submitted information on 31.05.2018 and accordingly the proposal is re-considered by the EAC in this meeting. PP has presented the point wise reply and the gist is as follows:

- I. Project proponent reported that total mining lease area is 415.097ha. The area falls in two revenue villages viz. Devra and Kothar.
- II. Project Proponent reported that pertaining to Project Affected Families viz., number of families, number of household within ML, number of persons having land within ML area are shown in the following table:

S. No.	Name of the Villages	Total Number of Project Affected families	No. of families having land within ML	No. of household within M.L. area.	Land + Homestead
1	Devra	285	239	25	21
2	Kothar	167	156	7	4
Total		452	395	32	25

III. PP also reported that the number of affected families having only homesteads in Village Devrais 25 and in village Kothar is 7. Apart from this one Government Primary School falls in Village Kothar (Khasra No. 130/2-Government Land) with total 235 numbers of students including girls and boys .

IV. PP has submitted the letter from Office of Collector (Department of mines), District-Satna, vide no 1685/Mineral/2018, dated 11.06.2018 which inter-alia mentioned that during inspection of Aaraji Kha no. 31,32,33,34,35 of Village kothar of Tehsil – Amarapatan, a old excavated pit was found which was collated with Official Records. After Collation, it was observed that as per the Provisions of Rule 68 (1) of Major Mineral Rule 1996 M.P., Temporary Permit for Limestone in total area of 1.610 ha of Aaraji Kha no. 31,32,33,34,35 of village Kothar was granted in favour of M/s. Dilip Buildcon Limited Company vide Official letter no. 502/Mineral/2013 Satna dated 08.03.2013. After issuance of temporary permit, an objection was submitted by M/s. Jai Prakash Associates Limited, cement division, J P, Rewa Plant, Rewa. In objection, it is written that Prospecting Licence was issued to the above Company for total area of 415.460 ha in Village Kothar of Tehsil- Amarapatan for area of 184.565 ha and in Village Kothar of Tehsil Amarapatan for area of 184.565 ha and in Village Devra of

Tehsil Rampur - Baghelaun in District - Satna vide Order no. F-2-4/2008/12/1 Bhopal dated 25.11.2009 of Mineral Resources Department, Government of M.P., Bhopal wherein above granted temporary Permit of Aaraji Kha no. 31,32,33,34,35 is included. After inspection, Objection was found correct and work was stopped by cancelling granted temporary Permit vide Official Letter no. 952/Mineral/2013 Satna dated 27.05.2013. **Mining operation has been carried out by M/s. Dilip Buildcon Limited Company in the above Area. Excavation operation has not been carried out by M/s. UltraTech Cement Limited.**

After detailed deliberations, the Committee is of the view that the no of PAF's are 452 which are very high in number and also agricultural lands in involved; **Therefore, the EAC recommended for a site visit by a sub-committee comprising Dr. Hemant S. Sahasrabuddhe (EAC Member), Dr. Tushar Kant Joshi (EAC Member), and Prof. A. K. Bhatnagar (EAC Member). Dr. Ramesh RA (E) may assist the sub-Committee. The sub-Committee may give the report on present status of environmental conditions and PAF's in the area, and after getting the site visit report on the above observation,** the EAC may further reconsider this project. Accordingly, the proposal has been **deferred** and shall be taken up in the subsequent EAC meeting.

The sub-committee comprising of Dr. Tushar Kant Joshi (EAC Member), and Prof. A. K. Bhatnagar (EAC Member), and Dr. Ramesh RA (E), MoEF&CC has conducted the site visit on 20-21 August, 2018. The Sub-Committee submitted the site visit Report and presented before the EAC in its meeting held during on 28-29 September, 2018.

Observation of the Sub-Committee

The Sub-Committee visited both the villages, namely Kothar and Devra which are located in the Mine lease area and interacted with large number of local people, mostly farmers whose land is involved in the mining lease area. As per their information Kothar village has 50 families and Devra village has 250 families. Most of them are farmers owning the land of 3-5 acres. There are scattered trees and ponds in and around the ML and presently the farmers are harvesting paddy, jowar, and urad. The farmers said that they can harvest a good crop in the kharif season, but in the rabi season only some farmers can cultivate wheat or channa because of water scarcity. There is no forest land involved in the ML Area and there are no wildlife sanctuaries nearby.

The Committee interacted with the local farmers and discussed about the Land and households which are located in the MLA. Among them seven farmers clearly indicated that if they are offered a good price they will sell their land and shift elsewhere. They said having land for farming or housing in some nearby area will not be difficult if they had the money. The farmers complained about the four crushers operating in the area, using blasting and emitting lot of dust, causing a seaviour health hazard. Some of the houses have even developed cracks due to blasting. These crushers are running illegally to produce gravel, which they sell in the market. The village people had complained about these crushers to SDM but no action has been taken. One of the crushers belongs to the

Sarpanch among all. M/s Ultratech officials said that these crushers have been operating since the time of previous owners of i.e. Jaiprakash Associates Limited and are difficult to remove. At Devra village, the larger of the two villages in ML area, the Sub-Committee interacted with some people who said that they were willing to sell their land and shift elsewhere if offered a good price. One person, a retired police staff, however said that he will not like to sell his land. The farmers indicated that due to water scarcity only one good crop can be produced in a year, but some farmers cultivate wheat and gram in winter rabi season though the yield is poor. Formers in devra also complained of the four illegal crushers in the area which caused problem due to noise and dust.

Following the site visit, the Sub-Committee **recommended** that the PP may be granted the TOR with the following additional conditions.

1. In addition to the payment of mutually agreed negotiated price for Agricultural land and Houses (As per the Case), the proponent should make provisions in the EC report for some counseling and help to the affected persons for buying land outside the mine lease Area.
2. The crushers operating illegally in the ara should be removed with the help of local administration, so that it is explicit that the people are ready to leave because of the compensation price offered and not because of the nuisance created by the crushers.
3. The existing mining lease area of the company does not show any green belt but some afforestation with Sheesham (Dalbergia sisoo) was seen. The EC report should give clear separate Green Belt and Afforestation plans with adequate budget provisions. Fruit bearing, medicinal, fodder and ever green tree species native to the area should be planted.
4. As a part of CSR the PP may propose setting up of a school. The farmers indicated that animal husbandry has good scope in the area, as milk fetches a good price.
5. The sub-Committee was approached by an old person who sold his 6 acres of land to JP (Previous Owner) in 1984 and 2008 for RS 2 crores. However, today he is pauper. It is suggested that PP should propose organizing some counselling sessions with the help of public sector banks/ experts so that the land sellers can manage the amount received for having alternative land and houses and save any remaining amount for short-term and long term for better livelihood and welfare.

The EAC deliberated the report of the sub-committee and the proposal was **recommended** for **Standard TOR** as per **Annexure –I** with the following additional conditions:-

- I. M/s UltraTech should file the FIR on the crushers operating illegally in the area and also should take security precautions to restrict the not to take material from the inside the Mine lease area.

- II. In addition to the payment of mutually agreed negotiated price for Agricultural land and Houses (As per the Case), the proponent should make provisions in the EIA/EMP report for some counselling and help to the affected persons for buying land outside the mine lease Area.
- III. The crushers operating illegally in the area should be removed with the help of local administration, so that it is explicit that the people are ready to leave because of the compensation price offered and not because of the nuisance created by the crushers.
- IV. The existing mining lease area of the company does not show any green belt but some afforestation with Sheesham (*Dalbergia sisoo*) was seen. The EIA/EMP report should give clear separate Green Belt and Afforestation plans with adequate budget provisions. Fruit bearing, medicinal, fodder and ever green tree species native to the area should be planted.
- V. As a part of CSR the PP may propose setting up of a school. The farmers indicated that animal husbandry has good scope in the area, as milk fetches a good price.
- VI. The sub-Committee was approached by an old person who sold his 6 acres of land to JP (Previous Owner) in 1984 and 2008 for RS 2 crores. However, today he is pauper. It is suggested that PP should propose organizing some counselling sessions with the help of public sector banks/ experts so that the land sellers can manage the amount received for having alternative land and houses and save any remaining amount for short-term and long term for better livelihood and welfare.

(2.7). Amendment in EC for incorporation of existing captive crushers (850 TPA, 1600 & 1800 TPA) installed on Aditya Limestone Mine (ML No. 24/92, Area 760.692 ha), located at Tehsil: Chittorgarh & Nimbehera, District: Chittorgarh, Rajasthan by M/s Ultra Tech Cement Ltd. [File No: J- 11015/229/ 2010-IA.II (M); Proposal No.: IA/RJ/MIN/60547/2012; Consultant: J.M. EnviroNet Pvt. Ltd]-Amendment in EC

The Proposal of M/s Ultra Tech Cement Ltd. is for inclusion of the existing crushers (850 TPH, 1600 TPH and 1800 TPH) in the Environmental Clearance granted vide Ministry's Lr No. J-11015/229/2010-IA.II (M) dated 30.11.2012 for production of 10 Million TPA of limestone from Aditya Limestone Mine (ML No. 24/92, Area 760.692 ha) located at Tehsil: Chittorgarh & Nimbehera, District: Chittorgarh, Rajasthan.

The Committee observed that all three crushers were not mentioned in the EIA/EMP Report previously submitted for grant of EC. Thus, the Committee was of the view that PP should submit an **addendum study** which clearly brings out the pollution load due to the crushers and its mitigation measures. In addition to this PP should submit the details pertaining to past production (authenticated by DMG), CTE, CTO and mining plan as per Minutes of EAC meeting held during September 28-29, 2018

the format provided during the meeting. The information that will be submitted in the format should be supported by the relevant documents. The Committee therefore **deferred** the proposal.

(2.8). Amendment in EC granted for Sandstone Mine (MLA: 238.795ha.) with the production capacity from 27,000TPA to 60,000TPA , located near village Bahadurpur District karauli, Rajasthan of M/s Thekedar Ravinder Bhardwaj [File No: J-11015/763/2007-I. A. II (M); Proposal No: IA/RJ/MIN/9506/2007] –Amendment in EC

The Proposal is for amendment in EC for addition of the use of machinery (JCB) for removal of overburden and for change in name from M/s Thekedar Ravinder Bhardwaj to Ms. Mamtesh Bhardwaj. The mine is located near village Bahadurpur, District karauli, Rajasthan.

The Committee observed that in the documents previously submitted at the time of grant of EC by the Project Proponent, there was a mention of use of JCB for removal of overburden occasionally. Thus, the Committee was of the view that the same can be inserted in the EC. Further, the Committee observed that documents previously submitted viz. Form-1, EIA/EMP report, mining lease were in the name of Ms. Mamtesh Bhardwaj but the EC was issued in the name of M/s Thekedar Ravinder Bhardwaj. The Committee observed that in the EIA Report the applicant name was mentioned as Mamtesh Bhardwaj (M/s Thekedar Ravindra Bhardwaj). The Committee also observes that initially the mining lease was in the name of Shri Thekedar Ravindra Bhardwaj and subsequent to his demise the same was transferred in the name of his wife Ms. Mamtesh Bhardwaj. It appears that as the company name (M/s Thekedar Ravindra Bhardwaj) was used during the process of EC the name on the EC was also mentioned as M/s Thekedar Ravindra Bhardwaj. The Project Proponent now wants to change the name in EC from M/s Thekedar Ravindra Bhardwaj to Ms. Mamtesh Bhardwaj. The Committee was of the view that at the time of grant of EC the applicant was Ms. Mamtesh Bhardwaj and legal ownership of the mining lease was also with Ms. Mamtesh Bhardwaj thus it is not a case of transfer of EC rather it is amendment in the name in the EC letter which was inadvertently mentioned as M/s Thekedar Ravindra Bhardwaj. The Committee therefore **recommended** the proposal for change of name and addition of JCB for removal of overburden in the EC previously granted vide letter no. J-11015/763/2007-IA II (M) dated 04.05.2012 **subject to examine** of the proposal in light of Supreme Court Order dated 02.08.2017.

(2.9). Extension of the validity period of the ToR for Baidyanathpur, Mangratoli & Kusumtoli Dolomite Mines of M/s Radha Raman Minerals, located at Sundargarh District, Odisha (F.No. J-11015/376/2010-IA-II(M)-Re-Consideration of extension of validity of TOR

The proposal of M/s Radha Raman Minerals is for Extension of the validity period of the ToR for one year Baidyanathpur, Mangratoli & Kusumtoli Dolomite Mines. The ToR was issued by MoEF& CC, vide letter no. J-11015/46/2015-IA-II(M) dated 05.03.2015 and the validity of ToR was upto 05.03.2018.

PP reported that the Department of Steel & Mines, Govt. of Odisha has issued an order for lapsation of the lease on 30.09.2015. Against this order PP has filed a revision application before the Revisional Authority, Ministry of Mines. The revisionary authority of the Ministry of mines, in their final order no. 28/2017 dated 20.01.2017 has set aside the lapsation order of the State Government and remanded back; due to these issues the preparation of EIA/EMP report has been delayed. The PP reported that this is a case of violation as the mine was operated from September-November 2010 without obtaining prior EC. The prosecution report has been filed in the Court of SDJM vide case no. 223/2014 dated 13.10.2014.

The proposal was placed in 33rd EAC meeting held during June 21-22, 2018 wherein the Committee **deferred** the proposal and is of the view that PP first need to submit the **detailed updated status of court cases, and validity of mine lease from the State Govt. of Odisha**. The Committee noted that PP has not submitted the documents/information w.r.t. compliance of agenda details which inter-alia are as below:

- (i) Compliance of order dated 2.8.2017 in CWP No. 114/2014 of Hon'ble Supreme Court
- (ii) Details of demand if any raised by Department of Mining and Geology
- (iii) Details of payment, if any made to Department of Mines & Geology
- (iv) Validity of mine lease
- (v) Status of mine whether working or not
- (vi) Details of past production of mine since its inception, duly authenticated by Department of Mines & Geology.
- (vii) Copy of affidavit needs to be submitted by PP in compliance of the Ministry's OM no. 3-50/2017-IA.III (Pt.), dated 30th May 2018.

Based on the information submitted by the PP, the proposal was placed in this meeting wherein the **Committee observed that the validity of mine is still not clear and suggested that first Ministry of Mines and State Govt. of Odisha may be requested for validity and veracity of mine lease before further consideration of the proposal.**

(2.10). Mining of 38,60,000 TPA of Sand from "Nagla Rangran Block/ YNR B 14 project by M/s Tirupati Earth & Project Works Pvt. Ltd., having mine lease area 89.48 ha located at Village –Nagla Rangran, Taluka – Radaur, District – Yamuna Nagar, Haryana [File No. J-11015/76/2017-IA-II (M); Proposal No. IA/HR/MIN/66798/2017; Consultant: Enkay Enviro Services Pvt. Ltd.]-EC Regarding

The proposal is for production of 38, 60,000 TPA of Sand from mining lease area of 89.48 Ha, located in Village –Nagla Rangran, Taluka – Radaur, District – Yamuna Naga, Haryana by M/s Tirupati Earth & Project Works Pvt. Ltd. The mine area is a part of the Survey of India Topo sheet No 53G/ 1 bounded by Latitudes of 29°58'10"N to 29°59'24"N and Longitudes of 77°13'32"E to 77°14'19"E.

Being a Category 'A' Project as per S.O. 141(E) dated 15.01.2016 the PP vide proposal No IA/HR/MIN/66798/2017 applied online for grant of ToR on July 18, 2018 and submitted Form-1 and Pre-Feasibility Report. The proposal was considered in EAC meeting held on August 29-30th 2017 wherein the Committee recommended for grant of ToR. The ToR was issued by the Ministry, vide Lr. No. J-11015/76/2017-IA-II (M) dated 14.09.2017. PP then applied for grant of EC on 13.04.2018 and submitted the EIA report after conducting the Public Hearing and the same was retuned in the present form as recommended by the EAC in its meeting held during May 14-15, 2018 as all the ToR points were not complied with, approved modified mining plan was not placed before the committee and was under submission to Department of Mining & Geology, Haryana and asked PP to revise the EIA/EMP report and submit the requisite documents. The project now falls under Schedule 1(a) of mining and is a Category- "B1" project as per EIA notification 14th September 2006 (amended up to 14.08.2018) as the mining lease area is less than 100 Ha and should be appraised by SEIAA. But as the SEIAA Haryana is not operational, so the project is being considered in the Ministry.

As directed by EAC the PP applied again for grant of EC on 31.08.2018 with revised EIA report and the proposal is placed in EAC Meeting held on 28-29 September, 2018. The PP submitted documents with respect to information sought by the Committee and the comments of the Committee are as following: -

- a) The Proponent should collect the baseline data in respect of initial level of the mining lease. For this permanent bench marks (BM) needs to be established at prominent location preferably close to mining leases in question and should have precisely known relationship to the level datum of the area, typically mean sea level. The entire mining lease should be divided suitably in the grids of 25 Meter x 25 Meters with the help of sections across the width of river and along the direction of flow of the river. The levels (MSL & RL) of the corner point of each grid need to be recorded. Each Grid should be suitably numbered for identification. PP should identity grids which will we worked out and grids which will come under no mining zone i.e. safety barriers from the river bank, safety barrier at lease boundary, restrictions as per condition of LoI/Mining Lease deed, restriction as Mineral Concession Rule of the Concerned State, restrictions as per sustainable sand mining management guidelines 2016 etc. The PP should ascertain the level of the river bed with the help of sections drawn across the width of the rivers and along the direction of flow of the river and based on this define the depth of mining of each grid. The PP should provide a detailed map and table clearly showing the grid wise material availability, dimension of grid, location of grid (latitude & longitude of the corner points), level of grid (AMSL and RL), depth of mining in each grid, grids left under no mining zone etc.**

The PP submitted that a) bed levels in lease is ranging from 263 MSL(Starting point) to 258 MSL (end point); b) Four Permanent Bench Marks at prominent location close to Minutes of EAC meeting held during September 28-29, 2018

mining lease are established [BM-1 Latitude 29°58,13.8" N and Longitude 77°13'40.8" E; BM-2 Latitude 29°58,31.96" N and Longitude 77°13'55.71" E; BM-3 Latitude 29°58,54.83" N and Longitude 77°13'52.05" E; and BM-4 Latitude 29°58,09.29" N and Longitude 77°13'17.28" E]; c) Lease is divided into 25m x 25m grid along the length and width of the lease area; d) Each grid is numbered [84 parallel grids (00 to N-2100) and 54 cross Sectional grids (00 to E-1350) has been marked and numbered; e) No mine working zone i.e. safety barrier from the river bank safety barrier at lease boundary has been left as per condition of LoI/Mining lease deed, restriction as per mineral concession Rules of the Concerned State, restriction as per Sustainable Sand Management Guidelines 2016 etc.; f) Total 101 section(25m across the river) are drawn showing the bed level and river flow, 54 Sections (Along the river flow) have been made showing the bed level and river flow, depth of mining bed will be up to 3m/2m above the groundwater; g) Detailed map showing the grid wise material availability, dimension of grid, location of grid, level of grid, depth of grid (Mineable) is shown indicatively on slide no 4 , reserve estimation if the mineable area (101 cross sections) is given in approved modified mining plan at page no 26 to 28;

b) PP should suitably name each section line. Section Plan for both sections drawn across the river and along the direction of the river needs to be submitted. Each Section should have level on vertical axis and distance from the bank of river on horizontal axis. For the section along the direction of the river the levels to be shown on vertical axis and distance from upstream to downstream should be shown on horizontal axis.

Each Grid corner point i.e. 84 parallel grids (00 to N-2100) and 54 cross sectional grids (00 to E-1350) has been marked and numbered; cross section along the river has been drawn with respect to flow direction, Section including level and distance from the bank has been prepared. Cross Section along the river has been drawn with respect to flow direction. Section including level and distance from the bank has been prepared.

c) The PP should prepare the modified Mining Plan based on the above survey. The information sought above needs to be a part of the mining plan. In the mining plan year wise production plan should be prepared in three plates for each year. Plat-1 show the mine working for the pre-monsoon period (1st APR- 30th June), Plate-2 should show the status of the mine after the replenishment and no working should be proposed in this period (1thJuly- 15th Sep) as the mining lease area needs to be left for the replenishment of the river bed mineral and plat-3 show the mine working after replenishment of the river bed i.e. post monsoon period (16th-31st March).

Modified Mining Plan base on the actual replenishment study has been approved from the Office of Department of Mines and Geology, State Mining Engineer, Haryana vide Lr No DMG/HY/MP/NaglaRangran Block/PKL, B-14/2017/3985-88 dated 07.08.2018. In the modified mining plan, year-wise working plan for targeted production to the tune of 38,60,000 TPA Capacity of sand has been prepared in three plates for each year (Pre-Monsoon), No mining will be carried out during monsoon i.e.

15th June-1st October and mining will be carried out in Post Monsoon i.e. 2nd October-31st March.

- d) PP should specifically mention in the mining plan that in the subsequent scheme of mining/review of mining plan, the year wise data pertaining to replenishment study (all five years) shall be provided which include the level (AMSL & RL) of river bed recorded before and after the monsoon, year wise replenishment quantity, all plan & sections of the replenishment study for the past five years.**

Modified Mining Plan including Progressive Mine Closure Plan has been approved for the capacity 38,60,000 TPA from State Mining Engineer, Department of Mines and Geology, Haryana vide Lr No DMG/HY/MP/NaglaRangran Block/PKL, B-14/2017/3985-88 dated 07.08.2018 incorporating replenishment study. The Year-Wise data pertaining to replenishment study (all five years) is given in approved modified mining plan on page no 17 to 28 & Annexure-III page No 92. For a single year, three working plan have been made i.e. 1) Pre-Monsoon from 1st April to 14th June, 2) Monsoon 15th June-1st October and Post Monsoon i.e. 2nd October-31st March.

- e) The PP should also submit a kml file wherein the above-mentioned grid plans is superimposed on the satellite imaginary.**

PP submitted the grid plan superimposed on the Satellite Imaginary.

- f) PP should also submit an undertaking to the effect that each year after the replenishment study the plan & section shall be submitted to concerned Department of Mining & Geology of the State for verification and official record.**

Legal undertaking on Rs 50 Non-Judicial stamp duly notarized by the project proponent to the effect that each year after the replenishment study the plan & section will be submitted to the office of State Mining Engineer, DMG, Haryana for verification and official record.

- g) The methodology for conducting replenishment study needs to be mentioned in the modified mining plan. PP should ensure that plan and section that will be submitted to EAC should be in proper scale.**

PP has submitted that methodology for conducting replenishment study has been mentioned in the approved modified mining plan at page no 18 to 23. Plan on the scale 1:4000 has been prepared. Methodology adopted for replenishment study is a) Field data collection: 101 cross sections in river is taken in the present scenario (Pre-Monsoon), b) 15 sand samples for sieve analysis i.e. d10, d30, d50 and d60, uniformity coefficient (Cu) and coefficient of curvature (Cc) was also determined as an input for estimation of sand replenishment of river reach under study, c) Remote Sensing was used for identification of watershed area of mine lease, d) data used are Satellite imagery of CARTOSAT-1 (30m), SRTM, NASA (80m) and computer aided drainage analysis system, e) Estimation of sedimentation rate : the iso-pluvial

maps of IMD have been used for estimation of rainfall, Catchment yield has been computed using the Strange's runoff method (Strange's Monsoon runoff curves) for the runoff coefficient, Peak flood discharge for the study area calculated by using Dickens, Jarvis and Rational formula at 25, 50 and 100 years return period, The estimation of bed load transport using Meyer Peter equation.

h) PP should submit a letter from the concerned authorities that mining plan submitted during the public hearing is same which is under submission for the approval to the competent authority

The PP has submitted letter No. DMG/HY/Cont./NaglaRangran/YNR B - 14/2017/3282 dated 26.06.2017 issued from Department of Mines & Geology, Haryana, Chandigarh, certifying that *"There is no material change in the modified mining plan submitted by you/your RQP as compared to that of already approved mining plan and methodology of mining and other precautions/ proposal are same"*.

i) Detailed traffic plan needs to be submitted clearly mentioning the number of tucks to be deployed, number of trips during the day, road that will be used for the transportation of mineral, impact of transportation on the nearby area, mitigative measures to be adopted, the plan on the suitable scale needs to be submitted clearly road network of the existing mining leases and also of the other mining lease within the study area to ascertain the cumulative impact of the transportation. The PP should optimize the production & transportation requirement by taking into account the traffic density due to other mining projects.

The PP submitted that the number of trucks deployed will be 130. Total 576 trips/day (considering 25 tonne tippers) will be required. Mineral will be dispatched to the connecting haul road via village road and finally merges on the State Highway SH-6. PP submitted that the level of service will be change from B to C & A to B respectively for village road and State Highway. PP submitted that traffic density has been considered during planning of production. Due to proposed project, 57-58 trips per hour envisaged to be added in the existing traffic. The PP submitted that total number of the trips considering other mine will be 1719 trips/day.

j) PP should optimize the production requirement based on the data collected above; the GLC of various pollutants should be well within the prescribed NAASQ Standards limit, reduces the water consumption, reduce the traffic density on the roads, after taking into consideration the pollution load of the other mining leases in the study area.

The PP submitted that the air quality modeling has been done by using AERMOD Version 7.1.0 and the total expected GLC for PM₁₀ will be 95.0-98.0 µg/m³, PM_{2.5} will be 52.2-58.6 µg/m³

k) Application seeking approval of concerned authorities for withdrawal of the ground water if any for the project.

The PP submitted that the application for withdrawal of groundwater has already been submitted to CGWA, Chandigarh vide letter dated 26.04.2018 for 165 KLD of water.

l) Revised EIA after compliance of all the TOR conditions and after making necessary changes as suggested by the EAC.

PP submitted that EIA/EMP has been revised and all the ToR conditions complied and necessary changes have been incorporated.

m) PP should submit the List of schedule-1 species duly authenticated by forest department. Proof of submission of the wildlife conservation plan for all the schedule-1 species present in the study area to APPCF (Wildlife), Panchkula, Haryana as date of submission is not mentioned in the letter annexed in the EIA Report. A copy of conservation plan submitted to APPCF (Wildlife), Panchkula, Haryana.

PP submitted that Schedule-1 species Indian Peafowl have been reported in the buffer zone during the study period and the conservation plan for the same has been approved from the Office of Forest Department Govt of Haryana O/o P.C.C.F cum Chief Wildlife Warden, Haryana vide Lr No 1908 dated 30.08.2018. PP also submitted that during the primary survey only Peafowl was reported but as per list of flora and fauna obtained from Forest Department and approved conservation plan there are 5 schedule-1 species viz. Indian Panther, Indian Monitor Lizard, Pangolin, Indian Peafowl and Wild Pig are found in Yamuna Nagar District. PP submitted that Conservation Plan has been made for Indian Peafowl and budget earmarked in Rs 25 Lakh.

n) PP should submit the illegible copies of all the annexures, certificates, reports etc.

Legible copies all the annexures, certificates, reports etc. have been submitted.

Based on the discussion held and documents submitted by the PP the Committee **deferred** the proposal and asked the PP to submit the following information:

- a) The Committee observed there is some change in the reply submitted online and one which mentioned in the presentation during the meeting. The Committee was thus of the view that the information submitted by the PP should be consider final for official record.
- b) The Committee observed that PP was asked previously that permanent bench marks (BM) needs to be established at prominent location preferably close to mining leases in question and should have precisely known relationship to the level datum of the area, typically mean sea level. During the meeting PP submitted that the bench mark has been established and also provided its coordinates. But it is not clear whether the same has precisely known relationship to the level datum of the area, typically mean sea level. Thus, PP should provide the complete details of permanent

bench mark along with photographs, level above mean sea level, bearings, etc. In addition to this PP should provide the details that how in the next survey, the same section line will be identified.

- c) The Committee observed that PP was asked previously that the entire mining lease should be divided suitably in the grids of 25 Meter x 25 Meters with the help of sections across the width of river and along the direction of flow of the river. The levels (MSL & RL) of the corner point of each grid need to be recorded. Each Grid should be suitably numbered for identification. But the PP did not submit the details of each grid viz. level in AMSL, RL, mineral availability in the grid, depth of mining proposed, grid will be in mining the mining zone or no mining zone, grid will be proposed for mining in pre-monsoon period or post monsoon as per the approved mining plan. Thus, PP should submit the above information after finalizing the format with Ministry officials.
- d) The Committee observed that plan and section submitted by the PP is not in proper scale. The Committee was of the view that as per MMR 1961 rule 60 the surface plan should be is 1:2000 Scale for large leasehold area and in other cases should be in 1:1000. Further as per MCDR, 2017 the plan and section should be in 1:500 for small scale working, 1:2000 in case of large opencast mines and also in case of surface plan of large lease hold area and 1:1000 in other case. But in the instant case PP submitted the plan in 1:4000 scale. In addition to this the Committee also observed that plan and section is not signed by the surveyor, date was not mentioned. Thus, PP should submit the plan & section in suitable scale and conventions provided under the Metalliferous Mines Regulations, 1961, shall be used while preparing all plans and sections.
- e) The Committee observed that in the modified mining plan submitted by the PP sections for the 3rd year was not submitted and for the remaining year only one section is provided in place of 3 sections (Pre-Monsoon, Monsoon, Post monsoon). Thus, PP needs to submit all the Plan & section.
- f) The Committee observed that plantation details, manpower of implementation of EMP, legal framework, water requirement, air modeling etc. have been changed but the reason for such change was not explicitly mentioned by the PP. PP is thus required to clearly bring out the changes made in the EIA Report as compared previously submitted to the Ministry with justification for the same.
- g) The Committee observed that the PP submitted that Shedule-1 species Indian Peafowl have been reported in the buffer zone during the study period and the conservation plan for the same has been approved from the Office of Forest Department Govt. of Haryana O/o P.C.C.F cum Chief Wildlife Warden, Haryana vide Lr No 1908 dated 30.08.2018. PP also submitted that during the primary survey only Peafowl was reported but as per list of flora and fauna obtained from Forest Department and approved conservation plan there are 5 schedule-1 species viz.

Indian Panther, Indian Monitor Lizard, Pangolin, Indian Peafowl and Wild Pig are found in Yamuna Nagar District. PP submitted that Conservation Plan has been made for Indian Peafowl and budget earmarked in Rs 25 Lakh. But the conservation plan has been prepared for only one species. Thus, PP needs to submit the conservation plan for all the Sechedule-1 species along with the budgetary provisions present in the Study area.

- h) PP needs to submit the activity-wise time bound budget earmarked for plantation, occupational health, Corporate Environmental Responsibility and implementation of EMP. In addition to this the PP should verify the cost benefit analysis submitted in the EIP report. The Committee felt that such a lower margin the project may not be economical.
- i) The PP has applied on 31.08.2018 and the Ministry has issued S.O. 3977(E) dated 14.08.2018 as per which the project is Category B1 Cluster Situation. As per this there should be one EIA/EMP for the entire cluster but in the instant case as the EIA has already been prepared for this and other mining lease the PP should prepare the EMP for the entire cluster which clearly brings out the pollution load and its mitigation measures. The air quality modeling should be considering the capacity of the entire cluster in worst case scenario and control case scenario needs to be submitted along with controlling factors and mitigation measure. The traffic study should be for entire cluster. The impact from the center line of the road on either side should be clearly brought out supported by the line source modeling and isopleth. Based on the above study and the material availability the PP should optimize the production capacity of the project.
- j) The Committee observed that recently the Hon'ble NGT has given several directions pertaining to sand mining. Therefore the Committee is of the view that the Ministry may asked the concerned authorities which have prepared the DSR that the provision of S.O. 141(E) dated 15.01.2016 and Sustainable Sand Mining Guidelines 2016 issued by the Ministry have been followed while preparation of DSR.

(2.11). Thakurani Iron Ore Mines of M/s Kaypee Enterprises, for expansion of iron ore production from 5.5 Million TPA to 7.99 Million TPA (ROM), along with Crusher & Screen plants, located in the village Thakurani, Tehsil Barbil, Keonjhar District, Odisha in the MLA of 228.04 ha (F. No. J-11015/104/2018-IA-II (M); Proposal No. IA/OR/MIN/75640/2018)– (Consultant: Ecomen Laboratories Pvt. Ltd.)-Consideration of TOR

The proposal of M/s Kaypee Enterprises is for expansion of Thakurani Iron Ore Mines with production from 5.5 Million TPA to 7.99 Million TPA (ROM), along with Crusher & Screen plants located in the village Thakurani, Tehsil Barbil, Keonjhar district, Odisha in the MLA of 228.04 ha. The lease area is bounded by Latitude 22° 06' 16.72057" to 22° 07' 41.65495"N and Longitude 85° 25' 32.28303" to 85° 26' 40.67115"E and falls under toposheet number Topo Sheet No: 73G/5 and 73F/8. The PP presented the KML file during

the presentation to indicate the location of mine lease on Google Earth/ DSS. The Committee deliberated the same.

Project Proponent reported that the Ministry has granted the Environmental Clearance vide letter No-J-11015/902/2007-IA.II (M) dated 03.02.2012 for the production capacity of 5.50 Million TPA of iron ore (ROM). Consent to Operate for production capacity of 5.5 MTPA granted by SPCB, Odisha vide letter No 2404/IND-I-CON-2168 dated 05.02.2016 and is valid up to 31.03.2020.

Project Proponent reported that the Lease is valid up to 31st March 2020. The supplementary lease deed executed on 7th May, 2015, which has been registered on 08.05.2015. The modification of Mining Plan was approved by IBM, vide letter no MSM/FM/10-ORI/BHU/2018-19, dated 04.06.2018. The entire mining lease area of 228.04 ha falls within the Thakurani Reserve Forest. Out of the total ML area of 228.04Ha, Forest Clearance obtained over an area of 146.276 ha, vide MoEF's letter No 8-154/97-FC (Vol.- II), dated 19.07.2005 for mining and ancillary activities. The total non-diverted forest area is 81.314 ha. The lessee had applied for the diversion over 81.314 ha for mining and allied activities vide letter dated 25.04.2014. The project proponent has deposited Rs.16,64,69,200/- towards NPV for the entire forest land over 228.04 ha in the mining lease area of 228.04 ha as per the demand raised by DFO, Keonjhar vide Demand dated 04.2.2005 & 14.03.2005 for 10,32,91,080/- and dated 05.06.2010 for 6,31,78,120/-. The Committee deliberated the same.

Project Proponent submitted that the mining operations will be through opencast fully mechanized mining system, involving drilling and blasting, excavation, loading etc. The bench height and width will be 10m and 15m respectively. The overall slope will be 37.5°. The mined ore will be processed in the screening and crushing units to meet its trade value in the market. About 2,978,595.61 cum of waste will be generated during plan period of two years. During the conceptual period, the total waste generated will be 3923475 m³. Project Proponent submitted that the total water requirement for the project is 362cum/day. This will be met from ground water source. For this, NOC is already been obtained from CGWA. Total numbers of existing manpower in the project are 536. Out of this Direct (Departmental) are 94 and Contractual are 442 people. 35 people will be additionally employed for operation of Heavy Earth Movers Machineries.

Project Proponent submitted that the mining lease area and the 10 km buffer zone from the periphery of the core zone is devoid of declared ecologically sensitive features like national parks, biospheres, sanctuaries, etc. In the 10 km buffer zone, water bodies namely Baitrara Nala-5.6Km(NE), Mahadeba Nala-5.8Km(SE), Karo River-6.1Km(W), Kundra Nala-6.5Km(SE), Litimur Nadi-7.0Km(W), Barnal Jor-9.3Km (NE) exist. Reserve forests such as Pandrasali P.F-1.9Km (N), Noamundi P.F-3.1Km (NE), Uliburu R.F-3.9Km (W), Kurta P.F-4.2Km(W), Nuia P.F-4.3Km(N),Tatiba P.F-5.1Km (W) exist. The mineable reserve is estimated to be 88.406 Million Tonnes. The life of mine will be 12 years based on the proposed peak production of 7.99 MTPA of ROM.

PP reported that presently the mine is in operation with due compliance of the order dated 02.08.2017 in CWP No. 114/2014 of Hon'ble Supreme Court. The details are as follows:

Sl. No.	Issues	PP' submission
1.	Details of demand if any raised by Dept. of Mining and Geology, Govt. of Odisha.	In pursuance of the Supreme Court order dated 02.08.2017 in CWP no. 114/2014, the DDM, Joda Dept. of Mining and Geology, Govt. of Odisha has raised the demand notice of Rs. 198,18,45,419/- (Rupees one hundred ninety eight crores eighteen lakhs forty five thousands four hundred nineteen only) vide demand no. 4058, dated 02.09.2017 towards EC violation.
2.	Details of payment, if any made to Dept. of Mines and Geology, Govt. of Odisha	The Project Proponent has deposited Rs. 198,18,45,419/- (Rupees one hundred ninety eight crores eighteen lakhs forty five thousands four hundred nineteen only) vide treasury e-challans no. 27DDFEAEC4, dated 28.12.2017 (for Rs. 100,00,00,000/-) and no. 27DDFEB8E9, dated 28.12.2017 (for Rs. 98,18,45,419 /-).
3.	Validity of mine lease	The Government has executed the Supplementary Lease Deed on 7 th May, 2015 which is valid up to 31.03.2020.
4.	Status of Mine whether working or not	PP reported that the mine is in operation with due compliance of the Hon'ble Supreme Court Order dated 02.08.2017[.
5.	Details of the past production of mines since its inception, duly authenticated by Dept. of Mines and Geology, Govt. of Odisha.	The details of the past production figure from 2000-01 to 2017-18 is duly authenticated by the DDM, Joda Circle, District Keonjhar, has been submitted by the PP. The Committee noted that as per the memo no. 3356 provided by the Govt. of Odisha dated 31.07.2018, the PP has not enhanced the production capacity after grant of EC on 03.02.2012 and mined out the mineral within the EC capacity of 5.50 million TPA of Iron Ore. The Committee also noted that the PP has made the production of 54,99,506 TPA in 2017-18 (i.e. about 99.9 % in last financial year). The PP has submitted an affidavit dated 23.09.2018 in compliance of Ministry's OM dated 30.05.2018 in respect of the order of Hon'ble of Supreme Court dated 02.8.2017.

It is informed to the Committee 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 with an objective to develop (i) a sustainable development plan for mining activities in the impact area of about 1000 sq.km. in the State of Odisha and (ii) an environmental management plan for current as well as future developmental scenario.

CSIR-NEERI has 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 (like Department of Steel & Mines, Directorate of Mines, IBM-HQ & Regional Office, SPCB, GSI, MoEF&CC, State Forest Dept. etc. as well as senior executives from respective mines). NEERI has submitted the report along with the recommendations. **The Committee deliberated the recommendations and is of the view that the recommendation of CSIR-NEERI report on carrying capacity study may be included in the TOR condition w.r.t. mining proposal of Iron Ore and/or manganese in the State of Odisha.**

Based on the information submitted and presentation made by PP, the proposal was **recommended for Standard TOR**. Further, the TOR may have the specific conditions as recommended by CSIR-NEERI on carrying capacity study as per **Annexure III**. PP shall also submit the details of final mine closure plan in the EIA/EMP Report.

(2.12). Sandstone & Bajri Mining Project from bed of Yamuna River situated at Mauza & Mobal Bhangani, Tehsil Paonta Sahib, District Sirmaur, Himachal Pradesh by M/s Shri Randeep Singh S/o Sh. Gurbaksh Singh over an area of 54.6680 ha with proposed capacity of 797676 TPA. (File No. J-11015/105/2018-IA-II(M); Proposal No. IA/HP/MIN/75521/2018)-Consideration of TOR

Project Proponent, vide email dated 29.09.2018, has requested to transfer the proposal to SEIAA Himachal Pradesh as the instant proposal is category 'B' project. The Committee noted that the said proposal is of less than 100 ha and is Category 'B' project as per the Ministry Notification's vide S.O. 3977 (E) dated 14th August, 2018 and to be appraised at the level of SEIAA, Himachal Pradesh. Therefore the Committee recommended the proposal for **transfer** to the SEIAA Himachal Pradesh.

(2.13). Bhilapur Manganese Mine (Area 19.257 ha; Proposed production capacity of 15,000 TPA) of M/s Smt. Shubhangi Amol Nagpureat located at Village-Bhilapar, Tehsil Sausar, District-Chindwara, Madhya Pradesh (File No. J-11015/106/2018-IA-II(M); Proposal No. IA/MP/MIN/77234/2018)-Consideration of TOR

The proposal of M/s Smt. Shubhangi Amol Nagpureat is for Bhilapur Manganese Mine (Area 19.257 ha; Proposed production capacity of 15,000 TPA) in the mine lease area of 19.257ha located at KhasraNo.68,69,70,71,72/1,72/2,74/1 4,75,76,80,82,86 Village-

Bhilapar, Tehsil Sausar, District- Chindwara, Madhya Pradesh. The latitudes 21°35'30.41"N to 21°35'43.30"N, and longitude 78°56'11.63"E to 78°56'44.78"E. The area falls in the Survey of India Topo sheet no.55K/14 (OSM no. F 44M14),55O/2(OSMno.F44MN2), 55K/15 (OSM no. F44 M15) & 55O/3 (OSMno.F44 N3). The lease area falls adjacent to the Maharashtra and Madhya Pradesh state boundary falling in south direction. Hence general condition is applicable on the project. Therefore, the project is considered by the EAC as per the provisions of the EIA Notification, 2006.

PP reported that the Letter of Intent (LoI) to the M/s Smt. Shubhangi Amol Nagpureat was granted by Mineral Resources Department, Bhopal, M.P. vide Letter no. F-3/38/2004/12/2 dated 12.06.2007 in an area of 21.935ha. Subsequently compartments 77 and 81 were reduced from the mine lease area by State Government and consequently lease deed for an area of 19.257Ha was executed on 11.01.2017. PP also reported that at the time of grant of LoI the lease had two old existing pit and two OB dumps of low grade Manganese Ore in the mine lease area. The lease was not executed then due to local issues and land falling within 250m perimeter of the forest boundary.

At present the total mine lease area comprises of 19.257Ha and the geological reserves is estimated at 204880Tonne, Mineable reserves is estimated at 193384 Tonnes and Extractable reserves @70% rate of extraction is 135368.8 Tonne. The Life of the mine will be 9 years which will enhance after future exploration. The revised mining plan for 19.257Ha is under preparation and EIA report will be based on revised approved mining plan. Method of Mining is Opencast mechanized with drilling and blasting. During the plan period about 136000 cum OB/reject will be generated which will be stacked separately in side Mine Lease Area. Total Water requirement is 14 KLD water will be required per day at peak demand. 2KLD water will be required for drinking purpose which will be sourced from nearby village. Total cost of the project is 100 Lakh. PP reported that there are two Notified ESZ areas namely PENCH National Park at 5.75km and Mansinghdeo Wildlife Sanctuary at 13km from the Mine lease area.

Based on the information submitted and presentation made by PP the committee is of the view that the Mine lease area has three blocks (Block-1, Block-2 & Block-3), and ephemeral nala is passing through ML area which passes through agricultural fields and meets Kanhan River. Due to this the surface water body is likely to be contaminated. Hence the Committee restricted the mining area only for the Block-2 (~ 13 ha) which is middle part of the mine lease area only the Committee **recommended** the proposal of Bhilapur Manganese Mine for **prescribing Standard TOR as per Annexure-I** with the additional conditions, (i) PP need to bring out all the precautions and mitigation measures to be taken for prevention of contamination surface & Ground water bodies & (ii) PP need to submit the letter from DMG stating that no mining has been carried out by the PP in this mine lease area.

(2.14). Enhancement of production capacity of Iron Ore from 4.50 million TPA (2.85 MTPA ROM Iron ore + 1.65 MTPA of low grade iron ore from old low grade ore stacks & dumps) to 8.06 million TPA (7.0 million TPA Iron ore (ROM) + dry screening and crushing of 1.06 million TPA low grade iron ore from old dumps/stacks within lease area) and installation of wet beneficiation plant of 1.44 million TPA (for which EC is already granted) of M/s Rungta Sons Pvt. Ltd., located at villages Sanindpur & Oraghat, Tehsil – Koira, District–Sundargarh, Odisha (MLA 147.10 ha) (F.No. J-11015/107/2018-IA-II(M); Proposal No IA/OR/MIN/77080/2018) (Consultant: Ecomen Laboratories Pvt. Ltd.)-Consideration of TOR

The proposal of M/s Rungta Sons Pvt. Ltd. is for enhancement of production capacity of Iron Ore from 4.50 million TPA (2.85 MTPA ROM Iron ore + 1.65 MTPA of low grade iron ore from old low grade ore stacks & dumps) to 8.06 million TPA (7.0 million TPA Iron ore (ROM) + dry screening and crushing of 1.06 million TPA low grade iron ore from old dumps/stacks within lease area) and installation of wet beneficiation plant of 1.44 million TPA for which EC is already granted. The mine is located in village(s) Sanindpur and Oraghat in Sundargarh District of Odisha. The mine is located at a distance of 30 km from Barbil and is well connected by an all weather road. The area is bounded by Latitude and Longitude of 21^o 55'54.91" to 21^o 55' 18.2" N & 85^o 17' 19.75" to 85^o 18' 29.95" E in Survey of India Topo sheet No.73G/5 (F45N5). The PP presented the KML file during the presentation to indicate the location of mine lease on Google Earth/ DSS. The Committee deliberated the same.

The lease area of 147.10 hectares comprises of 126.324 ha. of forest land and 20.776 ha of non-forest land. The lessee has obtained forest clearance for 68.135 ha i.e., 52.742 ha vide Ministry's letter no. 8-135/2003-FC dated 19.06.2006 and further for 15.393 ha (including 4.325 ha. of forest land to be maintained as safety zone) vide Ministry's letter No. 8-135/2003-FC (vol.), dated 24.10.2013. The remaining 58.189 ha (126.324 ha-68.135 ha) of forest land and 0.174 ha of non-forest land (total 58.363 ha) was proposed for surrender by the lessee in the application for 1st renewal of mining lease for reduced area over 88.737 ha (147.10 - 58.363 ha). However, in pursuance to Section 8-A(6) of MMDR Amendment Act, 2015 the period of the original mining lease has been extended upto 05.09.2035 over the entire mining lease of 147.10 ha by execution of supplementary lease deed on 14.07.2016. So the lessee has applied online for obtaining forest clearance for the balance 58.189 ha of unbroken forest land (earlier proposed for surrender) as well as 1.417 ha of forest land for mining purpose which was earlier diverted for safety zone i.e.; total forest land to be diverted is 59.606 ha (58.189 ha + 1.417 ha) included within the existing mining lease area over 147.10 ha, vide Proposal No. FP/OR/MIN/35045/2018, dated 30.07.2018. Out of 59.606 ha forest land 57.515 ha will be used for mining and ancillary activities and 2.091 ha will be maintained as safety zone.

The Project Proponent reported that the mine was accorded Environmental Clearance by the Ministry, vide letter no. J-11015/206/2012-IA.II(M), dated 19.11.2013 for 2.85 MTPA of ROM Iron ore, 1.65 MTPA of low grade iron ore from old low grade ore stacks & dumps (total handling 4.5 million TPA) and installation of wet beneficiation plant
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of 1.44 MTPA throughput capacity. At present, the production of the mine is from excavation of Iron ore (ROM) from the mine and then dry screening and crushing of iron ore for different grade and size of ore. Low grade ore from old stacks and dumps within mine lease area are also crushed and screened to obtain different fractions of ore. The low grade ore produced from the dry crushing and screening process is upgraded through wet beneficiation unit. There is no production of Bauxite at present and also not proposed in future. The breakup of land use category at present is Mining: (27.85 ha), Over burden/dump (16.16 ha), Mineral Storage (2.84 ha), Infrastructure (2.1 ha), Roads (1.2ha), Green belt & Plantation (7.09 ha), Mineral processing plant (2.518 ha), Mine camp (0.6 ha), Beneficiation plant and tailing pond (5.92 ha), others (0.65 ha) & unutilized land (80.172ha). Now it is proposed to increase the production of ROM from 4.50 million TPA to total handling of 8.06 million TPA which includes 7.0 million ROM excavation from mine + dry screening and crushing of 1.06 million TPA low grade iron ore from old dumps/stacks within lease area. EC for wet beneficiation plant with throughput capacity of 1.44 MTPA has already been accorded in the environmental clearance by the Ministry, vide letter no. J-11015/206/2012-IA.II (M), dated 19.11.2013 and the same will continue.

The Scheme of Mining for the proposed production has been approved by the Indian Bureau of Mines vide letter no. MPM/FM/21-ORI/BHU/2016-17, dated 27.12.2016. Further the modification of the scheme of mining incorporating the use of 58.363 ha area earlier proposed for surrender has been approved by IBM, Bhubaneswar vide letter no. MPM/FM/10-ORI/BHU/2018-19/850 dated 18.07.2018. Total Mineable Reserve of iron ore is 54.997 million tonnes (Total resource of iron ore is 65.16 million tonnes). Life of the mine is 8 years. The mining method will be open cast fully mechanized. The existing in-pit crushing & screening of iron ore will continue. During the mining Scheme period 2019-20, major production will be obtained from C-Top Quarry. The target production will be achieved by developing the benches of 6-9 m height with width upto 10-20 m. The ROM and low grade ore produced will be hauled through trucks/dumpers to dry screening & crushing plants as well as wet beneficiation plants. After processing, the finished iron ore products will be carried to the Railway sidings by trucks and loaded into Rail wagons and dispatched mainly to the steel, pelletisation, sponge, sinter plants throughout India and also to port for export. The Overburden waste materials to be generated consists of lateritic soil/ laterite/ shale/BHJ/BHQ having less than 45% Fe content. The existing overburden material lying in dumps A, B, & C is 2560646 m³/ 5121292 tons. During 2018-19 & 2019-20 overburden waste material of 2306790 m³ / 4613580 tons will be generated which will be dumped on waste dumps i.e Dumps 'B' Dump 'D' within the mining lease area, which after stabilization will be rehabilitated with native plant species. Further, the overburden waste material of 6253410 m³/12506820 MT to be generated after 2019-20 till life of the mine will be backfilled in the ore exhausted quarries and will be rehabilitated by native plant species. Out of proposed production of 8.06 MTPA of iron ore in the year 2019-20 the ROM iron ore production/excavation will be 7.0 MTPA for which the total excavation for 2019-20 will be 4252579 m³/10014960 MT, out of which 1507480 m³/3014960 MT will be overburden material/waste. There will be no ore production from the overburden waste to be generated from 2018-19 till life of the mine. Approximately 1575000 m³ waste material of this mine will be dumped in the external dumps and balance

6253410 m³ quantity of the waste material will be used for back filling of the exhausted quarry.

Total water requirement at present is 2415 KLD (2265 KLD from Suna Nadi and 150 KLD from ground water). Total water requirement after expansion will be 3209 KLD (2959 KLD from Suna Nadi and 250 KLD from ground water). The project proponent has applied to the Department of Water Resources (DOWR), Govt. of Odisha for allocation of 2265KLD of surface water from Suna Nadi for industrial use/environmental maintenance and 150 KLD of ground water for drinking and domestic use in phased manner. At present, the permission from DOWR, Govt. of Odisha for drawal of 1178 KLD of surface water from Suna Nadi and 110 KLD of ground water in 1st phase is available with the lessee. The permission for balance quantity is under process with Govt. of Odisha. The project proponent has already received NOC from Central Ground Water Authority, Ministry of Water resources, River Development and Ganga Rejuvenation, Govt. of India for withdrawal of 250 KLD of ground water.

Project proponent reported that presently 350 nos. of people are directly employed in the mine. This will increase to 444 nos. after expansion. At present 7.09 hectares of area is covered with green belt and plantation. At the end of life of the mine approximately 63.418 hectare of exhausted quarry will be back filled and covered with plantation. Primary health centre is available in mine camp for providing medical facility to workers and nearby villagers. Blacktop/concrete roads are constructed in villages as per their requirement. Deep bore well with submersible pumps have been installed in different villages for safe drinking water supply. The estimated project cost is Rs. 400 Crores. There is no elephant corridor/National Park/Sanctuary located within 10 km radius of the ML area.

The mine is in operation since 1986. Presently the mine is in operation with due compliance of the order dated 02.08.2017 in CWP No. 114/2014 of Hon'ble Supreme Court. The details are as follows:

S. No.	Issues	PP' submission
1.	Compliance of the order dated 02.08.2017 in CWP No. 114/2014 of Hon'ble Supreme Court	The Deputy Director of Mines Koirā, Govt. of Odisha, vide Memo No 1555/Mines, dated 09.04.2018 has issued a certificate that presently the mine is working with all valid the statutory clearances and in compliance of the Hon'ble Supreme Court Order dated 02.08.2017 in WP (C)-114/ 2014.
2.	Details of demand if any raised by Department of Mining & Geology, Govt. of Odisha.	Demand Note No 5064/Mines dated 02.09.2017 for Rs. 109,26,17,668/- (Rupees one hundred Nine Crore Twenty Six Lakhs Seventeen Thousand Six Hundred Sixty Eight only) was issued by Deptt. of Mines, Govt. of Odisha vide letter No. 5064/Mines, dated 02.092017, towards compensation under

		section 21(5) of MMDR Act, 1957 for production beyond EC Limit prescribed under E(P) Act, 1986.
3.	Details of payment, if any made to Department of Mines & Geology, Govt. of Odisha.	Project Proponent reported that the payment of Rs. 109,26,17,668/- (Rupees One Hundred Nine Core Twenty Six Lakhs Seventeen Thousand Six Hundred Sixty Eight Only) has been made online to Deptt. of Steel & Mines, Govt. of Odisha, vide E- Challan No. 8443/94, dated 27.12.2017. E Receipt of SBI which was issued for the remittance of Rs 109,26,17,668/- in Treasury Challan Ref No. 27DDE007B0, dt. 26.12.2017.
4.	Validity of mine lease	As per the MMDR Amendment Act., 2015 the mining lease of Sanindpur Iron & Bauxite Mine has been extended and valid up to 05.09.2035.
5.	Status of mine whether working or not	It is a working mine.
6.	Details of past production of mine since its inception, duly authenticated by Department of Mines & Geology, Govt. of Odisha.	The details of the past production figure from 1986 to 2016-17 is duly authenticated by the DDM, Koira, has been submitted by the PP. The Committee noted that as per the Certificate provided by the Govt. of Odisha dated 09.04.2018, the PP has not enhanced the production capacity after grant of EC on 19.11.2013 and mined out the mineral within the EC capacity of 4.5 million TPA of Iron Ore. The PP has submitted an affidavit dated 16.09.2018 in compliance of Ministry's OM dated 30.05.2018 in respect of the order of Hon'ble of Supreme Court dated 02.8.2017 in W.P.(C) No. 114/2014.

Project Proponent reported that 2(C) C Case No. 54/2013 has been filed in the court of SDJM, Bonai, Sundargarh, for violation of Section 15 of the Environment (Protection) Act, 1986. The said case has been stayed on 28.01.2014 by the Hon'ble High Court of Orissa in CRLMP NO. 38/2014 in Misc. Case No. 20/2014. Last hearing of this case was held on 29.06.2018 with remarks that interim order passed earlier shall continue till the next date of listing. Revision Application bearing No. 22/(65)/2012/RC-I has been filed by the lessee before the Mines Tribunal, Ministry of Mines, New Delhi against the demand notice dated 20.10.2012 U/s 21(5) of the MMDR Act, 1957, which has been disposed of by Mines Tribunal, Ministry of Mines, Govt. of India, New Delhi on 16.08.2017.

It is informed to the Committee 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), Minutes of EAC meeting held during September 28-29, 2018

the Ministry of Environment, Forest and Climate Change (MoEF&CC) has entrusted the work to CSIR-NEERI to conduct a Carrying Capacity Study with an objective to develop (i) a sustainable development plan for mining activities in the impact area of about 1000 sq.km. in the State of Odisha and (ii) an environmental management plan for current as well as future developmental scenario.

CSIR-NEERI has 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 (like Department of Steel & Mines, Directorate of Mines, IBM-HQ & Regional Office, SPCB, GSI, MoEF&CC, State Forest Dept. etc. as well as senior executives from respective mines). NEERI has submitted the report along with the recommendations. **The Committee deliberated the recommendations and is of the view that the recommendation of CSIR-NEERI report on carrying capacity study may be included in the TOR condition w.r.t. mining proposal of Iron Ore and/or manganese in the State of Odisha.**

Based on the information submitted and presentation made by PP, the proposal was **recommended for Standard TOR**. Further, the TOR may have the specific conditions as recommended by CSIR-NEERI on carrying capacity study as per **Annexure III**. PP shall also submit the details of final mine closure plan in the EIA/EMP Report.

(2.15). Mining of 0.60 MTPA of Limestone from Ittigehalli Limestone Mine having mining lease area of 80.94 ha, located at village-Ittigehalli, Tehsil- Hosadurga, District- Chitradurga, Karnataka by M/s Mysore Housing Co. Pvt. Ltd [File No.J11015/75/2018-IA_II(M); Proposal No: IA/KA/MIN/74795/2018; Consultant: M/s Perfect Enviro Solutions Pvt. Ltd.] –Re-consideration of TOR.

The proposal of M/s Mysore Housing Co. Pvt. Ltd is for production of 0.60 MTPA of Limestone from Ittigehalli Limestone Mine having mining lease area of 80.94 ha. The mine is located at village-Ittigehalli, Tehsil- Hosadurga, District- Chitradurga, Karnataka. The Project Proponent submitted that mining lease area is coming under Survey of India Topo-Sheet No 57 C/05 and falls between Latitude: 13°83'46.53" N to 13°82'26.78" N & Longitude: 76°28'50.64" to 76°48'32.12" E.. The Mining lease lies in seismic Zone II.

The Project Proponent applied online on 27.06.2018 and submitted Form-1 and PreFeasibility Report. The Project Proponent submitted that the mining lease was first granted on 18.01.1983 under ML No.1862 for a period of 20 years for mining of Limestone & Dolomite minerals to Shri. B. Ramaswamy. Later, the lease was transferred to M/s. Mysore Housing Co. Pvt. Ltd for extraction of limestone. The lessee Shri B. Ramaswamy has been appointed as Director of the company. Subsequently the lease was renewed for another 20 years in 2003, w.e.f. 18.01.2003 under ML No. 2473 over an area of 80.94 ha. Lease will be valid for 50 years from the date of grant i.e. 17.01.2033 as per MMDR Act 2015, for the purpose of supplying limestone to consumer industry/ or various buyers. The

PP submitted a copy of lease deed granted vide ML no. 2473. The Committee noted that as per approved mining plan, the mining lease was granted initially in 18.01.1983 and lease was first renewed on 29.10.2004 (w.e.f. 18.01.2003) for 20 years. The Committee observed that as the owner is the same there is no change in legal ownership of this mining lease only the name of the Company was mentioned in lease deed document during 1st Renewal.

The Proponent submitted that review and updation of the mining plan was approved by IBM vide letter no. 279/769/2003/BNG/42 dated 12/04/2018. The mining operation shall be carried out by Open Cast mechanized method with drilling and blasting. The height and width of the bench shall be 6m & 10m respectively. PP submitted that material will be dislodged with the help of blasting and rock breaker, the excavation & loading is by deploying excavator & wheel loader, transportation through dumpers and drilling by using wagon drill. The PP also submitted that one Mobile Crushing and screening Plant RM 100 of capacity 100 TPH shall be installed. PP submitted that no waste or mineral reject will be generated. The PP submitted that the total Geological Reserved is 23.61 Million Tons as per which life of mine shall be 40 years. However, the proved reserve is 7.329 million tons as per which life of mine shall be 12 years. The PP submitted that the depth of ultimate pit will be 600 MRL and it will not intersect the ground water level. The PP submitted that the area is stony topography having no soil cover therefore generation of top soil shall be insignificant. The top soil generated shall be used for afforestation in 7.5m boundary barrier zone. The PP submitted that the waste consists of Murrum and Mangansiferous Phyllites, which is nontoxic in nature. It is proposed to handle about 1.5 Million Tons of waste during first five-year plan period which will be dumped temporarily at in earmarked area of 2.3 ha at north eastern side of the lease area. The PP submitted that 0.30 million tons per annum of waste will be generated due to advancement of mining faces, which will be used in backfilling.

The Project Proponent submitted that the project does not involve clearance under wild life protection act 1972, forest conservation act 1980 and CRZ notification 2011. The PP submitted that the mining lease area is a government revenue land having rocky terrain. The Project Proponent submitted that total water requirement for the Project shall be 21 KLD [2 KLD for drinking & domestic, 19 KLD for Sprinkling and allied activities & plantation]. The PP submitted that the water will be drawn from existing bore well of the company located outside the lease area. The Project Proponent submitted that there is no Ecological Sensitive Area such as National Park, Wildlife Sanctuary, Biosphere Reserves, & Mountains falls within 10 KM of the Mining lease. The Project Proponent submitted that the total Project Cost shall be ₹ 242 lakhs and give employment to around 80 persons.

It was informed to the Committee that Ministry has raised EDS on 05.05.2018 wherein the PP was asked to submit Clarification from the State Mines and Geology Department that no mining has been carried out in the lease since January 1983 when the lease was first granted. In case mining had been carried out, then please provide past production details from inception of the mine till date duly authenticated by the State Mines and Geology Department. The PP replied to EDS on 24.05.2018 vide letter dated 22.05.2018 wherein PP has submitted past production details since 1985 to 2018 duly

authenticated by Department of Mining and Geology Government of Karnataka vide letter no. MGD/DDC/ML/1862/2473/2018.19/169 Dated 18.05.2018.

It was informed to the Committee that the Ministry has raised EDS on 12.06.2018, wherein, the PP was asked to submit the past production details financial year wise, copy of consent to operate issued by SPCB from time to time. Notice given to IBM and DGMS for discontinuance of the mining activity. Details of Mining Plan approved by Indian Bureau of Mines on the basis of which mining was carried out.

The PP replied to EDS on 27.06.2018 and inter-alia submitted the following: -

(a) The lease was granted on 18.01.1983; however, the mining activity could not be taken up till 1994 due to very poor market conditions. However, for testing and exploration purpose very small quantity of limestone was removed and supplied to various cement plant for assessing the suitability and for establishing the market. From 1985 till 1994 total of 5768 Metric Tons was removed from mine for testing and exploratory purpose in 10 years averaging 576.8 tons/year. Since 1995 till date there has been no removal/production of limestone from the mine.

(b) The certified copy giving production detail since 1985 till 1994 from Deputy Director, Dept. of Mines and Geology, Chitradurga and also submitted its English translation. Since mining had not commenced, hence no notices of commencement or discontinuance were given to IBM and DGMS. Similarly, no Consent to operate (Consent for Operate) was obtained from SPCB Karnataka.

(c) No mining plan was prepared as the mining activity did not commence. First Mining plan was approved in 2003 but again no production could be taken up till date due to adverse market condition.

(d) Since there is improvement in the market conditions and PP is now planning to commence mining operation accordingly, mining plan been updated and has been approved on 12.04.2018 for the production capacity 0.60 Million Tons. The mining activity will now be taken up after obtaining the EC.

(e) The production schedule under the approved Mine Plan for Plan from 2018 to 2023 was submitted.

The committee observed that the mineral mentioned in the mining lease deed are Limestone & Dolomite, but the past production details submitted by the PP is only for Limestone. The PP submitted that as per exploration carried out Dolomite is not available in the mining lease. PP submitted that initially when the application for grant of mining lease was made it was for the larger area which also include the Dolomite but the lease was granted for reduced area which does not involve Dolomite. The Committee was of the view that PP should get a certificate from DMG clearly stating the past production financial year wise for both the minerals. It has observed that 1000 tons has been mined in 1994. Thus, it is requested that PP should submit the month wise details of production for F.Y 1993-94 and 1994-95 to ascertain the violation, if any, made by PP. (b) The Committee observed that previously Term of Reference was granted for this project for enhancement

in production from 2390 TPA to 0.6 MTPA vide Lr. No J-11015/516/2008-IA. II (M) dated 25.02.2009 but the same was expired.

In view of the above, the Committee deferred the proposal and asked the PP to submit the following, (i) Clarification whether the mining lease was transferred or renewed in 2003. In case of the transfer PP needs to provide the documents in support of transfer of mining lease, and (ii) Past production details duly authenticated by DMG, A.P. financial year wise for both the minerals Limestone & Dolomite. The past production details for F.Y. year 1993-94 and 1994-95 should be month wise to ascertain the violation, if any.

Based on the information submitted by the PP online to the Ministry and accordingly the proposal for grant of ToR was considered in the EAC meeting held during 28-29 September 2018 wherein the Committee deliberated on the information provided by the project proponent. The committee observed that the project proponent had submitted a copy of an executed mine lease which was valid upto 17.01.2023. The committee also observed based on the authenticated past production details that the project proponent had only carried out mining activity till November 1993 so there was no violation. The committee after due deliberation observed that the instant mine lease being 80.94 ha would be classified as category 'B' in light of the EIA amendment Notification S.O. 3977 (E) dated 14th August, 2018. The Committee **recommended** the proposal for grant of TOR and was of the opinion that the ToR may be granted for the instant proposal and then transferred to SEIAA Karnataka as it is a Category 'B' project.

(2.16). Joda East Iron Mine of M/s Tata Steel Limited, located at village-Joda, Kamarjoda, Banspani, Khutpani & Baitarini, Tehsil-Barbil, District-Keonjhar, Odisha (MLA: 671.093 ha) (J-11015/215/2008-IA.II.(M) - Consideration of Amendment in EC w.r.t. modernization of EC dated 11.03.2013 in respect of beneficiation plant

The Proposal of M/s Tata Steel Limited is for amendments in Environmental Clearance vide no. J-11015/215/2008-IA.II(M) dated 11.03.2013 w.r.t. modernization of EC in respect of beneficiation plant. The mine is located at village-Joda, Kamarjoda, Banspani, Khutpani & Baitarini, Tehsil-Barbil, District-Keonjhar, Odisha in Mine lease area of 671.093ha. The deposit is covered under Survey of India toposheet nos. 73 F/8 and 73 G/5 and Between 21°59'N and 22°03'N and longitudes between 82°25'E and 85°27'E respectively.

The Committee noted that the Ministry has granted the Environmental Clearance vide letter no. J-11015/215/2008-IA.II(M) dated 11.03.2013 for production capacity of 12.0 Million TPA of Iron Ore (ROM) and beneficiation plant of 12 MTPA of throughput in the mine lease area of 671.093 ha. Further, the Ministry vide letter dated 07.09.2018, has also clarified the issues w.r.t. run of mine.

Project Proponent reported that the Joda East Iron Ore Mine was granted EC for enhancement of ROM production from 6 MTPA to 12 MTPA of ROM and beneficiation of 12 MTPA (5 MTPA dry processing and 7 MTPA wet processing). As per the Environmental Clearance, PP had set up the beneficiation plants for 12 MTPA, 5 MTPA ROM to be

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processed through a dry processing plant and 7 MTPA to be processed in a wet processing facility. Joda East iron deposit has different lithologies like hard ore, lateritic ore, friable ore, powdery ore of variable grades. Geological ore body model is the basis for evaluating the ore types using Fe & Alumina grades to determine the feed of Run of Mine (ROM) for dry and wet processing to optimize the extraction. The products of these two plants are blended to meet the product quality requirements from our captive steel plants. The flexibility to feed suitable material based on ore body model also ensures optimized extraction resulting in conservation of natural resource. Based on the disposition of the ore as per the geological model of Joda East Iron Mine, the low Fe high Alumina ores will require to be mined in future for sustained mining activity. The existing dry and wet plants cannot process these ore types due to process constraint. Tata Steel envisages to set up a wet processing facility of 4.6 MTPA capacity suitable to beneficiate such low-grade Fe.

The Committee deliberated the **proposal and is of the view that the PP first needs to conduct the addendum to the impact study on pollution load w.r.t. modernization of beneficiation plant. The Committee deferred the proposal and may consider after submission of the above mentioned study.**

(2.17).Amendment in the EC granted for Guda Clay mine with enhancement of production capacity from 60,000 TPA to 2,50,000 TPA (ROM) of Clay by M/s Harish Clays, located at village-Guda, Tehsil Kolayat, District Bikaner, Rajasthan (284.20ha) [File No: J-11015/163/2014-IA. II(M); Proposal No: IA/RJ/MIN/23186/2014]-Amendment in EC

The Proposal of M/s Harish Clays is for amendment in the EC Condition No 22 wherein inter-alia it has mentioned that *".. The Maximum Height of the dumps shall not exceed 8 meters and width 20 meters and overall slope of the dump shall be maintained at 45⁰..."* and *"..The entire excavated area shall be backfilled and afforested..."*.

The PP submitted that as per approved mining plan and the Form-2 submitted to the Ministry it was mentioned that existing dump height is 38 meters which will reach approximately 60 meters. It would not be economical or feasible to maintain a height of 8 m as it will require a significant part of the lease area which will also cover the major part of mineralized zone and will degrade the surrounding environment to a greater extent. Hence the dump height should be permitted to 60 meter instead of 8 meter. The Committee observed that in the approved mining plan in the text part, there was no mention of dump height. However, in the Surface Plan the existing dump height is more than 8 meters. The KML was also analyzed on the Google and it has found that dump height is around 11 meters. The Committee was thus of the view that in order to consider the proposal of the PP for enhancement in the dump height the PP should carry out slope stability study of the dumps from a reputed institute which clearly brings out the feasibility of increasing of dump height to 60 meters, safety issues, environmental issues, stabilization of dumps, mitigation measures and monitoring of the dumps. In addition to this based on the study PP should modify the mining plan for increasing the dump height. The second amendment required by PP is regarding area of the backfilling. It has observed that as per mining plan out of 271 Ha total 171 Ha area is proposed under backfilling. The

Committee was of the view that PP is proposing for the increase in dump height and at the same time backfilling is proposed. Thus, it is suggested that PP should optimize its planning so that early backfilling can be started. This will serve the two purpose 1st PP need not require to increase the dump height to 60 meters and secondly re-handling of the material can be avoided.

The Committee deliberated the proposal based on the information submitted by the PP. The Committee **deferred** the proposal and is of the view that the proposal may be considered after submission of the following requisite information:

- (i). PP should get the study done from Central Mine Planning & Design Institute Limited (CMPDI) with respect to increase in dump height to 60 meters. The study report inter-alia addresses the issues pertaining to slope stability of the dumps, feasibility of increasing of dump height to 60 meters, safety issues, environmental issues, stabilization of dumps, mitigation measures and monitoring of the dumps. Based on the outcome of the study PP needs to modify the mining plan for the safe dump height as recommended by Central Mine Planning & Design Institute Limited (CMPDI).
- (ii). The PP should submit the time line for the backfilling (year-wise quantity to be backfilled, supported by plan and section of backfilling) considering the fact that early backfilling will not only reduce the dump height but also reduce the re-handling of the material.

The Meeting ended with thanks to the Chair.

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 predominant 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

- 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 / NHA I Time Period: 2 Years.
- 10) Regular vacuum cleaning of all mineral carrying roads aiming at "Zero Dust Re- suspension" may be considered. Responsibility: PWD / NHA I/ 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 3 using closed container trucks should be explored for direct to destination movement of iron ore. Air quality monitoring at one location should also be carried out along the transport route within the mine (periodically, near truck entry and exit gate). Responsibility: Individual Mine Lease Holders and SPCB.

- 23) **Noise and Vibration Related:** (i) Blasting operation should be carried out only during daytime. Controlled blasting such as Nonel, should be practiced. The mitigation measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented. (ii) Appropriate measures (detailed in Section 5.4) should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs/muffs. (iii) Noise levels should be monitored regularly (on weekly basis) near the major sources of noise generation within the core zone. Further, date, time and distance of measurement should also be indicated with the noise levels in the report. The data should be used to map the noise generation from different activities and efforts should be made to maintain the noise levels with the acceptable limits of CPCB (CPCB, 2000) (iv) Similarly, vibration at various sensitive locations should be monitored atleast once in month, and mapped for any significant changes due to successive mining operations. Responsibility: Individual Mine Lease Holders.
- 24) **Water/Wastewater Related :** (i) In general, the mining operations should be restricted to above ground water table and it should not intersect groundwater table. However, if enough resources are estimated below the ground water table, the same may be explored after conducting detailed geological studies by GSI and hydro- geological studies by CGWB or NIH or institute of national repute, and ensuring that no damage to the land stability/ water aquifer system shall happen. The details/ outcome of such study may be reflected/incorporated in the EIA/EMP report of the mine appropriately. (ii) Natural watercourse and/or water resources should not be obstructed due to any mining operations. Regular monitoring of the flow rate of the springs and perennial nallas should be carried out and records should be maintained. Further, regular monitoring of water quality of nallas and river passing thorough the mine lease area (upstream and downstream locations) should be carried out on monthly basis. (iii) Regular monitoring of ground water level and its quality should be carried out within the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operation. The monitoring should be carried out on monthly basis. (iv) In order to optimize water requirement, suitable conservation measures to augment ground water resources in the area should be undertaken in consultation with Central Ground Water Board (CGWB). (v) Suitable rainwater harvesting measures on long term basis should be planned and implemented in consultation with CGWB, to recharge the ground water source. Further, CGWB can prepare a comprehensive plan for the whole region. (vi) Appropriate mitigation measures (viz. ETP, STP, garland drains, retaining walls, collection of runoff etc.) should be taken to prevent pollution of nearby river/other water bodies. Water quality monitoring study should be conducted by State Pollution Control

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

- 25) **Land/ Soil/ Overburden Related** (i) The top soil should temporarily be stored at earmarked site(s) only and it should not be kept unutilized for long (not more than 3 years or as per provisions mentioned in the mine plan/ scheme). The topsoil should be used for land reclamation and plantation appropriately. (ii) Fodder plots should be developed in the non-mineralised area in lieu of use of grazing land, if any. (iii) Over burden/ low grade ore should be stacked at earmarked dump site(s) only and should not be kept active for long period. The dump height should be decided on case to case basis, depending on the size of mine and quantity of waste material generated. However, slope stability study should be conducted for larger heights, as per IBM approved mine plan and DGMS guidelines. The OB dump should be scientifically vegetated with suitable native species to prevent erosion and surface run off. In critical areas, use of geo textiles should be undertaken for stabilization of the dump. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Proper records should be maintained regarding species, their growth, area coverage etc. (iv) Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from mine operation, soil, OB and mineral dumps. The water so collected can be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly de-silted, particularly after monsoon and should be maintained properly. Appropriate documents should be maintained. Garland drain of appropriate size, gradient and length should be constructed for mine pit, soil, OB and mineral dumps and sump capacity should be designed with appropriate safety margin based on long term rainfall data.Sump capacity should be provided for adequate retention period to allow proper settling of silt material. Sedimentation pits should be constructed at the corners of the garland drains and de-silted at regular intervals. (v) Backfilling should be done as per approved mining plan/scheme. There should be no OB dumps outside the mine lease area. The backfilled area should be afforested, aiming to restore the normal ground level. Monitoring and management of rehabilitated areas should continue till the vegetation is established and becomes self-generating. (vi) Hazardous waste such as, waste oil, lubricants, resin, and coal tar etc. should be disposed off as per provisions of Hazardous Waste Management Rules, 2016, as amended from time to time. Responsibility: Individual Mine Lease Holders.

- 26) **Ecology/Biodiversity (Flora-Fauna) Related:** (i) As per the Red List of IUCN (International Union for Conservation of Nature), six floral species and 21 faunal species have been reported to be under threatened, vulnerable & endangered category. Protection of these floral and faunal species should be taken by the State Forest & Wildlife Department on priority, particularly in the mining zones, if any. (ii) The mines falling within 5-10 km of the Karo-Karampada Elephant corridor buffer need to take precautionary measures during mining activities. The forest and existing elephant corridor routes are to be protected and conserved. Improvement of habitat by providing food, water and space for the elephants is required to be ensured to avoid Man-Elephant conflicts. Though as per the records of State Forest Department, movement of elephants in the Karo-Karampada elephant corridor within 10 km distance from the mines in Joda and Koira is not observed, the Forest Department shall further record and ensure that elephant's movement is not affected due to mining activities. (iii) All precautionary measures should be taken during mining operation for conservation and protection of endangered fauna namely elephant, sloth bear etc. spotted in the study area. Action plan for conservation of flora and fauna should be prepared and implemented in consultation with the State Forest and Wildlife Department within the mine lease area, whereas outside the mine lease area, the same should be maintained by State Forest Department. (iv) Afforestation is to be done by using local and mixed species saplings within and outside the mining lease area. The reclamation and afforestation is to be done in such a manner like exploring the growth of fruit bearing trees which will attract the fauna and thus maintaining the biodiversity of the area. As afforestation done so far is very less, forest department needs to identify adequate land and do afforestation by involving local people in a time bound manner. (v) Green belt development carried out by mines should be monitored regularly in every season and parameters like area under vegetation/plantation, type of plantation, type of tree species /grass species/scrubs etc., distance between the plants and survival rate should be recorded. (vi) Green belt is an important sink of air pollutants including noise. Development of green cover in mining area will not only help reducing air and noise pollution but also will improve the ecological conditions and prevent soil erosion to a greater extent. Further, selection of tree species for green belt should constitute dust removal/dust capturing plants since plants can act as efficient biological filters removing significant amounts of particulate pollution. Thus, the identified native trees in the mine area may be encouraged for plantation. Tree species having small leaf area, dense hair on leaf surface (rough surface), deep channels on leaves should be included for plantation. (vii) Vetiver plantation on inactive dumps may be encouraged as the grass species has high strength of anchoring besides medicinal value. (viii) Details of compensatory afforestation done should be recorded and documented by respective forest divisions, and State Forest Department should present mine-wise annual status, along with expenditure details. (ix) Similarly, Wildlife Department is also required to record and document annual status of wildlife in the region and should identify the need for wildlife management on regional level. (x) Maintenance of the ecology of the region is prime responsibility of the State Forest and Wildlife Department. They need to periodically review the status and identify the need for further improvement in the region. The required expenditure may be met from the funds already collected in the form of compensatory afforestation and wildlife management. Further, additional fund, if required can be sought from DMF. Responsibility: Individual Mine Lease Holders and State Forest & Wildlife Department.
- 27) **Socio-Economic Related:** (i) Public interaction should be done on regular basis and social welfare activities should be done to meet the requirements of the local communities. Further, basic amenities and infrastructure facilities like education, medical, roads, safe drinking water, sanitation, employment, skill development, training institute etc. should be developed to alleviate the quality of life of the people of the region. (ii) Land outtees and land losers/affected people, if any, should be compensated and rehabilitated as per the national/state policy on Resettlement and Rehabilitation. (iii) The socio-economic development in the region should be focused and aligned with the guidelines/initiatives of Govt. of India/ NITI Aayog / Hon'ble Prime Minister's Vision centring around prosperity, equality, justice, cleanliness, transparency, employment, respect to women, hope etc. This

can be achieved by providing adequate and quality facilities for education, medical and developing skills in the people of the region. District administration in association with mine lease holders should plan for "Samagra Vikas" of these blocks well as other blocks of the district. While planning for different schemes in the region, the activities should be prioritized as per Pradhan Mantri Khanij Kshetra Kalyan Yojna (PMKKKY), notified by Ministry of Mines, Govt. of India, vide letter no. 16/7/2017-M.VI (Part), dated September 16, 2015. Responsibility: District Administration and Individual Mine Lease Holders.

- 28) **Road Transport Related:** (i) All the mine lease holders should follow the suggested ore transport mode (SOTM), based on its EC capacity within next 5 years. (ii) The mine lease holders should ensure construction of cement road of appropriate width from and to the entry and exit gate of the mine, as suggested in Chapter 10. Further, maintenance of all the roads should be carried out as per the requirement to ensure dust free road transport. (iii) Transportation of ore should be done by covering the trucks with tarpaulin or other suitable mechanism so that no spillage of ore/dust takes place. Further, air quality in terms of dust, PM₁₀ should be monitored near the roads towards entry & exit gate on regular basis, and be maintained within the acceptable limits. Responsibility: Individual Mine Lease Holders and Dept. of Steel & Mines
- 29) **Occupational Health Related:** (i) Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects periodically. (ii) Occupational health surveillance program for all the employees/workers (including casual workers) should be undertaken periodically (on annual basis) to observe any changes due to exposure to dust, and corrective measures should be taken immediately, if needed. (iii) Occupational health and safety measures related awareness programs including identification of work related health hazard, training on malaria eradication, HIV and health effects on exposure to mineral dust etc., should be carried out for all the workers on regular basis. A full time qualified doctor should be engaged for the purpose. Periodic monitoring (on 6 monthly basis) for exposure to respirable minerals dust on the workers should be conducted, and record should be maintained including health record of all the workers. Review of impact of various health measures undertaken (at an interval of 3 years or less) should be conducted followed by follow-up of actions, wherever required. Occupational health centre should be established near mine site itself. Responsibility: Individual Mine Lease Holders and District Administration (District Medical Officer)
- 30) **Reporting of Environmental Sustainability Achievement:** All the mines should prepare annual environmental sustainability report (ESR), highlighting the efforts made towards environmental protection with respect to different environmental components vis-à-vis production performance of the mine on monthly basis. The data collected as per EC and CTE/CTO conditions should be utilized to prepare the annual sustainability report. The mines performing high with effective environmental safeguards may be suitably recognized/rewarded. "Star Rating Format" formulated by the Ministry of Mines along with environmental sustainability report may be used.
- 31) **Environmental Monitoring Requirements at Regional Level:** Apart from strict compliance and monitoring by individual mine lease holder, there is a need for simultaneous monitoring in each of the regions by competent expert agencies under the guidance/ supervision of concerned regulatory agency. Details of the studies required to be done on regular basis (continuously for 5 years) through responsible agency (organization of national/state repute) and time frame are suggested in Table.

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

Sr. No.	Study Component/ Action Plan	Responsibility	Monitoring and Reporting Time Frame (Approx.)
1.	Environmental Quality Monitoring with respect to Air, Water, Noise and Soil Quality in each	SPCB	Continuous Annually

	<p>region (Joda, Koira and Baripada/Rairangpur) as per specified frequency shall be done by a third party (preferably Govt.) and/or laboratory approved/ recognized by NABET/ CPCB/ SPCB/ MoEF&CC.</p> <p>All the water bodies (rivers, nallas, ponds etc.) shall be monitored. National/State level research/ academic institutes may be involved initially for couple of years to streamline the activity. The report shall be brought out annually by June each year. The study shall be conducted in consultation with MoEF&CC-RO.</p>		
	<u>Installation of online ambient air quality monitor for PM10, PM2.5, SOx and NOx 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 PM10, PM2.5, SOx and NOx 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 / Academic Institutes	Upto 45% by 2020 and upto 40% by 2025

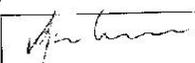
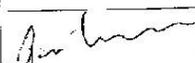
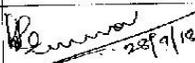
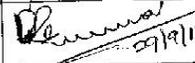
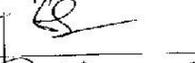
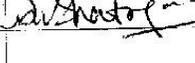
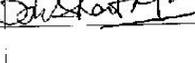
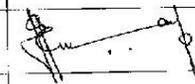
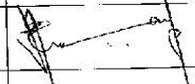
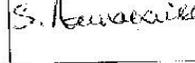
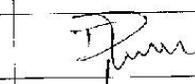
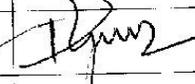
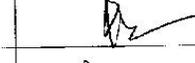
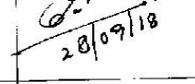
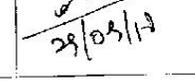
The data so generated for the region should be made available on the website of Department of Steel & Mines and also at MoEF&CC website, so that it can be effectively utilized by Individual Mine Lease Holders for preparing EIA/ EMP reports. This will meet the requirement for separate one season baseline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

- 32) Institutional Mechanism for Implementation of Environmentally Sustainable Mining: The present study is not a one-time study, but a process to ensure environmentally sustainable mining activities in the region on long term basis. Looking into the large-scale mining activities and long term perspective for mining vis-à-vis environmentally sustainable mining and upliftment of people of the region, there is a need to create an agency, who will integrate all the aspects relating to sustainable mining in the region on long term basis. It could be a SPV of Govt. of Odisha or a cell within the overall control and supervision of Dept. of Steel & Mines, with members from IBM, GSI, OSPCCB, MoEF&CC-RO and other concerned Departments and Mine Owners (EZMA), District Administration. It is found that the strong database available for the region needs to be taken into account to map and establish environmental quality of the region on daily, monthly, seasonal and annual basis. Further, the efforts and initiatives of the mines towards environmental protection as well as upliftment of the people of the region are required to be integrated, and a systematic plan at the block/regional level needs to be framed for the overall benefit of the local society, region, district, state and the country as a whole. It will be desirable to have proper environmental quality data management and analysis by NEERI or any other agency for next 5 years (six monthly compliance reports followed by field verification) ensuring sustainable mining practices in the region leading to an overall development of the region. District Mineral Funds should be utilized

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

Attendance Sheet

LIST OF EXPERT APPRAISAL COMMITTEE (MINING - Non Coal Mining Sector)

Sl. No.	Name and address	Designation	Date:28/09/2018	Date:29/09/2018
1.	Dr. Ajai Kumar B-1302, BestechParkView Spa, Sector-47, Gurgaon, Haryana	Chairman		
2.	Shri B Ramesh Kumar H-No. 6-1-134/6, Balram Compound, Padmarao Nagar, Secundrabad- 500025, Andhra Pradesh	Member	 28/9/18	 29/9/18
3.	Prof. Dr. K.S. Rana Maharana Manzil, 13, Dholpur House, (D.M. Compound), M.G. Road, Agra-1, Uttar Pradesh - 282001	Member		
4.	Prof. A. K. Bhatnagar, JA/4B, Ashok Vihar-I, Delhi - 110052	Member		
5.	Dr. N. C. Karmakar Department of Mining Engineering, Indian Institute of Technology (BHU), Varanasi - 221 005, Uttar Pradesh	Member		
6.	Dr. Hemant S. Sahasrabudhe "Utkarsha", LB-53, Housing Board Colony, Laxminagar, Nagpur-440022	Member		
7.	Prof. S. Ramakrishna Rao 50-120-9/1, Tulasi Mani Regency North Extension, Seethammadhara, Visakhapatnam - 530013 Andhra Pradesh	Member		
8.	Dr. Himanshu Pathak, Professor, Center for Environment Science and Climate Resilient Agriculture, Indian Agricultural Research Institute, New Delhi 110 012.	Member		
9.	Dr. AL. Ramanathan Professor, School of Environmental Sciences, Jawaharlal Nehru University, New Mehrauli Road, New Delhi- 110067	Member		
10.	Dr. Tushar Kant Joshi, Laxmikant Niwas, Sa'an Gaon, Bhagwantpur, Dehradun-248009, Uttarakhand	Member		
11.	Shri Santosh Gupta, Flat No. 405, Block -B, Gaur Green Vista, NyayKhand - 1, Indrapuram, Ghazabad-201014	Member		
12.	Representative of Ministry of Mines Shri. Pushpender Gaur, Dy. Controller of Mines, Ministry of Mines, Shastrī Bhawan New Delhi-110001. <i>so-delhi@min.gov.in</i>	Member	 28/09/18	 29/09/18
13.	Representative of Indian Meteorological Mr. V.K. Soni, Scientist "E", (Meteorology/Air Pollution), 609, SatMet Building, Mausam Bhawan, Indian Meteorological Department, Lodhi Road, New Delhi-110003	Member		
14.	Representative of Wildlife Institute of India, Wildlife Institute of India, Chandrabani, Dehradun-248001	Member		
15.	Dr. R.B. Lal, Additional Director IA-Division (Non Coal Mining) Vayu-305, Indira Paryavaran Bhawan, Ministry of Environment, Forest & CC, Jorbagh Road, Lodhi Road, New Delhi-110003	Member Secretary		