

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

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**SUMMARY RECORD OF 10<sup>th</sup> MEETING OF THE COMMITTEE OF THE EXPERT APPRAISAL COMMITTEE FOR ENVIRONMENTAL APPRAISAL OF NON-COAL MINING PROJECTS CONSTITUTED UNDER THE EIA NOTIFICATION, 2006.**

The 10<sup>th</sup> meeting of the Expert Appraisal Committee for Environmental Appraisal of Mining Projects (Non-Coal) of the Ministry of Environment, Forest and Climate Change was held during **October 21-22, 2019**. The list of participants is annexed herewith. After welcoming the Committee Members, discussion on each of the Agenda Items was taken up ad-seriatim.

**1.1 Deliberation & Circulation on the Minutes of the 9<sup>th</sup> EAC Meeting held during September 24-25, 2019:**

The Minutes of the 9<sup>th</sup> Meeting of EAC held during **September 24-25, 2019**, were circulated to the members of the Committee. The Committee made brief deliberations on the proposals placed in the last meeting and approved the same with the following amendments:

*The Member Secretary informed the Committee that in MoM uploaded for agenda item no 2.8 proposal of M/s. Emami Cement Ltd for Limestone Mine {Block 3B1 (a), Area- 267.6288 ha}, in the table mentioned in para 2, in the Sl No 1 of the table in the last column the mining lease area was inadvertently mentioned as 247.8711 Ha in place of 267.6288 Ha. In row 3, column 1 "Line 137-9" may be read as "7-9". In in row 4 column 1 "para 9, Line 13-14" may be read as "Para 8, Line 13-15". The Committee agreed with the corrections.*

**DAY 1: October 21, 2019 (Tuesday)**

- 2.1. Sugala Limestone and Marl Mine by M/s Ambuja Cement with Limestone production capacity of 1.29 Million TPA and topsoil 0.25 MPTA (Total excavation 1.54 MTPA) in the mining lease area of 417.35.84 ha located at Villages Sugala and Jagatiya, Taluka- Kodinar, District- Gir Somanth, Gujarat-Consideration of Environmental Clearance.**

**(File No: J-11015/154/2018-IA. II(M); Proposal No: IA/GJ/MIN/77357/2018; Consultant: J. M. EnviroNet. Pvt. Ltd)**

The proposal of M/s Ambuja Cement is for Sugala Limestone and Marl Mine with Limestone production of 1.29 MTPA and topsoil 0.25 MPTA (Total excavation 1.54 MTPA) in the mining lease area of 417.35.84 ha. The mine lease area is located at Villages Sugala and Jagatiya, Taluka- Kodinar, District- Gir Somanth, Gujarat. The mine lease area falls in the Survey of India Topo-Sheet No. 41L/13 (restricted). The latitudes and longitudes of the mine lease area are 20°52' 45.16" N to 20° 54' 51.12" N and 70°45' 33.23" E to 70° 46' 37.41" E. As per EIA Notification dated 14<sup>th</sup> September, 2006 as amended from time to time, the project falls under Category A or Activity 1(a) as the mining lease area is greater than 100 ha.

2. PP submitted that this proposal is for compliance to Ministry's Notification dated 06.04.2018. PP further submitted that Term of Reference (ToR) proposal was considered in the EAC meeting held during 15-16 November 2018 and the ToR was granted vide letter No. J-11015/154/2018-IA. II (M) dated 10 December 2018 in the mine lease area of 417.3584 ha without public hearing. PP submitted the EIA/EMP report to Ministry at PARIVESH Portal for seeking environmental clearance, accordingly, the proposal is considered in this EAC meeting.
3. PP submitted that total mine lease area is 417.35.84 ha. Out of which 414.84.93 ha is a private agricultural land and 2.50.91 ha is a government land. PP further submitted mining lease for an area of 417.35.84 ha was granted to M/s. Gujarat Ambuja Cement Ltd by the Industries and Mines Department, Government of Gujarat vide letter no. MCR-1096-3711-CHH dated 19.07.2002 for a period of 30 years. The lease was executed on 02.09.2002 in the name of M/s. Gujarat Ambuja Cement Ltd. PP submitted that the name of company has been changed from M/s. Gujarat Ambuja Cement Ltd. to M/s. Ambuja Cements Ltd, however, there is no change of ownership. Subsequently, the Mines and Industries Department, Government of Gujarat vide order No. MCR-102011-1770-CHH.1 dated 18.09.2017 and 17.10.2017 changed the name in lease from M/s. Gujarat Ambuja Cement Ltd to M/s. Ambuja Cements Ltd. However, the executed lease dated 02.09.2002 is still in the name of M/s. Gujarat Ambuja Cement Ltd.

4. PP submitted that the environmental clearance for existing Limestone and Marl Mine with production capacity of 1.29MTPA limestone was granted to M/s. Gujarat Ambuja Cement Ltd by the Ministry vide letter No. J-11015/6/2000-IA.II (M) dated 20.06.2002 under the provision of EIA Notification, 1994. PP further mentioned that application for transfer of EC from M/s. Gujarat Ambuja Cement Ltd to M/s. Ambuja Cements Ltd has submitted to Ministry and it is under process with the Ministry.
5. PP submitted that Mining Plan along with Progressive Mine Closure Plan has been approved by IBM vide letter no-682(23)(MS-374)/2006—khanikhasa (o) uday, dated 02.12.2016 which is valid up to 31.03.2022. PP further submitted the past production details from Office of Geology and Mineral Department, Govt. of Gujarat vide letter no. GL/MIN/General/3688 dated 10.08.2018 for the year of 2002-03 to 2018-19 (till 31.05.2018). The production details revealed that PP has mined within the EC capacity. In addition, PP mentioned that there is no production of Marl mineral and for the same PP submitted production details of Marl mineral as NIL for the year of 2002-03 to 2018-19 (till 31.10.2018) from the office of Geology and Mineral Department, Govt. of Gujarat vide letter no. GJ/ML/General/4236 dated 20.11.2018.
6. PP submitted that baseline data were collected for the period of December 2018 to February 2019. Further, PP submitted that the hydrogeological study has been carried out for the said mining lease. PP also submitted the certified compliance report from RO, MoEF&CC, Bhopal vide letter no. 3-7/2002(ENV)/393 dated 26.06.2019.
7. PP submitted that the Gir wildlife sanctuary is about 6.25 km far away from mine site and the NBWL Clearance has been obtained from Office of the Principal Chief Conservator of Forests vide letter no. WLP/32/B/512-18/2018-19 dated 20.04.2018 and corrigendum issued vide letter No. WLP/32/B/562-68/2018-19 dated 04.05.2018. PP submitted that three Schedule-I species namely Peafowl, Asiatic Lion, and Leopard are found within the study area. Further, PP submitted approved Wildlife Conservation plan from the Office of Principal Chief Conservator of Forest, Wildlife, Government of Gujarat vide letter no. WLP/32/B/8598-99 dated 10.12.2018. PP submitted that biological study for the study area (core zone &

buffer zone) has been conducted. In addition, PP submitted the list of flora and fauna in core zone and buffer zone of the lease area from Deputy Conservator of Forest, Gir Western Division, Junagadh vide letter no. K/JAMAN/Te13/31/2019-20 dated 10.04.2019. PP also submitted the affidavit dated 20.09.2018 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.

8. PP mentioned that the mining operation will be carried out by open cast semi-mechanized method by deploying eco-friendly surface miner (200 and 4500 TPH) and dozer without adoption of drilling and blasting. Surface soil is being dozed off using Dozer. Topsoil generated from the mining activity are being stacked separately and being utilized for plantation. There is no overburden or waste generated from the mining activity. PP submitted that excavated limestone is loaded into tippers by wheel loaders and then transported by tippers (16-18 tonnes)/tip trailers from Sugala mine to cement plant located at Ambujanagar, Gujarat.
10. PP submitted that the total water requirement for the mining project is 225 KLD, which is being sourced from bore wells/ rain water harvested in mine pits. The general ground level is 36 to 54 AMSL and the water table level is 1.2 m bgl to 3.4 m bgl. PP further submitted that the ultimate working depth of the mining operation will be approximately 10 m bgl and the ground water table has already been intersected. Furthermore, the approval for intersecting the water table as well as for water withdrawal has been obtained from CGWA vide letter no CGWA/NOC/MIN/ORIG/2018/3015 dated 31.01.2018. CGWA letter mentioned that PP may abstract 7628 cu.m/day for 300 days (not exceeding 27,84,220 cu.m/year) through proposed nine (9) tube wells for dewatering only on account of mining intersecting the water table.
11. PP submitted that a village road connecting Jagatiya to Sugala is passing through the lease area, one canal exists adjacent to lease area in West direction and one Sub Canal Passing through the lease area. PP further submitted that the seasonal river Shingoda is located west of the mine site at a distance of 250 to 500 m and MLA has certain constraints like occurrence of electric power lines and passing of a few minor cart tracks.

12. PP submitted that there is no litigation/court case pending against the mine lease area. PP further submitted that total project cost is Rs.150 Crores including land and machinery, funds allocated for EMP (Capital) is Rs. 0.10 Crores, recurring cost for EMP is Rs.0.51 Crore/annum and CER is Rs. 1.5 Crores. Total manpower requirement for the existing mine is 117 Persons and majority are being sourced from nearby villages.
13. Based on the presentation made by PP and the discussion held, the Committee observed the following and **deferred the proposal** for want of requisite information for further consideration.
- (i). PP submitted compliance to the ToR conditions which are generic and not adequate. PP is required to submit the quantitative data for compliance of existing EC conditions along with more specific compliance status of the ToR conditions.
  - (ii). PP submitted that earlier public hearing conducted 17.12.1998. The Committee asked the PP for compliance report for the concerns raised during the meeting, however, PP unable to explain the same and did not have any compliance report for the same. PP needs to submit details of concern raised during public hearing, assurance/measurement given for addressing the concerns and the current status of the compliance to public concern. In addition, the Committee asked the PP to meet the public and record the current concern of the public and submit the corresponding measurement with the timeline.
  - (iii). PP submitted that Gir Wildlife Sanctuary is about 6.25 km far away from mine site and the NBWL Clearance has been obtained from Office of the PCCF vide dated 20.04.2018. The Committee observed that EC for the production capacity of 1.29 MTPA was obtained vide letter dated 20.06.2002 and PP has carried out the mining activity without NBWL clearance till 19.04.2018. Therefore, the committee ask the Ministry to take the necessary action in this regard.
  - (iv). PP has not presented results and analytical data for current baseline data. PP needs to present the same. In addition, the PP needs to submit progressive EIA data and their comparative values (i.e. values obtained in during earlier EC appraisal, entire monitoring period and current baseline data collection period) for all parameters and explain how environmental quality has varied.

- (v). PP submitted compliance status to EC specific condition vi (a), however, the Committee is of the view that PP needs to get certificate from the Irrigation Department, Government of Gujarat that no drought has been taken place. The same needs to be supported with the analytical data and other documentary evidences.
- (vi). PP requires to submit the results of ground water level and quality analysis. In addition, PP needs to show comparative data (i.e. different time period) for ground water quality analysis.
- (vii). As part of existing EC condition “(v) Fencing (other than barbed wire) all around the lease area should be provided”, however, the compliance report mentioned that fencing is provided along the lease boundary, and certain area where surface right is under progress. The Committee is of the view that specific EC condition should be followed and completed as early as possible. PP needs to submit timeline for obtaining the surface right and carrying out the fencing all around lease area.
- (viii). EIA study provides location and the data with predictable values by running the model. PP needs to validate the predictable data with respect to air quality data and area source. In addition, the emission factors considered for the modeling may be specified and its agreement with the accepted factors considered in Indian scenario developed by CMPDI/ISM. PP requires to carry out particle size analysis for upwind and downwind direction of dust.
- (ix). PP submitted that water requirement is 225 KLD; the Committee is of the view that the water requirement is high. So, the Committee asked the PP to submit water budget for the same and also futuristic approach on decreasing the water requirement.
- (x). As part of specific EC condition (x), greenbelt should be developed all around the ML, however, PP still in the process of complying doe the area where surface right is not available and is under process of acquiring. In addition, PP was unable to show/explain the plantation in KML. PP needs to submit the KML file having proper marking of plantation area and their corresponding coordinates.

- (xi). PP requires to submit the details of plantation carried out till today all along the lease boundary with photographic images. In addition, the timeline for carrying out plantation all around lease area as well as obtaining the surface right.
- (xii). As per the Industries and Mines Department, Government of Gujarat, the lease is granted for 417.35.84 ha not for 417.3584 ha. PP submitted that in Gujarat state revenue records are mentioned in area format of "Hectare. Are. Square Meter" where 1 Hectare = 100 Are and 1 Are = 100 Square Meter thus in Gujarat lease orders are written in format of 417.35.84 ha. The Committee is of the view that PP's clarification needs to be verified and PP should provide certificate from the Competent Authority of State Mines and Geology w.r.t mine lease area.
- (xiii). PP needs to submit the compliance status of the all conditions stipulated by CGWA, specifically implementation of water recharge measures (13,72,885 cu.m/year).
- (xiv). PP requires to submit the R & R plan for the affected populace for the area the getting the surface right is under process.
- (xv). During ToR appraisal, the Committee noted that PP has mined without CTO prior to 2003 and therefore will come under the ambit of the common cause judgement of the Hon'ble Supreme Court. PP needs to submit details of action taken by the Competent Authority against the PP activity.
- (xvi). PP submitted that a village road connecting Jagatiya to Sugala is passing through the mine lease area. The Committee is of the view that PP needs to submit details of any diversion of road undertaken, if not then PP needs to submit futuristic approach for the village road and their accessibility.
- (xvii). PP requires to submit revised conceptual land use pattern for the mine lease area.
- (xviii). PP needs to submit authenticated specific target plan for conservation of Lions and their movement. The committee observed that the plans as approved by the competent authority needs to be examined in detail as the Gir Sancturay is the only habitat for Lions and requires to be assessed more specifically considering its importance. PP should ensure that the approved plan is received by EAC

domain experts (Dr. A.K. Malhotra and Dr. Asha Rajvanshi) 15 days in advance to ensure that proper examination is completed.

- (xix). In EIA/EMP report, PP submitted 27.408 Million Tonnes of Limestone as total geological reserve, however, during presentation PP mentioned that 39.458 Million Tonnes as total geological reserve. PP needs to submit clarification for the same.
- (xx). PP requires to submit details of precautionary steps applied till date for protection of electric power lines exist in the mine lease area.
- (xxi). PP needs to submit details of environment management cell since inception of mining, performance including monitoring and their educational backgrounds.
- (xxii). PP submitted hydrogeological study for the mine lease area; however, PP not submitted the details of laboratory conducted the study and their accreditation certificate.
- (xxiii). PP needs to revise the CER budget as per the provisions of OM No. F. No. 22-65/2017-IA-III dated 01 May 2018.

**2.2. Sukinda Mines (Chromite) by M/s Indian Metals & Ferro Alloys Ltd with expansion of production from 3.51 LTPA to 6 LTPA, change in mining technology from opencast to opencast & underground and establishment of chrome ore beneficiation plant (COBP) of 40 TPH over a lease area of 116.76 ha located at Village- Kaliapani, Tehsil- Sukinda, District- Jajpur, State- Odisha-Consideration of Environmental Clearance.**

**(File No: J-11015/204/2015-IA. II(M); Proposal No: IA/OR/MIN/114264/2007; Consultant: Perfact Enviro Solutions Pvt. Ltd)**

The proposal of M/s Indian Metals & Ferro Alloys for enhancement in production of chromite from 3.51 Lakh TPA to 6.0 Lakh TPA with change in technology from opencast to combination of opencast and underground mining and establishment of chrome ore beneficiation plant of 40 TPH feed capacity in the mining lease area of 116.76 ha. The mining lease area of 116.76 ha is situated at Khasra No. 488 (p), 502, 627 (p), 628 (p), 629, 630 (p), 641 (p), 691 (p), 888 (p), 889 (p), 892 (p), 894 (p), 895 (p), 627/1010(p), 627/1011 (p), 883 (p) of Village



Kaliapani, Tehsil Sukinda, District Jajpur, Orissa. The mine lease area falls in the Survey of India Topo sheet 73-G/16 (OSM Sheet no. F45N16) with latitude 21°01'45.51"N to 21°2'33.81" N & longitude is 85° 45'35.91" E to 85°46'42.03" E.

2. PP submitted that total mine lease area is 116.76 ha, out of which 115.05 ha is Mahagiri protected forest land and 1.71 ha is a government land. PP further submitted that forest clearance for 115.05 ha has been granted by MoEF&CC vide letter no. F.No. 8-16/2016-FC dated 22 June 2018. vPP submitted that mining lease was granted by Govt. of Orissa for 30 years which was executed on 04.09.1999 and the lease is valid up to 03.09.2029.
3. PP submitted that earlier environmental clearance for a capacity of 2.55 LTPA chromite production was granted by the Ministry vide letter No. J-11015/28/2001-IA.II (M) dated 24.12.2002 for the period of 5 years and amendment in EC was issued on 10.02.2005. Subsequently, the Ministry had granted the extension of mining operation up to 31.03.2009 or till a decision on the expansion proposal for which ToR were prescribed vide this Ministry's letter no. J-11015/346/2007-IA.II (M) dated 31.07.2007 is taken, whichever is earlier. Furthermore, the EC for enhancement in production of chromite from 2.55 LTPA to 3.51 LTPA was granted by the Ministry vide letter no J-11015/346/2007-IA.II (M) dated 18.06.2008 with the validity up to March 2012. Subsequently, the Ministry had extended the validity of EC up to 31.03.2014 vide letter of even no dated 22.05.2012. Followed by, Ministry had extended the validity of EC up to 31.03.2026 vide letter of even no dated 11.08.2014 for continuation of production of 3.51 LTPA of chromite ore by opencast method for captive use.
4. PP submitted the past production details for existing EC from DDM, Jaipur, vide letter no. 776/Mines dated 15.05.2018, which reveals that PP has mined within the EC capacity after grant of last EC dated 18.06.2008.
5. PP submitted that the ToR proposal for expansion in production of chromite from 3.51 Lakh TPA to 6.0 Lakh TPA with change in technology from opencast to combination of opencast and underground mining and establishment of chrome ore beneficiation plant of 40 TPH feed capacity was considered by EAC during

July 29-30, 2015. The ToR has been granted by the Ministry vide letter No J-11015/204/2015-IA-II (M) dated 24 August 2015. PP submitted that the public hearing was completed on 23.06.2017 and submitted EIA report to Ministry for appraisal. The proposal was placed in the EAC meeting held during August 23-24, 2018. However, PP vide email dated 14.08.2018 mentioned that the consultant has been changed and the new consultant may take some time to validate the data and accordingly requested to defer the proposal. Therefore, the Committee deferred the proposal and delisted. Subsequently, PP requested for extension of validity of ToR for 1 year from 24.08.2018 to 23.08.2019. The proposal was considered in the EAC meeting held during October 23-24, 2018 and the extension in validity of ToR (i.e. 24.08.2018 to 23.08.2019) was granted by Ministry vide letter no. J-11015/204/2015-IA-II (M) dated 29 July 2019.

6. PP submitted the EIA/EMP report to Ministry at PARIVESH Portal on 13.08.2019 for seeking environmental clearance. The EDS was raised and PP again submitted the proposal on 12.09.2019. Accordingly, the proposal is considered in this EAC meeting.
7. PP submitted that public hearing was conducted on 23.06.2017 at Mahagiri Enclave under khata no. 53/15, Plot no.664 of Village Kaliapani of Jaipur District under the Chairmanship of Mr. Abdul Alim Khan, OAS, Additional District Magistrate, Kalinga Nagar, and District-Jaipur.
8. PP further submitted that review of mining plan of Sukinda Chromite Mine along with Progressive Mine Closure Plan was approved by IBM vide letter no.MS/FM/27-ORI/BHU/2018-19/1796 dated 31.10.2018 which is valid up to 31.03.2024.
9. PP reported that Deputy Director of Mine, Department of Mines and Geology, Govt. of Odisha, vide letter no. 570/Mines, dated 11.04.2018 has demanded a sum of Rs. 94,73,53,671/- with regard to without or excess of the approved limit of production under EC during 2000-01 to 2007-08. PP further submitted that the revision application was filed vide no. 22/46/2018/RC-1 in the Ministry of Mines

for challenging the demand notice issued by the State Govt. PP informed that after hearing of revision application on 10.05.2018, the Revisionary Authority has stayed the order till the next date. The said revision application is sub-judice.

10. PP submitted that the baseline data were collected during October 2015 - December 2015. PP further submitted that the present mining operation is fully mechanized with drilling and blasting and proposed mining operation is both open cast and underground mining with drilling and blasting. The ultimate maximum bench height will be up to 8m with minimum working width of 8-12m. The ultimate pit limit will be (-) 2 mRL in Band I which may increase further up to (-) 62 mRL upon successful implementation of mining by grab method while proposed ultimate pit limit in Band II is 46mRL.
11. PP further submitted that proposed chrome ore beneficiation plant of 40 TPH feed capacity will be installed from the year 2020-21, to produce usable grade of chrome concentrate. The process in the chrome ore beneficiation plant is a wet gravity separation method and does not involve any use of chemicals. It is proposed to beneficiate the stock of 6.12 Lakh tonnes of subgrade ore having (+) 10 to (-) 30%  $\text{Cr}_2\text{O}_3$ . The ore is transported to company's ferro chrome plant in Choudwar (in Cuttack district) via Tomka or Mangalpur by road. In addition, the ore is transported to company's ferro chrome plant in Therubali (in Rayagada district), initially, the ore transported upto Tomka railway siding by road and from Tomka railway siding to Therubali by rail.
12. PP submitted that the total OB/waste from opencast mining in Band I and Band II will be 10665440 cum which will be dumped in existing dump yard and will be backfilled in the mined-out areas of Band I and will also be utilized for back filling of stopes. There will be generation of marginal quantity of top soil during mining of Band II which will be stored properly and will be utilized for plantation purpose. From underground mining 384840 cum of waste will be generated till lease period which will be dumped in the existing dump yard and in the mined out areas of Band I and Band II. The common dumping along boundary line has been proposed between M/s IMFA and M/s BAL and the necessary permission from Directorate

General of Mines Safety has been obtained vide letter No BBR-JA/CH-2 & 12/P-111 (3)/2017/235-136, dated 15/02/2017.

13. PP submitted that the total water requirement is 3500 KLD which will be sourced from existing bore wells and mine water after treatment in ETP. PP further submitted that 240 KLD water will be used for drinking and domestic purpose, 10 KLD for mines drilling purpose, 20 KLD for wheel washing, 710 KLD for sprinkling, 100 KLD for plantation purpose and 160KLD (water will be circulated within the COB plant) for COB plant makeup water and 2260 KLD will be discharged to Damsal Nala after treatment in ETP.
14. The CGWA approval was obtained vide letter no. CGWA/NOC/MIN/ORIG/2016/2166 dated 06.05.2016 for abstraction of 240 cu.m/day of ground water through proposed one (1) bore well and 3,260 cu.m/day through dewatering mine seepage from mine pit on account of mining intersecting the water table. The total withdrawal should not exceed 3500 cu.m/day (not exceeding 12,77,500 cu.m/year). This NOC is valid up to 06/04/2018. The CGWA approval was renewed vide letter no. CGWA/NOC/MIN/REN/1/2018/5556 dated 14.12.2018 for abstraction of 240 cu.m/day of ground water (and 87,600 cu.m/year) through two (2) existing bore wells and 3,260 cu.m/day (not exceeding 11,89,900 cu.m/year) through dewatering mine seepage from mine pit on account of mining intersecting the water table. The total withdrawal should not exceed 3500 cu.m/day (not exceeding 12,77,500 cu.m/year). This NOC is valid from 07/04/2018 to 06/04/2021.
15. PP submitted the certified compliance report for existing EC from RO, MoEF&CC, Bhubaneswar vide letter no.101-409/EPE dated 20.02.2017.
16. PP submitted that there are no national parks/sanctuaries within the mine lease area. Further, PP submitted the approved site specific wildlife conservation plan with financial forecast of Rs. 320.77 lakh from the Office of the PCCF & Chief Wildlife Warden, Odisha vide letter no 10061/1WLSSP-181/2015 dated 18.11.2015.
17. PP submitted that the total 10 forest such as Mahagiri PF (project area), Daitari PF (2.42 Km, NE), Dhalparha RF (6.57 Km, S), Birasal RF (6.25 Km, SW), Ranjagarh RF

(3.78 Km, NWW), Tipilei RF (10.92 Km, SW), Barabati PF (10.93 Km, SE), Bhuban RF (11.5 Km, S) and Pubal PF (12.7 Km, SE) are within the 10 km radius of buffer zone and total 13 water bodies such as Damsal Nala (0.74 Km NW), Karchamula Nala (2.93 Km W), Nadibarana Nala (3.88 Km W), Right Bank Canal (4.11 Km W), Damsal Canal (4.13 km SW), Ragada Dam (4.15 km NW), Puagaghua Nala (4.16 km, W), Sasubhuashuri Nala (4.5 km, NW), Pandara Nala (4.54 km S), Poruajora Nadi (8.91 km SW), Petapeti Nala (9.2 km, W), Patharkanchia Nala (9.5 km, SE) and Near Manatiravill. Canal (10.6 km SE) are found around the project site.

18. PP submitted that number of working day is 250; two shifts working are being practiced having 8 hours in each shift. After expansion the number of working day will be 300 with three shifts each of 8 hours. Total number of direct employment potential is about 921 including existing 712 employees.
19. PP submitted that cost of the project is Rs 394.45 Crores (including 354.45 Crores for underground mining operations and Rs 40 crores for Chrome Ore Beneficiation project). PP further submitted that the fund allocated for environment management (capital) is 2.0 Crore, CER is 2.98 Crore and EMP (recurring per annum) is 1.43 Crore, respectively.
20. Based on the presentation made by PP and the discussion held, the Committee **deferred the proposal** and asked the PP to submit requisite information for further consideration.
  - i. PP collected baseline data during October 2015 - December 2015 which is 3 years old. The Committee asked the PP to collect fresh 1-month baseline data and analysis the data. In addition, the PP needs to submit comparative data and trend analysis considering the values obtained during earlier EC appraisal, baseline data collected during Oct – Dec 2015 period, regular monitoring and fresh 1-month baseline data for all relevant parameters.
  - ii. PP submitted certified compliance report from RO, MoEF&CC, Bhubaneswar vide letter no.101-409/EPE dated 20.02.2017 which is about 2 year old and reveals that some of the conditions are in process of complying. The Committee is of the view that EC obtained on 2002 and still in the process of complying the conditions, so PP needs to submit updated compliance report for existing EC conditions.

- iii. PP proposed for chrome ore beneficiation plant (40 TPH), so, PP should perform the cumulative effect of mining and beneficiation plant in the EIA studies and submit the report separately. The report should also highlight the techno-economic benefit of beneficiation plant.
- iv. Free Silica needs to be analyzed and documented by carrying fresh study from an accredited laboratory.
- v. PP submitted that as part of the existing EC condition, PP made plantation, however, the PP was unable to show/explain the same in KML. PP needs to submit the revised KML file with plantation area and their corresponding coordinates. PP also requires to submit the details of plantation carried out in safety zone and along the lease boundary. PP needs to submit the photographic images of the same. In addition, PP requires to show the compliance status of the existing EC condition (xvi).
- vi. PP needs to submit details of total excavation (in same unit) including mineral, overburden (OB), interburden (IB), side burden (SB) and waste/topsoil production and etc.
- vii. The site specific wildlife conservation plan is approved on 18.11.2015, PP needs to submit compliance status of the same from the Competent Authority and also submit the revised approved site specific conservation plan as the proposal for expansion in production.
- viii. PP needs to evaluate the performance of ETP and submit the details of corresponding analytical data along with details of sludge management plan for ETP sludge.
- ix. PP needs to submit details of steps taken for management of surface run off specifically mitigative measures.
- x. PP submitted that water requirement is 3500 KLD, the Committee is of the view that the water requirement is very high. So, the Committee asked the PP to submit water budget for the same and also futuristic approach on decreasing the water requirement as well as rainwater harvesting.

- xi. PP submitted compliance to the ToR conditions which are generic and not adequate. PP needs to submit the revised compliance status of the ToR conditions.
- xii. PP needs to revise the CER budget as per the provisions of OM No. F. No. 22-65/2017-IA-III dated 01 May 2018.
- xiii. PP needs to submit copy of CGWA approval and compliance status of conditions especially on installation of peizometers at suitable location for monitoring.
- xiv. PP needs to submit details of environment management cell, performance including monitoring and their educational backgrounds.
- xv. PP needs to submit details of underground mining including precautionary steps planned and other safety procedures as per the government guidelines.
- xvi. PP requires to submit reasons for proposing common dumping along the lease boundary with M/s. BAL. PP needs to show the current dumping yard with coordinates and details of handling of dump, if any. In addition, PP needs to submit the copy of permission obtained from Directorate General of Mines Safety vide letter No. BBR-JA/CH-2 & 12/P-111 (3)/2017/235-136, dated 15/02/2017.
- xvii. PP requires to submit the copy of document for NPV payment.

PP submitted that change in technology from opencast to combination of opencast and underground mining; however, there is no change in the mining plan. Therefore, the Committee asked the PP to submit a letter in the form of affidavit that there is no change in the mining plan.

**2.3 Arungal Limestone Captive mine (ML area 67.730 ha) of M/s. Chettinad Cement Corporation Private Limited for production of 0.80 MTPA limestone and marl put together (0.56 MTPA Limestone & 0.24 MTPA Marl) located at Village: Arungal, Tehsil: Ariyalur, District: Ariyalur, State: Tamil Nadu - -EC Amendment**

**[File No. J-11015/206/2009-IA-II(M); Proposal No. IA/TN/MIN/119992/2019; Consultant J.M. Environet Pvt Ltd]**

1. The Proposal of M/s. Chettinad Cement Corporation Private Limited is for amendment in Environmental Clearance granted in favor of M/s. Chettinad Cement Corporation Limited for production of 0.80 Million TPA (0.56 Million TPA Limestone & 0.24 Million TPA Marl) by MoEFCC vide their Letter No- J-11015/206/2009-IA. II(M) dated 06.07.2011.
2. PP submitted that the name of Company from M/s. Chettinad Cement Corporation Ltd. to M/s. Chettinad Cement Corporation Pvt. Ltd. was done under the Companies Act, 1956 and an application for change of Name in Environment Clearance in favor of M/s. Chettinad Cement Corporation Pvt. Ltd. has been submitted to MoEF&CC on 03.10.2019.
3. PP submitted that as per specific condition no. III & IV of Environment Clearance (EC) dated 06.07.2011, requisite prior clearance from the standing committee of the National Board for Wildlife has to be obtained before commencing mining activity at the mine site because the Karaivetti Bird Sanctuary lies within 10 kms of mine site.
4. MoEF&CC has issued notification dated 31.05.2019 declaring Eco Sensitive zone around Karaivetti Bird Sanctuary. The proposed Mine is located about 3.7 km away from the Eco Sensitive Zone Boundary of Karaivetti Bird Sanctuary. In this regard, a letter from Principal Chief Conservator of Forest & District Forest Officer, Ariyalur Forest Division has been obtained vide their letter dated 20.08.2019 & 13.09.2019 respectively, which states that *"After examining the facts, it is informed that the proposed project site is located about 3.7 km away from Eco-Sensitive Zone boundary of Karaivetti Bird Sanctuary and therefore the specific condition no. III & IV stipulated in EC is not applicable."*
5. PP submitted that due to the above reason an application for amendment in Environmental Clearance w.r.t to Non applicability of the stipulated specific EC condition no. III & IV was submitted to MoEF&CC on 30.09.2019 and requested MoEF&CC to remove the following specific conditions:
  - (iii) *Requisite prior clearance from the standing committee of the National Board for Wildlife shall be obtained, due to location of mine lease within 10 Km of the Karaivetti Bird Sanctuary, before starting any activity relating to the project at the site. All the condition stipulated by the standing committee shall*



*be effectively implemented in the project. It shall be noted that clearance shall be granted to the project and that your proposal for wildlife clearance shall be considered by the competent authorities on its merit and decision taken. The investment made in the project, if any based on environment clearance granted to the project, in anticipation of the clearance from wildlife clearance shall be entirely at the cost and risk of the project proponent and Ministry of Environment and Forests shall not be responsible in this regard in any manner.*

(iv) *Environmental clearance is subjected to obtaining prior clearance under the Wildlife (Protection) Act, 1972 from the Chief Wildlife Warden, Tamil Nadu for operating the mine at a distance of 7.00 Km from the sanctuary, as may be applicable to this project.*

6. Based on the discussion held and document submitted the Committee observed that PP submitted a certificate issued by Department of Mining & Geology, Govt. of Tamil Nadu wherein it has mentioned that there was no production from the mines. The Committee noted that after the grant of EC and before the issuance of ESZ notification the PP has made efforts to obtain the NBWL Clearance. The Committee also noted that Ministry has in its O.M. No 22-43/2018-IA.III dated 8.08.2019 defined the procedure for consideration of developmental projects located within 10 km of National Park/Wildlife Sanctuary seeking environmental clearance under the provision of the Environmental Impact Assessment (EIA) Notification, 2006. Further, as per this O.M. *"Proposals involving developmental activity/project located outside the stipulated boundary limit of notified ESZ and located within 10 km of National Park/Wildlife Sanctuary, prior clearance from Standing Committee of the National Board for Wildlife (SCNBWL) may not be applicable"*. In the instant case the project is falling outside the notified ESZ and thus does not require clearance from standing committee of NBWL.

**The Committee thus agreed with the proposal of PP for amendment in EC and recommended for deletion of specific condition no (iii) & (iv) from the EC letter.** In addition to this, Committee observed that the EC for the project was granted in 2011 and the mining is yet to commence, the standard EC conditions

previously granted shall be replaced with standard EC conditions prescribed by Ministry's vide O.M. No. 22-34/2018- IA.III, dated 08.01.2019.

7. The Committee prescribed CER in pursuant to Ministry's O.M. 22-65/2017-IA III dated 1.05.2018 as per the commitment made by PP vide its letter No CCCPL/Arungal/EC/2019-20/03 dated 21.10.2019 against the total estimated project cost of Rs 12 Crore and accordingly the CER commitment shall be Rs 24 Lakh. Additional specific condition was prescribed to include following CER activities to include i) Karaivetti Bird Sancturay –Protection Measures, Awareness, Development Works & Beautification Work [Rs 8 Lakh], ii) De-Silting of Inlet Channels leads to Karaivetti Bird Sancturay & Rainwater harvesting measures [Rs 5 Lakh], iii) Infrastructure & Sanitation developments in Govt. Schools at nearby villages [Rs 8 Lakh] and iv) Public Health Centre renovation and medical camps in nearby villages [Rs 3 Lakh]. These amount shall be kept in a separate bank account to be audited annually and annually (before 1st June of every year for the compliance of proceeding years) the detailed report be submitted to Regional Office, MoEF&CC on implementation of the activities proposed in CER along with audited report of expenditure incurred; purchase documents, photographs in support of implementation of activities, etc.

**2.4. Aniali Limestone of M/s TATA Chemicals Limited with enhancement in production of limestone from 43000 TPA to 175000 TPA in the mine lease area of 21.04 Ha located at survey no 207/P Aniali Village, Ranavav Tehsil, Porbandar District, Gujarat-Consideration of ToR.**

**(File No:J-11015/12/2019-IA-II(M); Proposal No: IA/GJ/MIN/112605/2019, Old File No. J-11015/309/2012-IA.II (M); Old Proposal No: IA/GJ/MIN/88217/2018)**

The proposal of M/s Tata Chemicals Ltd. is for mining of Limestone with expansion in production of limestone from 0.043 million TPA (43000 TPA) to 0.175 Million TPA (175000 TPA) in the mining lease area (MLA) of 21.04 ha. The survey no 207/P of Aniali Rana Bordi Limestone Mining Project is situated near Village Aniali, Tehsil Ranavav, District Porbandar, Gujarat. As per EIA Notifications 2006, it is a Category "A" Project as the project is located at 4.2 km from the Barda Wild Life Sanctuary. The MLA is covered in the Survey of India Toposheet No 45G/4.

The latitude and longitude of the leases are latitude of 21° 42' 22.040" N and longitude of 69° 49' 39.381" E.

2. PP submitted that the MoEF& CC has granted Environmental Clearance vide Letter No J-11015/309/2012-IA.II (M) dated 27.07.2015 for the production capacity of 0.043 million TPA of limestone in the MLA of 21.04 ha. PP also submitted that the total MLA is a waste land, no forest land and no court case pending against the MLA. PP further submitted that reserve forests such as Naliyadhar Reserve Forest (app. 0.5 km in SW direction) and Khageshri Reserve Forest (app. 7.5 km in NE direction) are situated around the MLA.
3. PP submitted that the mining lease of 21.04 ha was granted in favor of M/s Tata Chemicals vide order no MCR/1565/13877/CHH dated 07.07.1966 for extraction of limestone. The lease was executed on 23.12.1966 for a period of 20 years. First renewal of mining lease was applied on 20.04.1987. The mining lease was renewed vide order No. MCR-1585-(T-44)-4267-CHH dated 28.12.2004 with effect from 23.12.1986 for 20 next years and the second renewal was applied on 17.11.2005 for next 20 years. However, the PP mentioned that as per the MMDR Amendment Act, 2015, the Industries and Mines Department of Gujarat Government has considered the lease period extension to 31.03.2030 vide letter no. MCR/1565/13877-CHH dated 03.04.2018. The mining plan was approved by IBM vide letter no.682 (23) (713)/2009-MCCM (N) dated 26.12.2016 with validity up to 31.03.2020.
4. PP submitted that the Barda Wildlife Sanctuary and Mokarsagar Bird Sanctuary are located approximately 4.2 Km in NW direction and approximately 11.5 Km in SW direction from the project site. Furthermore, PP informed that the MLA is close to the water bodies such as Bileswari River (app. 6.0 km in NE direction), Minsar River (app. 5.5 km in East direction), Khambhada Water Reservoir (app. 7.0 km in NW direction) and Fodara Water Reservoir (app. 11.0 km in NW direction), respectively.
5. The proposal was considered in EAC meeting held during January 22-23, 2019 wherein the **Committee noted that some part of MLA is located within notified Eco-Sensitive Zone and mining activity is prohibited in the ESZ.** The Committee deliberated the issues and **returned the proposal in present form** and suggested that PP may revise the mine lease area so that MLA should not fall within ESZ. **The Committee also suggested to seek the Report from the State**

**Department of Gujarat for details of mining activity if PP conducted in ESZ or not and accordingly take necessary actions.**

6. PP submitted the proposal vide proposal no. IA/GJ/MIN/112605/2019, and the proposal was considered in this EAC meeting. PP made the presentation before EAC and the Committee has deliberated the same. The Committee observed that in existing EC, it is mentioned that PP has applied for Wild life Clearance as per MOEF guidelines dated 15.03.2011 vide their letter no. A/WG/0120/2012 dated 09.02.2012. Furthermore, the specific EC condition (ii) and (v) are:
- “(ii) Environmental Clearance is subject to obtaining clearance under the Wildlife (Protection) Act, 1972 from the Competent Authority as it is application to this project.
  - (v) Implementation of species specific conservation plan for Schedule I species. The proponent shall implement the Wildlife Conservation Plan along with the funds so allocated with consultation of Chief Wild Life Warden of the State Govt. A copy of action plan shall be submitted to the Ministry of Environment, Forest and Climate Change and its Regional Office, Bhopal and the Chief Wild Life Warden of the State Govt. The project proponent shall also take all precautionary measures during mining operation for conservation and protection of endangered flora/fauna, if any, spotted in the study area.”
7. Based on the existing EC document, the Committee asked the status of the NBWL clearance and compliance of these two conditions. PP replied to the Committee that final ESZ notification for Barda Wildlife Sanctuary is notified vide S.O. 1365 (E) dated 28 April 2017 wherein it is mentioned that ESZ shall be with a peripheral area of 65.58 square kilometers with an extent up to 4.76 kilometers around the boundary of Barda Wildlife Sanctuary. PP mentioned that the mine lease area is 38 meter away from ESZ boundary and the same map has been authenticated by Deputy Conservator of Forest, Porbandar Division, and Gujarat. So, the NBWL clearance is not required for this instant proposal. Further, PP mentioned that as per DMG letter the production in the year of 1985-86, 1987-88 and 2017-18 were 13.322 MT, 712 MT and 28.4 MT, respectively and no production from the year 1988-89 to 2016-17.
8. The Committee deliberated the PP submission and replies and informed PP that existing EC need to be amended before grant of TOR for expansion proposal. PP agreed the same and also agreed to withdraw this instant proposal and submitted their request vide letter no. RQG/385/1920 dated 21.10.2019 in this regard. As PP has submitted the letter for withdrawal of the proposal and consequential

modification is required in Form 1, the Committee recommended to **returned the proposal in present form.**

**2.5. Boricha Limestone of M/s Saurashtra Chemicals Division of Nirma Ltd with production of 7, 00,000 TPA (ROM) in the mine lease area of 101.17 ha located at Survey No.22/P Near village – Boricha, Taluka– Porbandar and District Porbandar, Gujarat-Consideration of ToR.**

**(File No: J-11015/67/2019-IA-II(M); Proposal No: IA/GJ/MIN/115531/2019)**

The proposal of M/s Saurashtra Chemical Division of Nirma limited is for Boricha limestone mine with production of 7,00,000 TPA ( ROM) of limestone in the mine lease area (MLA) of 101.17 ha. The mine lease area is located in revenue survey no.22/2P of village – Boricha, Talukaand District Porbandar, Gujarat. The MLA is covered in the Survey of India Toposheet No. 41G/09 & 10 restricted. The latitude and longitude of the MLA are 21°44'32.5188"N to 21°45'29.6956"N and 69°40'30.4297"E to 69°41'2.271"E. As per EIA Notification dated 14th September, 2006 as amended from time to time the project falls under Category 'A', as the mine lease area is greater than 100 ha. Furthermore, the proposal attracts the general conditions of the EIA Notification, 2006, i.e. Notified Eco-sensitive areas (i.e. Barda Wildlife Sanctuary).

2. PP submitted that total lease area is 101.17 ha which is Government waste land. The Boricha limestone mine is an existing captive mine. PP further submitted that mining lease area is falling outside Barda wildlife sanctuary and its Eco Sensitive Zone(ESZ) as notified by MoEF& CC, New Delhi vide notification dated 28.04.2017. However, around 30.36 ha of the eastern part of the lease area falls in 1km from the boundary of the Barda Wildlife Sanctuary and this 1 km zone will be considered as non-mining zone.
3. PP submitted that originally the company was incorporated in the name of Salt and Allied Industries Limited on 22.08.1951 under the Companies Act, 1956. The name of the company was changed to Birla Salt and Chemicals Limited vide letter No 683 dated 15.09.1989. Subsequently, the name of company was again changed to Saurashtra Chemicals limited on 25.03.1999. PP further submitted that M/s Saurashtra Chemicals limited, merged into M/s Nirma Limited with effect from 01.04.2011 vide order dated 22.01.2013. Furthermore, the Industries and Mines Department, State Government vide order no. MCR/102013/ML-29/CHH dated 02.11.2013 replaced the name of M/s. Saurashtra Chemicals Limited Company by M/s. Saurashtra Chemicals Division of Nirma Limited in respect of all the presently existing mining leases of the Company existed in Porbandar.

4. PP submitted that the initially mining lease was granted and executed on 10.07.1966 by the State Government for the period of 20 years i.e. up to 09.07.1986. PP has applied for 1<sup>st</sup> renewal of the lease on 08.07.1985 for further period of 20 years i.e. up to 09.07.2006. However, the State Government vide order no. MCR-1585-(S-137)-627-CHH, dated: 06.03.1987 rejected the renewal of mining lease stating that the mining lease already granted earlier have sufficient estimated reserves of limestone to feed your plant. PP had challenged the rejection order by filling RCS no. 309/93 in Hon'ble Court of learned Civil Judge (S.D.) Porbandar, who was pleased to allow the suit vide judgment & decree dated 09.09.1996 for renewal of the mining lease for 20 years. The State Government preferred the appeal by filing Regular Civil Appeal No. 1/97 in the Court of Joint District Judge (S.D.) Junagadh at Porbandar. In the Judgment dated 03.05.2004 the learned Joint Civil Judge confirmed the Judgment & Decree passed by Learned Civil Judge (S.D.) in RCS No. 309/93 on 09.09.1996. The Hon'ble Court also noted that lessee is under obligation to apply for second renewal about 12 months before expiry of lease period, considering the expiry of the lease period of first renewal on 09.07.2006. Accordingly, the PP has applied for second renewal on 14.06.2005 i.e. before one year of the expiry of the lease period. The renewal request of company for issuances of renewal orders were under consideration with the State Govt. for longer period. Meanwhile, Central Government has amended "Mines and Minerals (Development and Regulation) Act-1957 w.e.f 12.01.2015, incorporating special provisions relating to the extension of the tenure of the existing captive leases under section 8A(5). Accordingly, the State Government has extended up to 31.03.2030 vide order No. MCR/1563/22809/CHH dated.02.02.2018 and the same have been executed on 28.01.2019 in name of M/s Saurashtra Chemicals, Divisions of Nirma Limited.
5. PP further submitted that the mining will be carried out by open cast semi mechanized method with drilling and blasting by forming benches up to 3.0 m height, depending on the thickness of chemical grade limestone in the area. The sides of the benches will have slope at a safe angle not more than 85 degree from horizontal. Proposed production is 7, 00,000 TPA (ROM) and as per proposed production, life of mine is about 5 years (life of mine will be increased on conversion of resources into reserves by exploration as suggested in mining plan).

The ore will be transported to the company's own soda ash plant by using Tipper/Trucks.

6. PP submitted that the lease area is an irregular polygon in shape with general slope towards SW. The general elevation within the lease area varies from around 80mRL to 48mRL showing a relief of about 32 meters. The lease area is devoid of any overburden or waste material thus no dumps of waste/reject to be maintained. Present topography is having gentle slope terrain with old excavated pits of 19.5520 ha.
7. PP submitted that the water requirement for domestic consumption, plantation and dust suppression is 33 KLD which will be fulfilled from nearby villages.
8. PP further submitted that the man power requirement for mining is estimated to be 605 Nos. Most of the employees will be recruited from neighboring village depending upon the availability of skilled and unskilled people.
9. PP submitted that no court cases/litigation pending against the project proposal. PP further submitted that the estimated project cost for the proposed project is Rs. 3.91 Crore.
10. The proposal was considered in this EAC meeting. Based on the presentation made by PP and the discussion held, the Committee **deferred the proposal** and sought following addition information further consideration.
  - i. PP needs to submit documentary evidence for merging of M/s Saurashtra Chemicals limited into M/s Nirma Limited (i. e. with effect from 01.04.2011 vide order dated 22.01.2013). The instant proposal submitted in the name of M/s Saurashtra Chemicals Division of Nirma Ltd. PP needs to submit the certificate of registration for the same.
  - ii. The Committee observed that 30.36 ha of lease falls under 1km from the boundary of the Barda Wildlife Sanctuary which will be considered as non-mining zone. The Committee asked the PP to surrender this area. PP replied to the Committee that the Company has approached to the State Government for surrender; however, the State Government replied that

once the lease is granted it cannot be taken back. Therefore, the Committee asked the PP to submit real-time coordinates for mining and non-mining zone and to submit a certificate from Office of the PCCF/CWLW for distance between the mine lease area and Barda Wildlife Sanctuary. An undertaking by PP is also required that the estimated area of 30.36 h under 1 km from the sanctuary will be non-mining zone.

- iii. PP requires to submit original affidavit in compliance of the Ministry's OMNo.3-50/2017-IA-III dated 30th May2018.
- iv. The Committee observed that three roads are passing through the mining lease area and PP mentioned that road conversion will be there. Therefore, the Committee asked the PP to submit conceptual plan for alternative road formation and their timeline.

PP needs to submit a copy of Mining Plan and conceptual plan for the proposed project (revised as per commitments made before the committee).

**2.6 New Umrangshu Limestone Mine of M/s NECEM Cement Ltd for production of 80,000 TPA of Limestone in the mine lease area of 35.0 ha, located at Village – New Umrangshu, Taluka – Umrangshu & Dist. – Dima Hasao (North Cachar Hills), Assam – For grant of ToR (Proposal No. IA/AS/MIN/94817/2019; File no. IA-J-11015/68/2019-IA-II(M)).**

The Member Secretary informed the Committee that PP vide its email dated 16 October 2019 has communicated a request to transfer the proposal to SEIAA – Assam, as the mine lease area is 35.0 ha, and it qualifies as Category B projects as per the provision of EIA Notification, 2006 and amendment therein. The proposal was taken in agenda item considering the proposal attracts General Condition. However, after realising that General Condition doesn't apply to the said proposal, and also SEIAA- Assam is operational, PP has made the request for transfer of the proposal to SEIAA-Assam. The PP **did not attend** the meeting. Therefore, the Committee **recommended to return the proposal in present form** and advised that Ministry may explore to provide necessary provision on PARIVESH portal to



ensure that reasons for application to MoEF&CC by Category B projects are properly highlighted by the PP while submitting the proposal.

**2.7 Chopan Limestone mine of M/s RCCPL Private Ltd (formerly Reliance Cement Company Pvt. Ltd), with production capacity of 1.0 MTPA of Limestone (ROM) over an area of 247.38 Ha, located at villages Chopan and ChanaiKhurd, Tehsil: Korpana, District: Chandrapur, State: Maharashtra**

**[File No. J-11015/20/2019-IA. II(M) ; Proposal No. IA/MH/MIN/90975/2019; Consultant: Vimta Lab]-Re-Consideration of ToR**

The proposal of M/s RCCPL Private Ltd (formerly Reliance Cement Company Pvt. Ltd) is for total Excavation of 1.043 TPA [1.0 MTPA of Limestone (ROM) , 0.026 Waste/Reject and 0.017 TPA of Top Soil] from Chopan Limestone mining project [MLA 247.38 Ha]. The mine is located villages Chopan and ChanaiKhurd, Tehsil: Korpana, District: Chandrapur, Maharashtra. The mining lease falls between latitude 19°43'03.26" to 19°44'20.27" and longitude 78°55'58.85" to 78°57'09.44" and on Topo-Sheet No E44 A14 (old 56-I-14).

2. The project falls under Schedule 1(a) of mining and is a Category- "A" as the mining lease area is greater than 100 Ha. The PP applied online on 10.01.2019 for grant of ToR and submitted Form-1 & PFR. PP reported that the limestone will be used at captive cement plant (2.9. MTPA Clinker, 4.8 MTPA cement) located at Mukutaban village, Yavatmal District, Maharashtra.
3. The PP submitted that Letter of Intent (LoI) was issued by Govt. of Maharashtra vide No. MMN-1010/CR.3339/ind-9, dated 13.06.2018 over an area of 247.38 Ha in the name of M/s Reliance Cementation Private Limited. This letter of intent is valid for one year i.e. up to 12.06.2019. The PP submitted that name of Reliance Cementation Private Limited was changed to Reliance Cement Company Private Limited on 8.8.2011. The name of Reliance Cement Company Private Limited was changed to RCCPL Private Limited on 1.08.2018. The PP also submitted a letter No. MMN-1010/F.No./3338/Industries-9 dated 4.01.2019 issued by Industry, Energy & Labour Dept., Govt. of Maharashtra addressed to Director, Directorate of Geology & Mining wherein it has mentioned that "as per section 62 of Mineral Concession Rules, 1960, with respect to their 247.38 Ha Prospecting License/Mining lease in village Chopan and ChanaiKhurd, Tehsil: Korpana, District:

Chandrapur; company has informed regarding change of name of company within stipulated time. In case prospecting license/mining lease of the company, government hereby approves to take note of change of name of the company as M/s RCCPL Pvt. Limited instead of M/s Reliance Cementation Private Limited. Henceforth, correspondence with the company is to be made in the name of M/s RCCPL Pvt. Limited."

4. The PP initially submitted that the total mine lease area is 247.38 Ha, out of which 204.92 ha is falling under Pardi Reserve Forest and require clearance under Forest Conservation Act, 1980. PP submitted that forest area was reconciled and now out of 247.38 Ha ML area the Forest area is 211.02 Ha and Non-Forest area is 36.36 Ha. PP reported that there are no national parks, wild life sanctuaries and eco-sensitive zones in the proposed study area. However, one protected forest (PF) exist within 5km, and three RFs exist within 5–10 km distance from the boundary of proposed mining area. PP reported that they had submitted the forest diversion proposal vide proposal no. FP/MH/MIN/37147/2018. Total water requirement estimated for the project is 170 KLD.
5. The PP submitted that method of mining is fully mechanized opencast method. All operations of mining will be done by deployment of heavy earth moving machinery for deep hole drilling, excavation, loading & transportation. Various mining activities such as drilling, blasting, loading and transportation will be undertaken so as to ensure maximum mineral conservation and minimum environmental degradation. PP submitted that mineable reserves is estimated to be 34.74 Million Tonne and based of the proposed rate of production the life of mine will be 38 years. PP submitted that the total project cost will be Rs 115 Crore and during development phase will give direct employment to 15 persons and indirect employment to 50 persons. During operational phase will give direct employment to 16 persons and indirect employment to 82 persons.
6. The above proposal was earlier placed in EAC meeting held on 20-21 February 2019 wherein EAC deferred the proposal for want of requisite information. The PP submitted the information online on 28.09.2019 and the proposal is now placed in EAC meeting held on 21 Oct, 2019. The information sought by EAC and reply submitted by PP is as follows:

- a) **Letter of Intent (LoI) was issued by Govt. of Maharashtra vide No. MMN1010/CR.3339/ind-9 dated 13.06.2018 over an area of 247.38 Ha in the name of M/s Reliance Cementation Private Limited and further name of Reliance Cementation Private Limited was changed to Reliance Cement Company Private Limited on 8.8.2011, Accordingly the PP need to obtain the LOI/Lease in the name of M/s RCCPL Private Ltd.**

PP submitted that the name change from Reliance Cementation Private Limited to RCCPL Private Limited was approved by Industry, Energy and Labour Dept. of Govt. of Maharashtra vide letter no. MMN- 1010/F. No.3339/Industry -9 dated 04<sup>th</sup> January 2019. The PP also submitted a letter No. MMN- 1010/F. No.3339/Industry -9 dated 24<sup>th</sup> July 2019 issued by Industry, Energy and Labour Dept. of Govt. of Maharashtra wherein the validity of LOI issued on 13.06.2018 is extended for one more year.

- b) **PP need to provide detailed land break up involved in the mine lease area.**

PP submitted that out of 247.38 Ha the Forest area is 211.02 Ha, Non-Forest area is 36.36 Ha.

- c) **PP should clearly bring out the safeguards for protecting the river, Nallah, water bodies exist in and around the mine lease are from the operation of the mine.**

PP submitted that protection measures proposed for water streams in and around the lease area are as follows:

- 1) While winning the limestone no toxic elements are used or no toxic elements constitute the part of soil and limestone, therefore, no water contamination or pollution takes place. Water quality remains unchanged.
- 2) A stone wall of 1.5 m height at toe of soil and reject dump will be made to avoid wash-off. Length of the stone wall would be 488 m.
- 3) Garland drains will be constructed all around the periphery of mining pit to channelize the surface run-off water into natural water streams through settling pond. Length of the garland drains would be 5020 m. In this manner any discharge from mine pit and the surface run-off water

will be routed through settling pond, so as to discharge clean water to flow through existing nallah and finally join the Penganga river.

- 4) Plantation will be done on both side of existing nallah towards NW side to cover minimum 50 m from the nallah. Total number of trees would be 6300 over 2.52 ha area. Stone embankment will be constructed over a distance of 388 m along the nallah to arrest flooding.

**d) PP should submit the detailed R&R plan for the PFA"s involved in the mine lease area.**

PP submitted the brief of R&R Plan and submitted that the detailed R&R is under process.

**Observation of EAC:** PP should incorporate the R&R Plan in the EIA Report.

**e) The Committee noted that the mine lease area is 247.38 ha however, the proposed production capacity is very less. PP needs to submit the detailed cost benefit analysis (loss of agriculture land Vs production) of the project involving very less production capacity and more mine lease area.**

PP submitted the Cost benefit analysis (loss of agricultural land vs. production).

**Observation of EAC:** The Committee observed that cost benefit analysis submitted by the PP needs to be revised considering the loss of farmers over the year. Thus, PP needs to prepare the cost benefit analysis as suggested by EAC and incorporate the same in the relevant chapter of EIA Report.

**f) Committee noted that the PP in Form-I (s. No. 7) mentioned that the general Condition applicable to the project as Maharashtra – Telangana boundary is located within 6 Km. However as per MoEF&CC notification the General Condition criteria is 5 Km. Accordingly PP needs to revised the Form-I.**

The PP submitted the revised Form-1.

**g) The Committee noted that there is court case of Mumbai High Court at Nagpur bench (Case No. 4056/2014). PP needs to submit the details of court case along with copy of order.**

PP submitted that i) our submission in the court has been recorded in the above order that even if lease agreement is executed by the State Govt., no mining activity shall be commenced without obtaining the leave of the court, ii) High Court issued direction to Central Govt. vide order dated 29.01.2014 to confirm whether Ambuja application has become infructuous or not? In response, Central Govt. has passed order on 09.05.2014 stating that Ambuja application has become infructuous, iii) Court has recorded in the order that our case of grant of mining lease is protected under section 10A(2)(b) of the MMDR Act 2015 and iv) Final order from the Court is yet to come. PP also submitted the copies of court orders.

**Observation of EAC:** The Committee is of the view that Ministry may consider the grant of ToR which will be subject to compliance of final outcome of the above mentioned court case.

**h) Copy of Forest division proposal needs to be submitted**

PP submitted that after reconciliation of forest area, new forest diversion application is submitted vide proposal No FP/MI /MIN/40188/2019.

7. Based on the discussion held and document submitted the Committee **recommended** the proposal of **M/s RCCPL Private Ltd** for grant of Term of Reference for total excavation of 1.043 TPA [1.0 MTPA of Limestone (ROM) , 0.026 Waste/Reject and 0.017 TPA of Top Soil] from Chopan Limestone mining project [MLA 247.38 Ha] located at villages Chopan and ChanaiKhurd, Tehsil: Korpana, District: Chandrapur, Maharashtra. The Committee prescribed Standard ToR (Annexure-I) along with following additional ToR for preparation of EIA/EMP Report.
  - 1). PP should submit an undertaking by way of affidavit as required as per Ministry's O.M No 3-50/2017 -IA. II(M) dated 30.05.2018 to comply with all the statutory requirements and judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors.
  - 2). PP should provide in the EIA Report details of all the statutory clearances, permissions, No objection certificates, consents etc. required for this project under various Acts, Rules and regulations and their status or estimated timeline after grant of EC.

- 3). PP should submit the revenue plan for mining lease, revenue plan should be superimposed on the satellite imaginary clearly demarcate the Govt. land, private land, agricultural land etc.
- 4). PP should submit the real-time aerial footage & video of the mining lease area and of the transportation route.
- 5). PP should submit the detailed plan in tabular format (year-wise for life of mine) for afforestation and green belt development in and around the mining lease. The PP should submit the number of saplings to be planted, area to be covered under afforestation & green belt, location of plantation, target for survival rate and budget earmarked for the afforestation & green belt development. In addition to this PP should show on a surface plan (5-year interval for life of mine) of suitable scale the area to be covered under afforestation & green belt clearly mentioning the latitude and longitude of the area to be covered during each 5 years. The capital and recurring expenditure to be incurred needs to be submitted. Presently in India there are many agencies which are developing forest in short interval of time. Thus, for the plantation activities details of the experts/agencies to be engaged needs to be provided with budgetary provisions.
- 6). PP should submit the quantity of surface or ground water to be used for this project. The complete water balance cycle need to be submitted. In addition to this PP should submit a detailed plan for rain water harvesting measures to be taken. PP should submit the year wise target for reduction in consumption of the ground/surface water by developing alternative source of water through rain water harvesting measures. The capital and recurring expenditure to be incurred needs to be submitted.
- 7). PP should clearly bring out the details of the manpower to be engaged for this project with their roles /responsibilities/designations. In addition to this PP should mention the number and designation of person to be engaged for implementation of environmental management plan (EMP). The capital and recurring expenditure to be incurred needs to be submitted.
- 8). PP should submit the year-wise, activity wise and time bound budget earmarked for EMP, occupational health surveillance & Corporate Environmental Responsibility. The capital and recurring expenditure to be incurred needs to be submitted.

- 9). PP should submit the measures/technology to be adopted for prevention of illegal mining and pilferage of mineral. PP should submit the detailed mineralogical and chemical composition of the mineral and percentage of free silica from a NABL/MoEF&CC accredited laboratory.
- 10). PP should clearly show the transport route of the mineral and protection and mitigative measure to be adopted while transportation of the mineral. The impact from the center line of the road on either side should be clearly brought out supported with the line source modelling and isopleth. Further, frequency of testing of Poly Achromatic Hydrocarbon needs to be submitted along with budget. Based on the above study the compensation to be paid in the event of damage to the crop and land on the either side of the road needs to be mentioned. The PP should provide the source of equations used and complete calculations for computing the emission rate from the various sources.
- 11). PP should clearly bring out that what is the specific diesel consumption and steps to be taken for reduction of the same. Year-wise target for reduction in the specific diesel consumption needs to be submitted.
- 12). PP should bring out the awareness campaign to be carried out on various environmental issues, practical training facility to be provided to the environmental engineer/diploma holders, mining engineer/diploma holders, geologists, and other trades related to mining operations. Target for the same needs to be submitted.
- 13). The budget to be earmarked for the various activities shall be decided after perusal of the Standard EC Conditions published by the Ministry. After perusal of Standard EC conditions if agreed PP should also submit an undertaking by the way of affidavit for Compliance of Standard EC conditions already prescribed by the Ministry vide O.M. No and Specific condition if prescribed by the EAC/MoEF&CC.
- 14). The PP should ensure that only NABET accredited consultant shall be engaged for the preparation of EIA/EMP Reports. PP shall ensure that accreditation of consultant shall be valid during the collection of baseline data, preparation of EIA/EMP report and during the appraisal process. The PP and consultant should submit an undertaking the information and data provided in the EIA Report and

submitted to the Ministry are factually correct and PP and consultant are fully accountable for the same.

- 15). The PP should submit the photograph of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this PP should submit the original test reports and certificates of the labs which will analyze the samples.
- 16). All the certificates viz. Involvement of Forest land, distance from protected area, list of flora & fauna should be duly authenticated by Chief Wildlife Warden & Forest Department. The Certificate should bear the name, designation, official seal of the person signing the certificate and letter number. The EIA/EMP report should cover the cumulative impacts of own cement plant, other cement plant and mines in the study area.
- 17). The PP should provide the status of the Court Case (Case No 4056/2014) in the EIA/EMP report.
- 18). An undertaking should be submit by PP through an affidavit accepting that this ToR is subjected to the compliance of the final outcome arising from the decision of Hon'ble Court in the matter of **Mumbai High Court at Nagpur bench (Case No. 4056/2014). MoEF&CC may issue this ToR only after receiving the undertaking from the PP.**
- 19). PP should include environment cost benefit analysis in EIA Report.

**2.8. Kumaraswamy Iron Ore Mine (ML No: 1111) of M/s. NMDC Limited with production of 7.0 MTPA ROM iron ore production capacity in the MLA of 639.80 Ha located at Tehsil-Sandur, Ballari District, Karnataka-Consideration of Amendment in ToR.**

**(File No: J-11015/93/2018-IA. II(M); Proposal No: IA/KA/MIN/75088/2018)**

The proposal of M/s. NMDC Limited is for amendment in ToR Conditions (1) and (2). The ToR proposal of M/s. NMDC Limited is for Kumaraswamy Iron Ore Mine with total excavation of 8.6 Million TPA of material [7.0 MTPA Iron Ore (ROM) & 1.6 MTPA waste] and installation of 1800 TPH crushing and screening plant in the mining lease area of 639.80 ha located at Villages Deogiri, Taluka- Sandur, District- Ballari, Karnataka. The ToR proposal was considered in the EAC meeting



held during 15-16 November 2018 and the Ministry granted ToR vide letter no. J-11015/93/2018-IA II(M) dated 10 December 2018 without public consultation.

2. The ToR Conditions (1) and (2) are reiterated as below.

*“(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. PP submitted following compliance status to ToR condition (1) and (2)

**A. Compliance to condition no. (1):**

i. The Kumaraswamy Iron Ore Mine is located in Karnataka State, where all mining operations are being monitored as per the directives and under the control of Central Empowered Committee (CEC) constituted by Hon’ble Supreme Court of India. The sale/dispatch of iron ore is also conducted and controlled by the monitoring committee, appointed by CEC, through e-auction of iron ore. The mining activities in Karnataka area directly undertaken under the aegis of CEC/Monitoring Committee, appointed by Hon’ble Supreme Court of India. Further Hon’ble Supreme Court of India vide judgment dated 05.08.2011 granted permission to NMDC iron ore mines viz. Donimalai and Kumaraswamy to produce to the tune of 1.0 million tonne per month till further orders. The CEC has submitted final report to Hon’ble Supreme Court vide letter dated 03.02.2012. It is also mentioned that the NMDC’s Kumaraswamy Iron Ore Mine (ML no. 1111) is categorized under ‘A’ Category.

ii. The CEC has revised annual production capacity as 7.0 MTPA as per environment clearance limit vide order dated 23.03.2018. Furthermore, the Hon’ble Supreme Court dated 02.08.2017 in Writ Petition (C) No. 114 of 2014 in the matter of Common Cause Vs UOI & Ors is related to the mines & mining in the Odisha State. The mining activities in Karnataka are directly undertaken under the purview of CEC/monitoring committee, appointed

by the Hon'ble Supreme Court of India. Furthermore, NMDC has already submitted affidavit to MoEF&CC on 16.11.2018 at the time of issuance of TOR stating that NMDC commit to comply, if applicable with the order of Hon'ble Supreme Court dated 02.08.2017 in Writ Petition (C) No. 114 of 2014 in the matter of Common Cause Vs UOI &Ors and further commit to comply order of any other court, central/state government authorities if applicable in future.

**B. Compliance to condition no. (2):**

- i. The Department of Commerce and Industries, MSME & Mines, Government of Karnataka, Bangalore has not issued any notice to mining projects in the state of Karnataka. NMDC has also not received any demand note from Department of Mines and Geology, Government of Karnataka.
4. In view of this, PP requested the Ministry for amending/withdrawing above mentioned ToR conditions (1) and (2). Accordingly, the proposal was considered in this EAC meeting and PP presented their submission. The Committee deliberated on the submission in considering the submission made by PP through an affidavit no. 6550 in compliance to Ministry OM dt.30.05.2018, **recommended** to withdraw ToR condition (1) and (2) from ToR letter dated 10 December 2018, but retaining all other conditions as prescribed in ToR letter.

**2.9. Mewasa Bauxite Mine of M/s Saurashtra Calcine Bauxite and Allied Industries with total excavation of 36,000 TPA (Mineral: 34, 200 MTPA, OB/IB/Waste: 1,800 TPA) in the mine lease area of 9.66 ha in Survey No.- 138 located at Village – Mewasa, Taluka – Kalyanpur, District – Devbhumi Dwarka, Gujarat-Consideration of Environmental Clearance.**

**(File No: J-11015/115/2013. IA. II(M); Proposal No: IA/GJ/MIN/18422/2013; Consultant: Enkay Enviro Services Pvt. Ltd)**

The proposal of M/s Saurashtra Calcine Bauxite and Allied Industries is for Mewasa Bauxite Mine with the production of 34, 200 TPA mineral and 1, 800 TPA of OB/IB/Waste (Total excavation: 36, 000 TPA) in the mine lease area of 9.66 ha in Survey No.- 138. The mine lease area is located at Village – Mewasa, Taluka – Kalyanpur, District – Devbhumi Dwarka, Gujarat. The mine lease area falls between the latitude 22°13'52.219" to 22°14'5.793" N and longitude 69°18'51.373" to 69°19'2.722" E.

2. As per the EIA notification, 2006 and amended time to time, the existing project is categorized under category 1 (a) - A category {Mining of Minerals} as the lease area is 9.66 ha and the general condition is applicable to this project as a Marine National Park (Gulf of Kutch) Jamnagar, is located at a distance of 3.340 Km towards NE from the mine site.
3. PP submitted that ToR proposal was considered by the EAC in its 8<sup>th</sup> meeting held during June 26-28, 2013 and the Ministry granted ToR vide letter no. J-1115/ 115/ 2013-IA.II (M) dated 31.08.2015. Subsequently, the validity of ToR was extended for one year i.e. from 31.08.2018 to 30.08.2019 vide letter no. J-11015/115/2013-IA. II (M) dated 15.10.2018. PP submitted the EIA/EMP report to Ministry at PARIVESH Portal for seeking environmental clearance, accordingly, the proposal is considered in this EAC meeting.
4. PP submitted that the mining lease was sanctioned in favour of Saurashtra Calcine Bauxite & Allied Industries by Government of Gujarat vide letter no. MCR-1585CHH- 80550 dated 03.09.1986. The mining lease was executed for a period of twenty years i.e. 03.09.1986 to 02.09.2006 and the application for renewal of the mining lease was made on 29.08.2005. Subsequently, as per MMDR Amendment Act 2015, the lease period has been extended up to 02.09.2036 by Industries and Mines Department, Govt. of Gujarat, vide letter no. MCR/ 1585 (S-138) 4237/CHH1 dated 06.10.2018.
5. PP submitted that the scheme of mining plan along with progressive mine closure plan was approved by IBM vide letter no. 682 (23) (MS- 630)/2007/Kha. Ni.Kha. Sa (U) Udai dated 22.01.2016. PP further submitted that the public hearing was conducted on 30.06.2018 at Mine Site, Survey No.: - 138, Village –Mewasa, Taluka –Kalyanpur, District –Devbhoomi Dwaraka (Gujarat) by Shri Hiren Vyas, GAS, Resident Additional Collector & Additional District Magistrate, Devbhumi Dwarka.
6. PP submitted that the mine was in operation up to 2014 without prior environmental clearance and currently, the mine is closed. PP further submitted

that criminal case was registered at Honorable Judicial Magistrate First Class Sir in Kalyanpur Court vide case no. 130/2014 along with other partners. The judgment was declared on 28.03.2017 wherein all the partners were ordered to deposit penalty of Rs. 20,000/- each. PP further submitted that Department of Mines and Geology did not raise any demand because the court has ordered for paying the penalty.

7. The Committee had a detailed discussion on the PP's submission. The Committee mentioned that PP carried out mining activity without environmental clearance till 2014. The Committee further considered the submission of PP that criminal case was filed and penalty paid for the period when operation was done without EC. The committee suggested that ministry may take a view for consideration of the proposal for appraisal on ground of lateral entry as the proposal was granted ToR prior to the notification no. S.O. 804 (E) dated 14.03.2017.
8. In view of this, the Committee **deferred the proposal** and referred the proposal to Ministry for investigating the proposal for its validity for consideration. Accordingly, requisite information may be sent to PP for compliance, if any, before the proposal is requested for reconsideration by the Committee.

**2.10. Bhadra Iron ore mine of M/s. JSW Steel Limited with increase in iron ore production from 1.25 to 1.50 MTPA and waste (Over burden/Inter Burden) production of 6.0 MTPA (Total Excavation 7.50 MTPA) in the mine lease area of 130.53 ha located at Donimalai Reserved Forest, Ittanahalli Village, SandurMandal, Ballari District, Karnataka-Reconsideration of Environmental Clearance.**

**(File No: J-11015/16/2007-IA. II(M); Proposal No: IA/KA/MIN/7548/2008;Consultant: B. S. Envi. Tech Pvt. Ltd)**

The proposal is of M/s JSW Steel Limited for Bhadra Iron Ore Mine (ML No. 2365) for enhancement in the iron ore production from 1.25 to 1.50 MTPA and waste (Over burden/Inter Burden) production of 6.0 MTPA (Total Excavation 7.50 MTPA) in the mine lease area of 130.53 ha. The mine lease area is located at Donimalai Reserved Forest, Ittanahalli Village, Sandur Mandal, Ballari District, Karnataka. The mine site comprises two blocks (Block – I & Block - II). The coordinates of the mine lease area is given below. The Survey of India Toposheet number of the

mining lease area is 57/A/12. The latitude and longitude of Block I is 15°7'3.31" - 15°5'52.30" N, 76°37'38.37"- 76°37'56.53" E and for Block II is 15°4'44.34" - 15°4'20.42" N, 76°38'26.17"- 76°38'44.81" E.

2. PP submitted that the Ministry has accorded EC to M/s. Tungabhadra Minerals Limited vide letter no. J-11015/16/2007-IA-II (M) dated 13.05.2008 for iron ore mining with the production from 0.50 MTPA to 1.25 MTPA in the mine lease area of 250.58 ha. PP submitted that with reference to e-auction dated 04.10.2016, the Department of Mines and Geology, Government of Karnataka granted letter of intent (LOI) to M/s. JSW Steel Limited vide letter no. DMG/MLS/CCA/12/2365/2016-17 dated 26.10.2016 over an area of 130.53 ha for a period of 50 years. PP further submitted that the EC has been transferred from M/s. Tungabhadra Minerals Limited to M/s. JSW Steel Limited by the Ministry vide letter no. J-11015/16/2007-IA-II (M) dated 23.10.2017 for iron ore mining project with 1.25 MTPA production capacity in the mine lease area of 130.53 ha. PP further submitted that the mine lease deed has been made on 27.05.2019 for 130.53 ha for a period of 50 years. PP further submitted that the Ministry has granted the TOR for enhancement in the iron ore production from 1.25 MTPA to 1.5 MTPA vide letter no. J-11015/16/2007-IA-II (M) dated 11.01.2018. PP submitted the EIA/EMP Report to Ministry for seeking environmental clearance.
3. The proposal was considered in the 6<sup>th</sup> EAC meeting held during June 27-28, 2019 wherein the Committee deferred the proposal and sought certain requisite information for further consideration. PP submitted the response, accordingly, the proposal was considered in this meeting.
4. PP submitted that total mine lease area is forest land and the Stage-II Forest Clearance has granted by the Ministry vide letter no. 8-12/2018-FC dated 15.05.2019 under Section-2 of the Forest (Conservation) Act, 1980 for diversion of 133.58 ha of forest land (Comprising of 130.53 ha for iron ore mining in erstwhile ML No. 2365 of M.s. Tungabhadra Mineral Private Limited and 3.05 ha for approach road).
5. PP submitted the authenticated past production details from Office of the Director, Department of Mines and Geology, Government of Karnataka vide letter No.DMG/MLS/AUC/'C'-2365/2016-17/11208 dated 16.03.2017 wherein the production details have been provided till 2009-10 and the production has not

exceeded as per EC. PP further communicated to the Regional Office of the Ministry vide letter no. TMPL/EC/ML2365/2011-12/216 dated 3<sup>rd</sup> October 2011 stating that mining operations are suspended since 08.6.2009 along with their compliance report of 2009. Based on this, the RO MoEF&CC vide letter No. EP/12.1/673/KAR 2222 dated 16 March 2017 stated that the site visit of this project was not taken since it is learnt that this project is not in operation, thus, the RO MoEF&CC was requested the Regional Officer, Karnataka State Pollution Control Board (KSPCB) to provide the present status of the project. RO MoEF&CC letter further mentioned that the Regional Officer, KSPCB has communicated that as per their records M/s. Tungabhadra Minerals Limited mine with ML NI. 2365 is not working due to ban imposed by the Hon'ble Supreme Court of India. KSPCB also stated that Mines authority has submitted the copy of monthly returns to IBM on 02.05.2013 stating that their mine is not working and carrying out only e-dispatches by the monitoring committee through MSTC. Thus, the PP submitted that the mining operations are yet to commenced by JSW Steel Limited. Furthermore, PP submitted the affidavit dated 26.06.2019 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.

6. PP submitted that the study area covers 10 km radius from Block-I and Block-II of Bhadra Iron Ore mine and the baseline data was collected for winter season in the month of December 2017-February 2018. PP further submitted that 8 locations were chosen for collection of ambient air quality data and 6 ground water and 1 surface water samples from various around the mine within 10 km radius for assessment of the existing physicochemical and bacteriological quality. The PM<sub>10</sub> and PM<sub>2.5</sub> values are in the range of 48.6-63.9 µg/m<sup>3</sup> and 28.2-37.5 µg/m<sup>3</sup>, respectively. The SO<sub>2</sub>, NO<sub>x</sub> and CO values are in the range of 11.8-14.4µg/m<sup>3</sup>, 12.8-15.9 µg/m<sup>3</sup> and less than 1 ppm, respectively. The ground water quality data of 6 locations are pH (6.98-8.16), TDS (781-1216 mg/l), total hardness (383-587 mg/l), Chloride (113-267 mg/l), sulphates (38-91 mg/l), fluorides (0.52-1.45 mg/l) and total coliforms nil respectively. Similarly, the surface water quality data of 1 location are pH (7.79), TDS (214 mg/l), total hardness (99 mg/l), chloride (30 mg/l), sulphate (16 mg/l), fluoride (0.37 mg/l) and total coliforms (35 CFU/100 ml), respectively. PP further submitted that noise levels are recorded at 8 locations in the study area for equivalent noise levels. The equivalent noise levels recorded

were found to be in the range of 48.8-54.1 dB (A) during daytime and in the range of 37.4-43.4 dB (A) during night time.

7. PP submitted that public hearing (PH) for the project was conducted on 29.12.2018 at mining site Donimalai Reserve Forest, Ittanahalli village, Sandur Taluk, Ballari District. The PH was presided by Shri. Ramesh P. Konda Reddy, Additional Deputy Commissioner, Ballari. PP submitted the translated letter of the written suggestions/objections raised during public hearing and the JSW response was authenticated by Karnataka Pollution Control Board and the same is also notarized.
8. PP further submitted that the mining plan including progressive mine closure plan for 130.53 ha was approved by IBM vide letter no. 279/1093/2017/BNG/453 dated 06.07.2017.
9. PP submitted there is no Wildlife Sanctuaries, National Parks, Elephant/Tiger Reserves within 10 km radius of the study area. PP further submitted that Daroji Bear Sanctuary is located at 12.3 km and 16.5 km in northern direction from lease boundary of Block I and Block-II respectively. Furthermore, PP submitted that 7 Schedule I species such as Blackbuck (*Antelope Cervicapra*), Indian Wolf (*Canis Lupus*), Indian Leopard (*Panthera Pardus*), Sloth Bear (*Melursus Ursinus*), Indian Peafowl (*Pavo Cristatus*), Monitor Lizard (*Varanus Bengalesis*) and Python (*Python Molurus*) are present in the region. PP submitted approved conservation plan for Wildlife and the Soil & Moisture Conservation Plan from the office of PCCF (Wildlife) and CWLW vide letter no. PCCF/WL/D/CR-41/2018-19 dated 19.09.2018 with the budget of Rs. 64 Lakhs for 3 years.
10. PP submitted that the total lease area comprises of 130.53 ha of forest land with two blocks, i.e. KH (Block-I)-97.93 ha and UG (Block-II)-32.60 ha. The mine has estimated mineable reserves of about 27.50 million tonnes that are likely to last for about 20 years with the proposed production rate. Life of mine is 20 years.
11. PP submitted that mining will be carried out by fully mechanized open cast method with drilling and blasting and by deploying HEMM equipments like hydraulic drills and excavators, wheel loaders and dumpers. The mine will be developed by top slicing. The excavated material will be processed in the mobile crushing and screening plant. One mobile crusher (Jaw Crusher) cum screen

(Tripple deck Vibrating Screen of 200 TPH capacity) and two mobile screening plants (Singly Deck Vibrating Screen of 250 TPH each) will be installed. The mine will be developed by forming benches of 8 m height and width with necessary berm width. The bench slope angle will be maintained at 80<sup>0</sup>-85<sup>0</sup> with an overall pit slope angle of 45<sup>0</sup>. The loading of iron ore will be carried out with the help of hydraulic excavators of 1.6 m<sup>3</sup> bucket capacity.

12. PP submitted that Trippers/Dumpers of 20 tonnes capacity will be used for transporting the ore. The ore transportation will be by road for initial few months till the establishment of Down Hill Pipe Conveyor (DHPC). PP further submitted that total transportation route from the mine to the JSW Steel Plant (Ore Storage Area) is 18.72 km. The ore will be dispatched from Bhadra Iron ore mine to the transfer point of JSW Steel Plant by road of 10.22 km and from transfer point up to the JSW Steel Plant, it will be transported by existing operating Pipe Conveyor of 8.5 km length. PP further submitted that for the planned DHPC, Stage I FC and working permission have been obtained for its construction. Once it is constructed and operationalized, ore transportation will be by the DHPC up to the Bannihatti transfer point, afterwards, the transport of the ore to the steel plant is through the existing operating main pipe conveyor.
13. PP submitted that presently the existing dump area within the mine lease area is 39.93 ha (formed by previous lessee). PP further submitted that at conceptual stage, the dump area will reduce to 34.57 ha because part of the existing dumps will be re-handled for backfilling of the mined out area. Out of total dump area (39.93 ha), 9.78 ha is proposed for re-handling and holds nearly 2.25 million tonnes of waste material and has an average height of 15 mt. The waste material of 9.78 ha area is proposed for re-handling in mine pit areas which will be accommodated in the mined-out pits area of 4.42 ha. PP further submitted that approximate height of the mine out area/pit will be around 56 mt from the pit bottom which will reduce the existing dump area from 39.93 ha to 34.57 ha.
14. PP submitted that water requirement is 250 m<sup>3</sup>/day which will be obtained from borewells and necessary permission will be taken from CGWA for groundwater withdrawal. PP further submitted that till permission obtained from CGWA, process water or surface water from JSW reservoirs (Steel Plant) will be utilized for mining activities. PP further submitted there are no rivers or perennial water



courses in the mine lease area. However, the area is traversed by numerous seasonal water courses which are usually active during monsoon season and draining into the nearby water bodies (Narihalla Reservoir). Furthermore, PP submitted that there are 12 nallahs existing in and around the ML area. 2 nallahs are running on northern side of lease area Block-I and blocked by OB dump, another nallah originating from N-E side of lease area, 2 nallah originating from S-E corner of lease area and all are joined together at northern side of lease area emptying into Narihalla stream. Another 3 nallahs are originating from western cliff of the lease area joining and flowing towards north emptying into Narihalla stream and finally into Daroji tank. From ML area of Block-II, 3 nallahs are originating towards and north-east and are emptying into a tank near Marutla Village. The nallahs from western side of ML area Block-II flowing towards north and joining downstream of Narihalla stream and finally emptying into Daroji tank.

15. PP submitted that the terrain of 10 km radial extent of the mining lease boundary being undulated with altitude ranging from 495-1019 m msl, elevated terrain has been considered. PP further submitted that 3D modeling for PM2.5 and PM10 has been carried out considering the sources at top of mine for assessing the impacts on nearby villages, habitation, vegetation and agriculture land using USEPA recommended AERMOD (version 9.7.0). Furthermore, PP submitted that particle size analysis for two samples (one in the upwind and second in the downwind direction) were collected from the Tunga Iron Ore mines of JSW which is operating adjacent to the subject mine.
16. PP submitted that the mine will provide employment to 264 people and proposes to generate indirect employment of around 300 people. Furthermore, PP submitted that there is no court cases/litigation against the project proposal. PP further submitted the total cost of project is Rs. 110/- Crore, Capital EMP budget Rs.12.09/- Crore and the recurring budget is Rs. 73 Lakhs (per annum).
17. Based on the presentation made by PP and the discussion held, the **Committee recommended to grant the environmental clearance for Bhadra Iron Ore Mine (ML No. 2365) with enhancement in the iron ore production from 1.25 to 1.50 MTPA and waste (Over burden/Inter Burden) production of 6.0 MTPA (Total Excavation 7.50 MTPA) in the mine lease area of 130.53 ha, with**

**standard EC conditions as mentioned and along with following specific conditions.**

- (i). **This EC for expansion proposal {Iron Ore from 1.25 to 1.50 MTPA and waste (Over burden/Inter Burden) production of 6.0 MTPA (Total Excavation 7.50 MTPA) in the mine lease area of 130.53 ha} shall be operational after submission of an undertaking through affidavit to MoEF& CC within 15 days of receipt of the EC letter, for compliance of all the conditions prescribed herein**

**The transportation of minerals through road will be allowed till 31.03.2021.**

Any deviation in this regard shall be reported by PP to ministry atleast 3 months prior with reason for such deviation for consideration of Ministry. No transportation of mined mineral shall be permitted after 31.03.2021 without permission of ministry.

- (ii). R & R plans needs to be modified to include the public concerns, if any and the updated and approved R & R plans from competent authority shall be submitted for consideration of Ministry. **This EC for expansion proposal shall be operational after submission of approved R & R plans.**
- (iii). Installation of One mobile crusher (Jaw Crusher) cum screen (Tripple deck Vibrating Screen of 200 TPH capacity) and two mobile screening plants (Singly Deck Vibrating Screen of 250 TPH each) only will be allowed. No further installation of crusher and screening plants are allowed.
- (iv). PP should provide a budget of Rs. 2.25 Crore on CER as per commitment made including Rs. 15 lakh for girl child welfare as part of Janam to Janani Programme of the company. PP should provide scholarship to student through JSW Foundation's Udaan Scholarship as committed by the PP till the life of mine. In addition, PP should pay the fee to the needy students as the separate budget is allocated by the PP for the same.
- (v). Handling of dumped material is not allowed for any purpose except backfilling of the mined out area.

- (vi). The estimated mineable reserves are about 27.50 million tonnes and the life of mine is 20 years with the proposed production rate.
- (vii). **EC for expansion proposal shall be operational after getting necessary approval from the CGWA.**
- (viii). PP should adhere the proposed timeline and budgetary provisions for socioeconomic survey (i.e. bus facility, clean road, appointment, compensation to the farmers and enhancement of agricultural income, toilets and rejuvenate of sathyamma lake, plantation on either side of the road (passing through Taranagara) etc.,) of affected people.
- (ix). PP needs to regularly monitor the iron particle in water and air environment and their health impacts and submit the study report to RO-MOEF on annual basis.

**2.11 Mining of Sand, Bajri and Boulder with proposed production capacity of 2,16,000 TPA (ROM) in Swarna River Bed by M/s Uttarakhand Forest Development Corporation, located at Abdullpur & Rampur, Tehsil- Vikas Nagar, District Dehradun, Uttarakhand (23.75 Ha) [File No. J-11015/228/2016-IA-II(M); Proposal No. IA/UK/MIN/61477/2016; Consultant: Grassroot ]-Re-Consideration of EC.**

The proposal of M/s Uttarakhand Forest Development Corporation is for Mining of Sand, Bajri and Boulder with proposed production capacity of 2,16,000 TPA (ROM) in Swarna River Bed. The PP initially applied to Ministry as SEIAA Uttarakhand was not operational as Cat 'A' project and Ministry granted ToR on 30.12.2016. The PP then applied for EC on 2.01.2017 and Ministry raised the EDS for submission of EIA/EMP Report and DSR. The PP replied to EDS on 30.12.2017 and informed that EIA is not applicable for this project in pursuant to S.O. 141(E) dated 15.01.2016 wherein the project less than 25 Ha is categorized as B2 and does not require preparation of EIA Report and Public Hearing. The Ministry then raised the EDS on 10.01.2018 & 16.02.2018 for submission of requisite information and EMP. PP submitted information on 24.01.2018 & 16.02.2018 and the proposal was placed in EAC meeting held on 22-23rd March, 2018 wherein the Committee deferred

the proposal for want of requisite information. The Committee also mentioned that ToR was issued for this project on 16.01.2017 and now the PP has submitted that being a category B2 project there is no need of EIA and PH. The Committee was of the view that PP should first request the Ministry to withdraw the ToR being a Cat 'B2' Project. The PP submitted the desired information and the proposal is now placed in EAC meeting wherein the Committee observed that PP did not receive any ToR withdrawal letter from the Ministry. Taking consideration of the Hon'ble NGT order dated 13.09.2018 & 11.12.2018 made on the ministry notification S.O. 141(E) dated 15.01.2016, the committee recommend to defer the proposal and requested the PP to submit EIA/EMP along with Public hearing report as per the ToR issued by MoEF&CC

**2.12 Proposal for extension of validity of the EC granted vide Lr No. J11015/64/2014- IA-II(M); dated 14th May, 2015 to M/s Public Works Department, State Government of Tamil Nadu for Quarrying River sand in u/s and d/s of Kattalai Bed Regulator in Cauvery River with production capacity of 15,18,958 m<sup>3</sup> over and extent of 256.06 ha located at Village Mayanur Tehsil – Krishnarayapuram, District- Karur, Tamil Nadu [File No J-11015/64/2014-IA-II(M); Proposal No. IA/TN/MIN/23694/2013]-EC Amendment**

The Member Secretary informed the Committee that the above proposal was already placed in EAC meeting and Committee has already provided its recommendations. The Committee thus **returned the proposal in project form.**

**2.13: Sitapuram Limestone (ML - 1) Mining Project of M/s Zuari Cement Ltd. for proposed production capacity of 30,00,000 TPA over an area of 770.23 ha. The mine lease area is located at the Village/s – Dondapadu, Ramapuram and Revoor, District – Suryapet, Telangana [File No. J-11015/63/2003-IA. II(M); Proposal No. IA/TG/MIN/117756/2019]-ToR Regarding**

The proposal of M/s Zuari Cement Ltd. for Mining of Limestone for production of 3.0 MTPA of Limestone, mining area of 770.23 ha of M.L-1 & 558.94 ha of M.L-2 located at Villages-Dondapadu, Ramapuram and Revoor, Tehsil- Mella Cheruvu,

District: Nalgonda, Telangana. The applied area forms a part of Survey of India toposheet no. 57 P/13 and 65D/1. The lease is located at following latitude and longitudes: Latitude: 16°48'56.18"N-16°50'3.10"N to 16°48'9.13"N-16°50'44.73"N, Longitude: 79°58'20.43"E-80°02'28.63"E to 80°0'1.85"E-79°59'33.91"E, seismic zone-II.

2. The PP applied online for grant of ToR on 05.10.2018 and submitted the Form1, Pre-feasibility Report as per EIA Notification dated 14th September, 2006. PP has applied in a single Form-1 for two mining leases. The Ministry advised the PP to apply separately for both the mining leases. The PP vide its reply dated 17.11.2018, submitted that Ministry has issued corrigendum vide Lr No. J-11015/63/2003-IA. II (II) dated 4.04.2006 for EC-I [J-11015/63/2003-IA. II(M) dated 9.05.2005; area 777.09 Ha] & EC-2 [J-11015/174/2003-IA. II(M) dated 4.04.2006; area 558.94 Ha] for EC-II. The production of 3.0 MTPA is merged through these two corrigendum & corrigendum is being maintained as EC-I for production of 3.0 MTPA. PP also requested to extend the validation of the said corrigendum. The present application is made pursuant to the notification dated 06.04.2018. There was ambiguity as how corrigendum is divided in two parts. The Ministry then placed the proposal in EAC Meeting held on **January 22nd-23rd, 2019**, wherein the Committee **deferred** the proposal as the PP did not attend the meeting. However, the Committee was of the view that PP should submit the requisite information viz. complete details pertaining to mining lease (initial grant, transfer of mining lease, renewal of mining lease, validity of mining lease as on date), Past production details since the inception of mine duly authenticated from DMG, copy of CTO and CTE, comparative of all the figures ( waste, O.B., land use, water requirement, etc.) mentioned in the previous EC and what is proposed now, details of any modification/expansion/amendment/change of scope of work/method of mining etc. if any carried out after grant of EC, any corrigendum/ amendment in EC granted by MoEF&CC. In addition to this the Committee observed that area of mining lease is mentioned as 1336.03 Ha in the Form-1 but EC uploaded in the Form 1 is for the mining lease having area of 777.09 Ha. Thus, PP is requested to provide the complete justification in this regard with supporting documents. The information sought by Committee needs to be submitted within one month. The PP submitted the information vide its letter dated 20.02.2019.

3. The PP submitted that the Mining Lease Sitapuram Limestone Mine (ML-1) was initially granted in favour of M/s Raasi Cement Ltd. vide Govt. order G.O. no. 141 Dated 07.03.1984. The same lease was transferred in favour of M/s Vishnu Cement Ltd. Vide Govt. Order no. 186 Dated 10.04.1985. M/s Vishnu Cement Ltd. was merged with M/s Zuari Cement Ltd & the mining lease got transferred vide Govt. order 68 dated 09.07.2010 & Proceeding No. 651 7/M2/2002 dated 02.09.2010 of ADMG, A.P. The 1st renewal of ML granted vide GO No. 361 Dt. 19.12.2003 for the period of 20 years w.e.f. dated 24.04.2004. Presently, the validity of ML is till 23.04.2014. The Extension of validity of mining lease till Year 2034 is under process as submitted by PP in reference to ADMG letter no. 6517/M2/2002 Dt. 02.09.2010.
4. The Mining Lease Sitapuram Limestone Mine (ML-2) was initially granted in favour of M/s Vishnu Cement Ltd. vide Govt. order G.O. Ms no. 212 dated 15.06.1992. M/s Vishnu Cement Ltd. was merged with Zuari Cement Ltd. & the mining lease got transferred vide Govt. order 68 dated 09.07.2010 & Proceeding No. 3616/M/2010 dated 02.09.2010 of ADMG Miryalaguda. The 1st renewal of ML granted vide GO No. 17 Dt. 07.03.2018 for the period of 50 years w.e.f. Dt. 12.11.1992 and thus valid till 11.11.2042.
5. The PP submitted that Ministry has issued corrigendum in EC-1 & EC-2 vide Lr No. J-11015/63/2003-IA. II (II) dated 4.04.2006. The PP submitted that EC granted to M/s Vishnu Cement was transferred to M/s Zuari Cement Ltd vide Lr. No J11015/63/2003-IA. II(I) dated 17.02.2011.
6. The proposal was considered in EAC meeting held on 28.06.2019 and based on the discussion held and document submitted by the PP the Committee made following observations:
  - a) There are two separate mining lease ML-1 (lease area 777.09 Ha) for which EC was granted vide letter No J-11015/63/2003-IA. II(M) dated 9.05.2005 for production of 3.0 MTPA and ML-2 (lease area 558.94 Ha) for which EC was granted vide letter No. J-11015/174/2003-IA. II(M) dated 4.04.2006 for production of 0.03 MTPA.
  - b) The EC for ML-1 (777.09 Ha) was granted on 09.05.2005 (for 3.0 MTPA) in the said EC letter there were two important specific conditions viz. "i) The environmental clearance is granted to ML-1 only for lease area of 777.09

Ha and production capacity of 3.0 MTPA and ii) The Company shall obtain separate mine plan approval and environmental clearance for ML-2 for mining limestone until such time production should cease from ML-2."

- c) The EC for ML-2 (558.94 Ha) was granted on 4.04.2006 (for 0.03 MTPA) in the said EC letter there was specific condition that the maximum combined production from both the mine leases (ML-1 :777.09 Ha and ML-2: 558.94 ha) shall not exceed 3.0 million tons per annum.
  - d) The Ministry thereafter issued corrigendum Lr No. J-11015/63/2003-IA. II (II) dated 4.04.2006 wherein the special condition no 2) of EC granted for ML1(777.09 Ha) on 9.05.2005 was changed to "it shall be ensured that the maximum combined production from both the mining leases (ML-1 :777.09 Ha and ML-2: 558.94 ha) shall not exceed 3.0 million tons per annum."
  - e) The Ministry vide Lr. No J-11015/63/2003-IA. II(I) dated 17.02.2011 transferred the above two EC granted to M/s Vishnu Cement in the name of M/s Zuari Cement Ltd.
  - f) PP has applied in one application for both the mine leases (combined lease area - 1336.03 Ha) assuming two mining leases were amalgamated by virtue of MoEF&CC corrigendum letter dt. 04.04.2006. The committed observed that the available document suggests that the Ministry did not amalgamated the ECs but transferred the two ECs with single letter as the transferor and transferee are same for both the ECs. Thus, the submission made by PP during the meeting that ECs were amalgamated is not correct. Further, as there are two separate mining lease and two separate ECs, the PP was required to apply separately for their regularization as per provision of Notification dated 6.04.2018.
7. The Committee finally deferred the proposal and asked the Member Secretary to get necessary inputs from IA-Policy division of Ministry for taking view on whether fresh individual applications of both the leases can be processed by Ministry in-lieu of the present single application for both the lease mines. The decision of the policy may be conveyed to the PP and PP should act accordingly.

8. As suggested by EAC, the IA Non-Coal Mining section sought clarification from the Policy Sector, which informed that PP should apply separately. Accordingly, the Ministry vide letter dated 8.08.2019 asked the PP to apply separately for both the mining leases. The PP submitted the separate form-1 for each mining lease and the proposal is now placed in EAC meeting held on 21-22 October, 2019 wherein the PP made the detailed presentation.
  
9. Based on the documents submitted and discussion held the Committee observed that EC in the instant case was granted on 9.05.2005 for a production capacity of 3.0 Million Tonne /Annum. The Ministry vide LR No. vide LR No J-11015/63/2003-IA.II(M) dated 4.04.2006 issued corrigendum in the EC granted for this mines and in the said corrigendum the Ministry restricted the maximum combined production from both the mining lease (ML-1: 770.09 Ha & ML-2: 558.94 Ha) to 3.0 Million Tonne. This means that the production from ML-2 is 0.03 MTPA and Production from ML-1 (this mines) should not be more than 2.97 Million TPA. But from the past production submitted by the PP it is found that the base year production 1993-94 was 914243 TPA and the same has been increased to 921059 TPA in the year 1994-95 at this stage PP was required to obtain EC but PP obtained EC on 9.05.2005 for 3.0 MTPA which was amended to 2.97 MTPA on 4.4.2006. Further, after grant of EC, PP did not increase the production over the approved EC capacity however period for which PP has mined without obtaining EC is a violation as per Hon'ble Supreme Court Judgment dated 02.08.2017. In addition to this Committee observed that proposal of the PP is for 3.0 MTPA but the existing mining plan is for 1.6 MTPA. The Committee therefore **deferred** the proposal as the capacity desired by PP is not matching with the approved mining plan/scheme capacity and ask the PP to justify the same with valid documents. PP is also required to submit the past production details duly authenticated by DMG and comparative land use, waste generation, water requirement etc, proposed at the time of grant of EC and what is proposed now.

**2.14 Sitapuram Limestone (ML -2) Mining Project of M/s Zuari Cement Ltd. for proposed production capacity of 30,00,000 TPA over an area of 558.71 ha. The mine lease area is located at the Village/s – Dondapadu, Ramapuram**



**and Revoor, District – Suryapet, Telangana [File No. J-11015/174/2005-IA. II(M); Proposal No. IA/TG/MIN/117862/2019]-ToR Regarding**

The proposal of M/s Zuari Cement Ltd. for Mining of Limestone for production of 3.0 MTPA of Limestone, mining area of 770.23 ha of M.L-1 & 558.94 ha of M.L-2 located at Villages-Dondapadu, Ramapuram and Revoor, Tehsil- Mella Cheruvu, District: Nalgonda, Telangana. The applied area forms a part of Survey of India toposheet no. 57 P/13 and 65D/1. The lease is located at following latitude and longitudes: Latitude: 16°48'56.18"N-16°50'3.10"N to 16°48'9.13"N-16°50'44.73"N, Longitude: 79°58'20.43"E-80°02'28.63"E to 80°0'1.85"E-79°59'33.91"E, seismic zone-II.

2. The PP applied online for grant of ToR on 05.10.2018 and submitted the Form1, Pre-feasibility Report as per EIA Notification dated 14th September, 2006. PP has applied in a single Form-1 for two mining leases the Ministry advised the PP to apply separately for both the mining leases. The PP vide its reply dated 17.11.2018, submitted that Ministry has issued corrigendum vide Lr No. J-11015/63/2003-IA. II (II) dated 4.04.2006 for EC-I [J-11015/63/2003-IA. II(M) dated 9.05.2005; area 777.09 Ha] & EC-2 [J-11015/174/2003-IA. II(M) dated 4.04.2006; area 558.94 Ha] for EC-II. The production of 3.0 MTPA is merged through these two corrigendum & corrigendum is being maintained as EC-I for production of 3.0 MTPA. PP also requested to extend the validation of the said corrigendum. The present application is made pursuant to the notification dated 06.04.2018. There was ambiguity as how corrigendum is divided in two parts. The Ministry then placed the proposal in EAC Meeting held on **January 22nd-23rd, 2019**, wherein the Committee **deferred** the proposal as the PP did not attend the meeting. However, the Committee was of the view that PP should submit the requisite information viz. complete details pertaining to mining lease (initial grant, transfer of mining lease, renewal of mining lease, validity of mining lease as on date), Past production details since the inception of mine duly authenticated from DMG, copy of CTO and CTE, comparative of all the figures ( waste, O.B., land use, water requirement, etc.) mentioned in the previous EC and what is proposed now, details of any modification/expansion/amendment/change of scope of work/method of mining etc. if any carried out after grant of EC, any corrigendum/ amendment in EC granted by MoEF&CC. In addition to this the Committee observed that area of mining lease is mentioned as 1336.03 Ha in the Form-1 but

EC uploaded in the Form 1 is for the mining lease having area of 777.09 Ha. Thus, PP is requested to provide the complete justification in this regard with supporting documents. The information sought by Committee needs to be submitted within one month. The PP submitted the information vide its letter dated 20.02.2019.

3. The PP submitted that the Mining Lease Sitapuram Limestone Mine (ML-1) was initially granted in favour of M/s Raasi Cement Ltd. vide Govt. order G.O. no. 141 Dated 07.03.1984. The same lease was transferred in favour of M/s Vishnu Cement Ltd. Vide Govt. Order no. 186 Dated 10.04.1985. M/s Vishnu Cement Ltd. was merged with M/s Zuari Cement Ltd & the mining lease got transferred vide Govt. order 68 dated 09.07.2010 & Proceeding No. 651 7/M2/2002 dated 02.09.2010 of ADMG, A.P. The 1st renewal of ML granted vide GO No. 361 Dt. 19.12.2003 for the period of 20 years w.e.f. dated 24.04.2004. Presently, the validity of ML is till 23.04.2014. The Extension of validity of mining lease till Year 2034 is under process as submitted by PP in reference to ADMG letter no. 6517/M2/2002 Dt. 02.09.2010.
4. The Mining Lease Sitapuram Limestone Mine (ML-2) was initially granted in favour of M/s Vishnu Cement Ltd. vide Govt. order G.O. Ms no. 212 dated 15.06.1992. M/s Vishnu Cement Ltd. was merged with Zuari Cement Ltd. & the mining lease got transferred vide Govt. order 68 dated 09.07.2010 & Proceeding No. 3616/M/2010 dated 02.09.2010 of ADMG Miryalaguda. The 1st renewal of ML granted vide GO No. 17 Dt. 07.03.2018 for the period of 50 years w.e.f Dt. 12.11.1992 and thus valid till 11.11.2042.
5. The PP submitted that Ministry has issued corrigendum in EC-1 & EC-2 vide Lr No. J-11015/63/2003-IA. II (II) dated 4.04.2006. The PP submitted that EC granted to M/s Vishnu Cement was transferred to M/s Zuari Cement Ltd vide Lr. No J11015/63/2003-IA. II(I) dated 17.02.2011.
6. The proposal was considered in EAC meeting held on 27-28, June 2019 and based on the discussion held and document submitted by the PP the Committee has following observations:
  - a) There are two separate mining lease ML-1 (lease area 777.09 Ha) for which EC was granted vide letter No J-11015/63/2003-IA. II(M) dated 9.05.2005 for production of 3.0 MTPA and ML-2 (lease area 558.94 Ha) for which EC was granted

vide letter No. J-11015/174/2003-IA. II(M) dated 4.04.2006 for production of 0.03 MTPA.

- b) The EC for ML-1 (777.09 Ha) was granted on 09.05.2005 (for 3.0 MTPA) in the said EC letter there were two important specific conditions viz. "i) The environmental clearance is granted to ML-1 only for lease area of 777.09 Ha and production capacity of 3.0 MTPA and ii) The Company shall obtain separate mine plan approval and environmental clearance for ML-2 for mining limestone until such time production should cease from ML-2."
  - c) The EC for ML-2 (558.94 Ha) was granted on 4.04.2006 (for 0.03 MTPA) in the said EC letter there was specific condition that the maximum combined production from both the mine leases (ML-1 :777.09 Ha and ML-2: 558.94 ha) shall not exceed 3.0 million tons per annum.
  - d) The Ministry thereafter issued corrigendum Lr No. J-11015/63/2003-IA. II (II) dated 4.04.2006 wherein the special condition no 2) of EC granted for ML1(777.09 Ha) on 9.05.2005 was changed to "it shall be ensured that the maximum combined production from both the mining leases (ML-1 :777.09 Ha and ML-2: 558.94 ha) shall not exceed 3.0 million tons per annum."
  - e) The Ministry vide Lr. No J-11015/63/2003-IA. II(I) dated 17.02.2011 transferred the above two EC granted to M/s Vishnu Cement in the name of M/s Zuari Cement Ltd.
  - f) PP has applied in one application for both the mine leases (combined lease area - 1336.03 Ha) assuming two mining leases were amalgamated by virtue of MoEF&CC corrigendum letter dt. 04.04.2006. The committed observed that the available document suggests that the Ministry did not amalgamated the ECs but transferred the two ECs with single letter as the transferor and transferee are same for both the ECs. Thus, the submission made by PP during the meeting that ECs were amalgamated is not correct. Further, as there are two separate mining lease and two separate ECs, the PP was required to apply separately for their regularization as per provision of Notification dated 6.04.2018.
7. The Committee deferred the proposal and asked the Member Secretary to get the necessary inputs from IA-Policy division of Ministry for taking view on whether fresh individual applications of both the leases can be processed by Ministry in-

lieu of the present single application for both the lease mines. The decision of the policy may be conveyed to the PP and PP should apply accordingly.

8. As suggested by EAC the IA Non-Coal Mining Sector sought clarification from the Policy Sector, which informed that PP should apply separately. Accordingly, the Ministry vide letter dated 8.08.2019 asked the PP to apply separately for both the mining leases. The PP submitted the separate form-1 for each mining lease and the proposal is now placed in EAC meeting held on 21-22 October, 2019 wherein the PP made the detailed presentation.
9. Based on the documents submitted and discussion held, the Committee observed that EC in the instant case was granted on 4.04.2006 for a production capacity of 0.03 Million Tonne /Annum. On the same date Ministry vide LR No. vide LR No J-11015/63/2003-IA.II(M) dated 4.04.2006 issued corrigendum in the EC granted vide letter No J-11015/63/2003-IA.II(M) dated 9.05.2005 to another mining lease (ML-1 770.23 Ha) of the same PP. In the said corrigendum the Ministry restricted the maximum combined production from both the mining lease (ML-1: 770.09 Ha & ML-2: 558.94 Ha) to 3.0 Million Tonne. This means that the production from ML-2 is 0.03 MTPA and Production from ML-1 should not be more than 2.97 Million TPA. But from the past production submitted by the PP it is observed that the base year production 1993-94 was 8000 TPA and the same has been increased to 20000 TPA in the year 1994-95 at this stage PP was required to obtain EC but PP obtained EC on 4.04.2006 for 30000 TPA. Further, after grant of EC PP has increased the production over and above the approved EC capacity without obtaining expansion in the Environmental Clearance. The Mining without EC and in excess of EC capacity is a violation in pursuant to Ministry Notification S.O. 804(E) dated 14.03.2017 and also violation as per Hon'ble Supreme Court Judgment dated 02.08.2017. Being a violation proposal the Committee did not consider the proposal and ask the Ministry to take suitable action as applicable. The Committee therefore **return the proposal in present form** proposal.

**2.15 Expansion of Uranium project of M/s. Uranium Corporation of India Limited with production from 9.0 Lakh TPA to 13.5 Lakh TPA (ROM) in the mine lease area of 973.61 ha located at Tummalapalle Vilalge, Dr. YSR Reddy District**

**(Cuddaph), Andhra Pradesh [File No. J-11015/226/2016-IA-II(M); Proposal No. IA/AP/MIN/118241/2019; Consultant: Mecon Ltd.]-ToR Extension.**

The Proposal of M/s. Uranium Corporation of India Limited is for extension of validity of ToR granted vide Lr No J-11015/226/2016-IA-II(M) dated 19.01.2017 for expansion in Uranium production from 9.0 LTPA to 13.5 LTPA including ore processing from mining lease located at Tummalapalle Vilalge, Dr. YSR Reddy District (Cuddaph), Andhra Pradesh.

2. PP applied online in Form-5 on 30.09.2019 for extension of ToR and submitted that study for tailing disposal facility is yet to be finalized and due to this there would be delay in preparation of EIA/EMP Report and conducting public hearing. Although PP applied within the validity of ToR but as technical issues are involved proposal is placed in EAC meeting held on 27-28 Oct, 2019 wherein the EAC after detailed deliberation **recommended** the proposal for grant of extension in ToR for one year i.e. upto 18.01.2021. The Committee also prescribed the standard ToR for beneficiation and following additional ToR for preparation of EIA/EMP Report.
  - i. Geo-Technical Risk Assessment Study of the Tailing Pond
  - ii. Partial analysis of Radiological Parameters of water runoff
  - iii. Material and water balance study at Source (process and discharge).

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**3.0. Agenda with the permission of Chairman**

**Sub: Mining of Beach Sand Mineral with enhancement of production capacity from 2,37,150 TPA to 7,50,000 TPA by M/s IREL (India) Limited in the lease area of 180 ha, located at village(s)- Alappad, Panmana and Ayanivelikulangara, Tehsil-Karunagappally, District-Kollam, Kerala (Proposal No: IA/KL/MIN/109526/2008; Old File No:11-36/2008-IA-III; Old proposal No: IA/KL/MIN/85725/2008; IA/KL/MIN/25461/2014)-Reg. Site Visit.**

The proposal of M/s IREL (India) Limited for mining of beach sand minerals with enhancement in production capacity from 2, 37,150 TPA to 7, 50,000TPA in NK Block IV EE Ilmenite mine with the total mine lease area of 180 ha. The proposal

was considered in the Expert Appraisal Committee (Non-Coal Mining Sector) meeting held on June 27-28, 2019 (6<sup>th</sup> EAC) and July 30-31, 2019 (7<sup>th</sup> EAC) for grant of environmental clearance for the above mentioned project.

2. The EAC (Non-Coal Mining Sector) in its 7<sup>th</sup> Meeting held on July 30-31, 2019 deferred the proposal and recommended that a site visit to be carried out by sub-committee including EAC members along with representatives from Ministry. The sub-committee will inspect on RO MoEF&CC's, Bangalore compliance report on specific condition (iii) of existing EC dated 01.03.2011. The sub-committee will also explore the R&R Plan being adopted by M/s. IREL (India) Limited and its replicability potential.
3. In acceptance of the recommendations of the EAC (Non-Coal Mining Sector) and the approval of Competent Authority, the site visit was planned in the month of November 2019. However, due to constraints of date and the non-availability of EAC members and Ministry's official, the site visit could not be planned. In view of this, the committee agreed to postponed the site visit to the month of December 2019.

The meeting ended with thanks to Chair.

**Standard Terms of Reference (TOR) for Mining Project**

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

study etc. should be detailed. The proposed safeguard measures in each case should also be provided.

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



Standing Committee of National Board of Wildlife and copy furnished.

- 18) A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan alongwith budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.
- 19) Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Dept. Should be secured and furnished to the effect that the proposed mining activities could be considered.
- 20) Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL. HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).
- 21) R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report.
- 22) One season (non-monsoon) [i.e. March - May (Summer Season); October - December (post monsoon season); December - February (winter season)] primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station

- within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM<sub>10</sub>, particularly for free silica, should be given.
- 23) Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modelling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.
  - 24) The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.
  - 25) Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.
  - 26) Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.
  - 27) Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.
  - 28) Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.
  - 29) Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be.
  - 30) Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and BGL. A schematic diagram may also be provided for the same.
  - 31) A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected

for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.

- 32) Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.
- 33) Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.
- 34) Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.
- 35) Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.
- 36) Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.
- 37) Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.
- 38) Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.
- 39) Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.
- 40) Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
- 41) The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.
- 42) A Disaster Management Plan shall be prepared and included in the EIA/EMP

Report.

- 43) Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.
- 44) 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.
- 45) 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.
- 46) 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 2<sup>nd</sup> 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.
- 47) 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 4<sup>th</sup> 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.

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## **Annexure-II**

### **Recommendation of CSIR-NEERI Report on “Carrying Capacity Study for Environmentally Sustainable Iron and Manganese Ore Mining Activity in Keonjhar, Sundargarh and Mayurbhanj districts of Odisha State”**

- 1) Department of Steel & Mines, Govt. of Odisha should prepare 5 years regional plan for annual iron ore requirement from the state, which in turn shall be met from different mines/zones (e.g. Joda, Koira.) in the state. Accordingly, sustainable annual production (SAP) for each zone/mine may be followed adopting necessary environmental protection measures.
- 2) The expansion or opening of new manganese ore mines may be considered only when the actual production of about 80% is achieved. Further, the mines that have not produced Mn ore for last two years and have no commitment in the current year as well; EC capacity in such cases may be reviewed. The Department of Steel & Mines, Govt. of Odisha shall submit the Annual Report on this issue to the MoEF&CC for further necessary action.
- 3) Analysis of baseline environmental quality data for the year 2014 and 2016 indicates that existing mining activities appear to have little / no potential impact on environmental quality, except on air environment, which was mainly due to re-suspension of road dust. Therefore, all the working mines can continue to operate with strict compliance to monitoring of environmental quality parameters as per EC and CTE/CTO conditions of the respective mine, and implementation of suggested measures for control of road dust and air pollution. Odisha State Pollution Control Board has to ensure the compliance of CTE/CTO. Regional office of the MoEF&CC, Bhubaneswar shall monitor the compliance of the EC conditions. Regional office of the Indian Bureau of Mines (IBM) shall monitor the compliance of mining plan and progressive mine closure plan. Any violation by mine lease holder may invite actions per the provisions of applicable acts.
- 4) Considering the existing environmental quality, EC capacity, production rate, iron ore resources availability and transport infrastructure availability, the share of Joda and Koira sector works out to be 70% and 30% respectively for the existing scenario for the year 2015-16. However, for additional EC capacity, it can be 50:50 subject to commensurate infrastructure improvement (viz. SOTM, pollution free road transport, enhancement of rail network etc.) in the respective regions.
- 5) Continuous monitoring of different environmental quality parameters as per EC and CTE/CTO conditions with respect to air, noise, water (surface & ground water) and soil quality in each region shall be done. The environmental quality parameters should not indicate any adverse impact on the environment. Monitoring within the mines should be done by individual mine lease holders, whereas outside the mine lease area, monitoring should be done by the Govt. of Odisha through various concerned departments/ authorized agencies. Various monitoring/ studies should be conducted through national reputed institutes, NABET/ MoEF&CC accredited laboratories/organizations. The reports submitted by individual mine lease holders and study reports prepared by other concerned departments/agency

for each of the regions should be evaluated and examined by SPCB/ MoEF&CC.

- 6) Construction of cement concrete road from mine entrance and exit to the main road with proper drainage system and green belt development along the roads and also construction of road minimum 300 m inside the mine should be done. This should be done within one year for existing mines and new mine should have since beginning. The concerned departments should extend full support; wherever the land does not belong to the respective mine lease holders. The Department of Steel & Mines, Govt. of Odisha should ensure the compliance and should not issue the Mining Permits, if mine lease holder has not constructed proper cement concrete road as suggested above.
- 7) In view of high dust pollution and noise generation due to road transport, it is proposed to regulate/guide the movement of iron and manganese ore material based on the EC capacity of the mines. Accordingly, ore transport mode has been suggested, as given below in Table.

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

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

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

In view of present ore transport practices and practical limitations, all the existing mines should ensure adoption of SOTM within next 5 years. New mines or mines seeking expansion should incorporate provision of SOTM in the beginning itself, and should have system in place within next 5 years.

However, the State Govt. of Odisha shall ensure dust free roads in mining areas wherever the road transportation of mineral is involved. The road

shoulders shall be paved with fence besides compliance with IRC guidelines. All the roads should have proper drainage system and apart from paving of entire carriage width the remaining right of way should have native plantation (dust capturing species). Further, regular maintenance should also be ensured by the Govt. of Odisha.

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

Progress on development of dust free roads, implementation of SOTM, increased use of existing rail network, development of additional railway network/conveyor belt/ pipelines etc. shall be submitted periodically to MoEF&CC.

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

- 8) Development of parking plazas for trucks with proper basic amenities/ facilities should be done inside mine. This should be done within one year for existing mines and new mines should have since beginning. Small capacity mines (in terms of lease area or production) not having enough space within the mine lease areas should develop parking plaza at a common place within the region with requisite facilities. Responsibility: Individual Mine Lease Holders; Time Period: 1 Year
- 9) Construction of NH 215 as minimum 4 lane road with proper drainage system and plantation and subsequent regular maintenance of the road as per IRC guidelines. Construction of other mineral carrying roads with proper width and drainage system along with road side plantation to be carried out. Responsibility: Department of Steel & Mines with PWD / NHAI Time Period: 2 Years.
- 10) Regular vacuum cleaning of all mineral carrying roads aiming at "Zero Dust Re- suspension" may be considered. Responsibility: PWD / NHAI/ Mine Lease Holders; Time Period: 3 months for existing roads.
- 11) Expansion of existing mines and new mines should be considered after conducting recent EIA Study (as per the provisions of EIA Notification 2006, as amended time to time) with proper justification on demand scenario for iron ore requirement and availability of pollution free transport network in the region. Responsibility: IBM, Department of Steel & Mines and MoEF&CC, New Delhi.
- 12) **Mine-wise Allocation of Annual Production:** In case the total requirement of iron ore exceeds the suggested limit for that year, permission for annual production by an individual mine may be decided depending on approved EC capacity (for total actual dispatch) and actual production rate of individual mine during last year or any other criteria set by the State Govt., i.e. Dept. of Steel & Mines. Department of Steel and Mines in consultation with Indian



Bureau of Mines-RO should prepare in advance mine-wise annual production scenario as suggested in Table, so that demand for iron ore can be anticipated, and actual production/dispatch does not exceed the suggested annual production.

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

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

- 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, PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>x</sub> 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, PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>x</sub> 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 Koirra regions and one in Baripada/ Rairangpur region. (iv) Emissions from vehicles as well as heavy machinery should be kept under control and regularly monitored. Measures should be taken for regular maintenance of vehicles used in mining operations and in transportation of mineral. (v) The vehicles shall be covered with a tarpaulin and should not be overloaded. Further, possibility of using closed container trucks should be explored for direct to destination movement of iron ore. Air quality monitoring at one location should also be carried out along the transport route within the mine (periodically, near truck entry and exit gate). Responsibility: Individual Mine Lease Holders and SPCB.
- 23) **Noise and Vibration Related:** (i) Blasting operation should be carried out only during daytime. Controlled blasting such as Nonel, should be practiced. The mitigation measures for control of ground vibrations and to arrest fly

rocks and boulders should be implemented. (ii) Appropriate measures (detailed in Section 5.4) should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs/muffs. (iii) Noise levels should be monitored regularly (on weekly basis) near the major sources of noise generation within the core zone. Further, date, time and distance of measurement should also be indicated with the noise levels in the report. The data should be used to map the noise generation from different activities and efforts should be made to maintain the noise levels with the acceptable limits of CPCB (CPCB, 2000) (iv) Similarly, vibration at various sensitive locations should be monitored atleast once in month, and mapped for any significant changes due to successive mining operations. Responsibility: Individual Mine Lease Holders.

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

mining activity is transported in the surface water course or any other water body. Appropriate measures for prevention and control of soil erosion and management of silt should be undertaken. Quantity of silt/soil generated should be measured on regular basis for its better utilization. (x) Erosion from dumps site should be protected by providing geo-textile matting or other suitable material, and thick plantation of native trees and shrubs should be carried out at the dump slopes. Further, dumps should be protected by retaining walls. (xi) Trenches / garland drain should be constructed at the foot of dumps to arrest silt from being carried to water bodies. Adequate number of check dams should be constructed across seasonal/perennial nallas (if any) flowing through the mine lease areas and silt be arrested. De-silting at regular intervals should be carried out and quantity should be recorded for its better utilization, after proper soil quality analysis. (xii) The water so collected in the reservoir within the mine should be utilized for the sprinkling on hauls roads, green belt development etc. (xiii) There should be zero waste water discharge from the mine. Based on actual water withdrawal and consumption/ utilization in different activities, water balance diagram should be prepared on monthly basis, and efforts should be made to optimize consumption of water per ton of ore production in successive years. Responsibility: Individual Mine Lease Holders, SPCB and CGWB.

- 25) **Land/ Soil/ Overburden Related** (i) The top soil should temporarily be stored at earmarked site(s) only and it should not be kept unutilized for long (not more than 3 years or as per provisions mentioned in the mine plan/ scheme). The topsoil should be used for land reclamation and plantation appropriately. (ii) Fodder plots should be developed in the non-mineralised area in lieu of use of grazing land, if any. (iii) Over burden/ low grade ore should be stacked at earmarked dump site(s) only and should not be kept active for long period. The dump height should be decided on case to case basis, depending on the size of mine and quantity of waste material generated. However, slope stability study should be conducted for larger heights, as per IBM approved mine plan and DGMS guidelines. The OB dump should be scientifically vegetated with suitable native species to prevent erosion and surface run off. In critical areas, use of geo textiles should be undertaken for stabilization of the dump. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Proper records should be maintained regarding species, their growth, area coverage etc. (iv) Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from mine operation, soil, OB and mineral dumps. The water so collected can be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly de-silted, particularly after monsoon and should be maintained properly. Appropriate documents should be maintained. Garland drain of appropriate size, gradient and length should be constructed for mine pit, soil, OB and mineral dumps and sump capacity should be designed with appropriate safety margin based on long term rainfall data. Sump capacity should be provided for adequate retention period to allow proper settling of silt material. Sedimentation pits should be constructed at the corners of the garland drains and de-silted at regular intervals. (v) Backfilling should be done as per

approved mining plan/scheme. There should be no OB dumps outside the mine lease area. The backfilled area should be afforested, aiming to restore the normal ground level. Monitoring and management of rehabilitated areas should continue till the vegetation is established and becomes self-generating. (vi) Hazardous waste such as, waste oil, lubricants, resin, and coal tar etc. should be disposed off as per provisions of Hazardous Waste Management Rules, 2016, as amended from time to time. Responsibility: Individual Mine Lease Holders.

- 26) **Ecology/Biodiversity (Flora-Fauna) Related:** (i) As per the Red List of IUCN (International Union for Conservation of Nature), six floral species and 21 faunal species have been reported to be under threatened, vulnerable & endangered category. Protection of these floral and faunal species should be taken by the State Forest & Wildlife Department on priority, particularly in the mining zones, if any. (ii) The mines falling within 5-10 km of the Karo-Karampada Elephant corridor buffer need to take precautionary measures during mining activities. The forest and existing elephant corridor routes are to be protected and conserved. Improvement of habitat by providing food, water and space for the elephants is required to be ensured to avoid Man-Elephant conflicts. Though as per the records of State Forest Department, movement of elephants in the Karo-Karampada elephant corridor within 10 km distance from the mines in Joda and Koira is not observed, the Forest Department shall further record and ensure that elephant's movement is not affected due to mining activities. (iii) All precautionary measures should be taken during mining operation for conservation and protection of endangered fauna namely elephant, sloth bear etc. spotted in the study area. Action plan for conservation of flora and fauna should be prepared and implemented in consultation with the State Forest and Wildlife Department within the mine lease area, whereas outside the mine lease area, the same should be maintained by State Forest Department. (iv) Afforestation is to be done by using local and mixed species saplings within and outside the mining lease area. The reclamation and afforestation is to be done in such a manner like exploring the growth of fruit bearing trees which will attract the fauna and thus maintaining the biodiversity of the area. As afforestation done so far is very less, forest department needs to identify adequate land and do afforestation by involving local people in a time bound manner. (v) Green belt development carried out by mines should be monitored regularly in every season and parameters like area under vegetation/plantation, type of plantation, type of tree species /grass species/scrubs etc., distance between the plants and survival rate should be recorded. (vi) Green belt is an important sink of air pollutants including noise. Development of green cover in mining area will not only help reducing air and noise pollution but also will improve the ecological conditions and prevent soil erosion to a greater extent. Further, selection of tree species for green belt should constitute dust removal/dust capturing plants since plants can act as efficient biological filters removing significant amounts of particulate pollution. Thus, the identified native trees in the mine area may be encouraged for plantation. Tree species having small leaf area, dense hair on leaf surface (rough surface), deep channels on leaves should

be included for plantation. (vii) Vetiver plantation on inactive dumps may be encouraged as the grass species has high strength of anchoring besides medicinal value. (viii) Details of compensatory afforestation done should be recorded and documented by respective forest divisions, and State Forest Department should present mine-wise annual status, along with expenditure details. (ix) Similarly, Wildlife Department is also required to record and document annual status of wildlife in the region and should identify the need for wildlife management on regional level. (x) Maintenance of the ecology of the region is prime responsibility of the State Forest and Wildlife Department. They need to periodically review the status and identify the need for further improvement in the region. The required expenditure may be met from the funds already collected in the form of compensatory afforestation and wildlife management. Further, additional fund, if required can be sought from DMF. Responsibility: Individual Mine Lease Holders and State Forest & Wildlife Department.

- 27) **Socio-Economic Related:** (i) Public interaction should be done on regular basis and social welfare activities should be done to meet the requirements of the local communities. Further, basic amenities and infrastructure facilities like education, medical, roads, safe drinking water, sanitation, employment, skill development, training institute etc. should be developed to alleviate the quality of life of the people of the region. (ii) Land outtees and land losers/affected people, if any, should be compensated and rehabilitated as per the national/state policy on Resettlement and Rehabilitation. (iii) The socio-economic development in the region should be focused and aligned with the guidelines/initiatives of Govt. of India/ NITI Aayog / Hon'ble Prime Minister's Vision centring around prosperity, equality, justice, cleanliness, transparency, employment, respect to women, hope etc. This can be achieved by providing adequate and quality facilities for education, medical and developing skills in the people of the region. District administration in association with mine lease holders should plan for "*Samagra Vikas*" of these blocks well as other blocks of the district. While planning for different schemes in the region, the activities should be prioritized as per Pradhan Mantri Khanij Kshetra Kalyan Yojna (PMKKKY), notified by Ministry of Mines, Govt. of India, vide letter no. 16/7/2017-M.VI (Part), dated September 16, 2015. Responsibility: District Administration and Individual Mine Lease Holders.
- 28) **Road Transport Related:** (i) All the mine lease holders should follow the suggested ore transport mode (SOTM), based on its EC capacity within next 5 years. (ii) The mine lease holders should ensure construction of cement road of appropriate width from and to the entry and exit gate of the mine, as suggested in Chapter 10. Further, maintenance of all the roads should be carried out as per the requirement to ensure dust free road transport. (iii) Transportation of ore should be done by covering the trucks with tarpaulin or other suitable mechanism so that no spillage of ore/dust takes place. Further, air quality in terms of dust, PM<sub>10</sub> should be monitored near the roads towards entry & exit gate on regular basis, and be maintained within the acceptable limits. Responsibility: Individual Mine Lease Holders and Dept. of Steel & Mines
- 29) **Occupational Health Related:** (i) Personnel working in dusty areas should



wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects periodically. (ii) Occupational health surveillance program for all the employees/workers (including casual workers) should be undertaken periodically (on annual basis) to observe any changes due to exposure to dust, and corrective measures should be taken immediately, if needed. (iii) Occupational health and safety measures related awareness programs including identification of work related health hazard, training on malaria eradication, HIV and health effects on exposure to mineral dust etc., should be carried out for all the workers on regular basis. A full time qualified doctor should be engaged for the purpose. Periodic monitoring (on 6 monthly basis) for exposure to respirable minerals dust on the workers should be conducted, and record should be maintained including health record of all the workers. Review of impact of various health measures undertaken (at an interval of 3 years or less) should be conducted followed by follow-up of actions, wherever required. Occupational health centre should be established near mine site itself. Responsibility: Individual Mine Lease Holders and District Administration (District Medical Officer)

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

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

Sr. No.	Study Component/ Action Plan	Responsibility	Monitoring and Reporting Time Frame (Approx.)
1.	Environmental Quality Monitoring with respect to Air, Water, Noise and Soil Quality in each region (Joda, Koira and Baripada/Rairangpur) as per specified frequency shall be done by a third party (preferably Govt.) and/or laboratory approved/ recognized by NABET/ CPCB/	SPCB	Continuous Annually

	<p>SPCB/ MoEF&amp;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&amp;CC-RO.</p>		
	<u>Installation of online ambient air quality monitor for PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>x</sub> and NO<sub>x</sub> within the mine having more than 3 MTPA EC Capacity</u>	<u>Respective Mine Lease Holders</u>	<u>Continuous Annually</u>
	Installation of online ambient air quality monitor for PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>x</sub> and NO <sub>x</sub> in the Joda and Koira Region (total 11 locations).	SPCB	Continuous Annually
2.	Status of flora and fauna in each of the regions shall be assessed on annual basis. Changes, if any, taking place in the region shall be brought out clearly. The study shall be conducted in consultation with State Forest and Wildlife Department.	State Forest & Wildlife Dept.	Annually in mining zone and once in 3 years in the region
3.	Socio-economic study incorporating developments taking place in each of the region, CSR initiatives made by the mining companies shall be conducted on annual basis. Further, micro level developmental needs shall be clearly brought out in the report for each region. The study shall be conducted in consultation with district administration.	Respective District Administration	Annually
4.	A detailed hydro-geological study in each of the regions shall be conducted in an integrated manner in consultation with Regional Director, Central Ground Water Board. Accordingly, all project proponents shall implement suitable conservation measures to augment ground water resources in the area.	SPCB	Once in 2 years
5.	The State Govt. shall ensure construction and maintenance of dust free common roads/ appropriate rail network for transport of ore from mines to the consumer end.	Dept. of Steel & Mines	12 months for road network and 5-7 years for rail network
6.	<u>Construction and maintenance of dust free</u>	<u>Respective</u>	<u>Continuous 6</u>

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

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

- 32) Institutional Mechanism for Implementation of Environmentally Sustainable Mining: The present study is not a one-time study, but a process to ensure environmentally sustainable mining activities in the region on long term basis. Looking into the large-scale mining activities and long term perspective for mining vis-à-vis environmentally sustainable mining and upliftment of people of the region, there is a need to create an agency, who will integrate all the aspects relating to sustainable mining in the region on long term basis. It could be a SPV of Govt. of Odisha or a cell

within the overall control and supervision of Dept. of Steel & Mines, with members from IBM, GSI, OSPCB, MoEF&CC-RO and other concerned Departments and Mine Owners (EZMA), District Administration. It is found that the strong database available for the region needs to be taken into account to map and establish environmental quality of the region on daily, monthly, seasonal and annual basis. Further, the efforts and initiatives of the mines towards environmental protection as well as upliftment of the people of the region are required to be integrated, and a systematic plan at the block/regional level needs to be framed for the overall benefit of the local society, region, district, state and the country as a whole. It will be desirable to have proper environmental quality data management and analysis by NEERI or any other agency for next 5 years (six monthly compliance reports followed by field verification) ensuring sustainable mining practices in the region leading to an overall development of the region. District Mineral Funds should be utilized appropriately for various developmental activities/needs of the region. Further, an environmental sustainability report incorporating environmental status of region coupled with social upliftment may be brought out by SPCB or any other authorized agency on annual basis. This report can be used for supporting the regional EIA study, and also need for environmental quality monitoring by individual mine seeking environmental clearance for new mine/ expansion of mine, including public hearing. Since, outcome of the above study reports shall be in the overall interest of all the stakeholders (including local population) of the region, further planning for the region shall warrant cooperation and assistance of all the stakeholders (mine operators, industries, transporters, State & Central Government Offices, MoEF&CC, CPCB, SPCB, Dept. of Steel & Mines, IBM, IMD, NGOs and local people) in sharing the relevant data/information/ reports/documents etc. to continuously improve upon the environmentally sustainable development plan for economic growth in mining sector as well as for improvement in quality of life of the people of the region.

**Standard TOR for Beneficiation Projects**

- 1) The alternate sites considered, the relative merits and demerits and the reasons for selecting the proposed site for the Beneficiation Plant should be indicated.
- 2) Details of the technology and process involved for beneficiation should be given.
- 3) Location of the proposed Plant w.r.t. the source of raw material and mode of transportations of the ore from mines to the beneficiation plant should be justified.
- 4) Treatment of run of mine (ROM) and or of the fines/waste dump should be spelt out.
- 5) Estimation of the fines going into the washings should be made and its management described.
- 6) Details of the equipment, settling pond etc. should be furnished.
- 7) Detailed material balance should be provided.
- 8) Sources of raw material and its transportation should be indicated. Steps proposed to be taken to protect the ore from getting air borne should be brought out.
- 9) Management and disposal of tailings and closure plan of the tailing pond, if any after the project is over, should be detailed in a quantified manner.
- 10) The water requirement for the project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the project should also be indicated.
- 11) A copy of the document in support of the fact that the Proponent is the rightful lessee of the unit should be given.
- 12) All documents including EIA and public hearing should be compatible with one another in terms of the production levels, waste generation and its management and technology and should be in the name of the lessee.
- 13) All corner coordinates of the Unit, superimposed on a High Resolution Imagery/Toposheet should be provided. Such an Imagery of the proposed Unit should clearly show the land use and other ecological features of the study area (core and buffer zone).
- 14) It should be clearly indicated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/violation of the environmental or forest norms/conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The

system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report.

- 15) Issues relating to Safety should be detailed. The proposed safeguard measures in each case should also be provided. Disaster management plan shall be prepared and included in the EIA/EMP Report.
- 16) The study area will comprise of 10 km zone around the Plant.
- 17) Cumulative impact study of both Beneficiation Plant with suggested mitigation measures as per the study should be described.
- 18) Location of Railway siding with its handling capacity and safety measures should be indicated.
- 19) Option to provide only silo for storage of minerals instead of open stacking to avoid fugitive dust should be explored and arrangements finalized justified.
- 20) Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.
- 21) Details of the land for any Over Burden Dumps outside the lease, such as extent of land area, distance from lease, its land use, R&R issues, if any, should be given.
- 22) A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the Project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.
- 23) Status of forestry clearance for the broken up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.
- 24) Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.
- 25) The vegetation in the RF / PF areas in the study area, with necessary details, should be given.
- 26) A study shall be got done to ascertain the impact of the Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly detailed

mitigate 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 PM<sub>10</sub>, 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.

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

**I. Statutory compliance**

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

- 8) The Project Proponent shall obtain consents from all the concerned land owners, before start of mining operations, as per the provisions of MMDR Act, 1957 and rules made there under in respect of lands which are not owned by it.
- 9) The Project Proponent shall follow the mitigation measures provided in MoEFCC's Office Memorandum No. Z-11013/57/2014-IA.II (M), dated 29th October, 2014, titled "Impact of mining activities on Habitations-Issues related to the mining Projects wherein Habitations and villages are the part of mine lease areas or Habitations and villages are surrounded by the mine lease area".
- 10) The Project Proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of surface water and from CGWA for withdrawal of ground water for the project.
- 11) A copy of EC letter will be marked to concerned Panchayat / local NGO etc. if any, from whom suggestion / representation has been received while processing the proposal.
- 12) State Pollution Control Board/Committee shall be responsible for display of this EC letter at its Regional office, District Industries Centre and Collector's office/ Tehsildar's Office for 30 days.
- 13) The Project Authorities should widely advertise about the grant of this EC letter by printing the same in at least two local newspapers, one of which shall be in vernacular language of the concerned area. The advertisement shall be done within 7 days of the issue of the clearance letter mentioning that the instant project has been accorded EC and copy of the EC letter is available with the State Pollution Control Board/Committee and web site of the Ministry of Environment, Forest and Climate Change ([www.parivesh.nic.in](http://www.parivesh.nic.in)). A copy of the advertisement may be forwarded to the concerned MoEFCC Regional Office for compliance and record.
- 14) The Project Proponent shall inform the MoEF&CC for any change in ownership of the mining lease. In case there is any change in ownership or mining lease is transferred than mining operation shall only be carried out after transfer of EC as per provisions of the para 11 of EIA Notification, 2006 as amended from time to time.

## **II. Air quality monitoring and preservation**

- 15) The Project Proponent shall install a minimum of 3 (three) online Ambient Air Quality Monitoring Stations with 1 (one) in upwind and 2 (two) in downwind direction based on long term climatological data about wind direction such that an angle of 120° is made between the monitoring locations to monitor critical parameters, relevant for mining operations, of air pollution viz. PM10, PM2.5, NO2, CO and SO2 etc. as per the methodology mentioned in NAAQS Notification No. B-29016/20/90/PCI/I, dated 18.11.2009 covering the aspects of transportation and use of heavy machinery in the impact zone. The ambient air quality shall also be monitored at prominent places like office building, canteen etc. as per the site condition to ascertain the exposure characteristics at specific places. The above data shall be digitally displayed within 03 months in front of the main Gate of the mine site.
- 16) Effective safeguard measures for prevention of dust generation and subsequent suppression (like regular water sprinkling, metalled road construction etc.) shall be carried out in areas prone to air pollution wherein high levels of PM10 and PM2.5 are evident such as haul road, loading and unloading point and transfer points. The Fugitive dust emissions from all sources shall be regularly controlled by installation of required equipments/ machineries and preventive maintenance. Use of suitable water-soluble chemical dust suppressing agents may be explored for better effectiveness of dust control system. It shall be ensured that air pollution level conform to the standards prescribed by the MoEFCC/ Central Pollution Control Board.

### **III. Water quality monitoring and preservation**

- 1) In case, immediate mining scheme envisages intersection of ground water table, then Environmental Clearance shall become operational only after receiving formal clearance from CGWA. In case, mining operation involves intersection of ground water table at a later stage, then PP shall ensure that prior approval from CGWA and MoEFCC is in place before such mining operations. The permission for intersection of ground water table shall essentially be based on detailed hydro-geological study of the area.
- 2) Regular monitoring of the flow rate of the springs and perennial nallahs flowing in and around the mine lease shall be carried out and records maintain. The natural water bodies and or streams which are flowing in an around the village, should not be disturbed. The Water Table should be nurtured so as not to go down below the pre-mining period. In case of any water scarcity in the area, the Project Proponent has to provide water to the villagers for their use. A

provision for regular monitoring of water table in open dug wall located in village should be incorporated to ascertain the impact of mining over ground water table. The Report on changes in Ground water level and quality shall be submitted on six-monthly basis to the Regional Office of the Ministry, CGWA and State Groundwater Department / State Pollution Control Board.

- 3) Project Proponent shall regularly monitor and maintain records w.r.t. ground water level and quality in and around the mine lease by establishing a network of existing wells as well as new piezo-meter installations during the mining operation in consultation with Central Ground Water Authority/ State Ground Water Department. The Report on changes in Ground water level and quality shall be submitted on six-monthly basis to the Regional Office of the Ministry, CGWA and State Groundwater Department / State Pollution Control Board.
- 4) The Project Proponent shall undertake regular monitoring of natural water course/ water resources/ springs and perennial nallahs existing/ flowing in and around the mine lease and maintain its records. The project proponent shall undertake regular monitoring of water quality upstream and downstream of water bodies passing within and nearby/ adjacent to the mine lease and maintain its records. Sufficient number of gullies shall be provided at appropriate places within the lease for management of water. PP shall carryout regular monitoring w.r.t. pH and included the same in monitoring plan. The parameters to be monitored shall include their water quality vis-à-vis suitability for usage as per CPCB criteria and flow rate. It shall be ensured that no obstruction and/ or alteration be made to water bodies during mining operations without justification and prior approval of MoEFCC. The monitoring of water courses/ bodies existing in lease area shall be carried out four times in a year viz. pre- monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the record of monitored data may be sent regularly to Ministry of Environment, Forest and Climate Change and its Regional Office, Central Ground Water Authority and Regional Director, Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board. Clearly showing the trend analysis on six-monthly basis.
- 5) Quality of polluted water generated from mining operations which include Chemical Oxygen Demand (COD) in mines run-off; acid mine drainage and metal contamination in runoff shall be monitored along with Total Suspended Solids (TDS), Dissolved Oxygen (DO), pH and Total Suspended Solids (TSS). The monitored data shall be uploaded on the website of the company as well as displayed at the project site in public domain, on a display board, at a suitable location near the main gate of the Company. The circular No. J-

20012/1/2006-IA.II (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change may also be referred in this regard.

- 6) Project Proponent shall plan, develop and implement rainwater harvesting measures on long term basis to augment ground water resources in the area in consultation with Central Ground Water Board/ State Groundwater Department. A report on amount of water recharged needs to be submitted to Regional Office MoEFCC annually.
- 7) Industrial waste water (workshop and waste water from the mine) should be properly collected and treated so as to conform to the notified standards prescribed from time to time. The standards shall be prescribed through Consent to Operate (CTO) issued by concerned State Pollution Control Board (SPCB). The workshop effluent shall be treated after its initial passage through Oil and grease trap.
- 8) The water balance/water auditing shall be carried out and measure for reducing the consumption of water shall be taken up and reported to the Regional Office of the MoEF&CC and State Pollution Control Board/Committee.

#### **IV. Noise and vibration monitoring and prevention**

- 9) The peak particle velocity at 500m distance or within the nearest habitation, whichever is closer shall be monitored periodically as per applicable DGMS guidelines.
- 10) The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day /night hours.
- 11) The Project Proponent shall take measures for control of noise levels below 85 dBA in the work environment. The workers engaged in operations of HEMM, etc. should be provided with ear plugs /muffs. All personnel including laborers working in dusty areas shall be provided with protective respiratory devices along with adequate training, awareness and information on safety and health aspects. The PP shall be held responsible in case it has been found that

workers/ personals/ laborers are working without personal protective equipment.

## **V. Mining plan**

- 12) The Project Proponent shall adhere to the working parameters of mining plan which was submitted at the time of EC appraisal wherein year-wise plan was mentioned for total excavation i.e. quantum of mineral, waste, over burden, inter burden and top soil etc. No change in basic mining proposal like mining technology, total excavation, mineral & waste production, lease area and scope of working (viz. method of mining, overburden & dump management, O.B & dump mining, mineral transportation mode, ultimate depth of mining etc.) shall not be carried out without prior approval of the Ministry of Environment, Forest and Climate Change, which entail adverse environmental impacts, even if it is a part of approved mining plan modified after grant of EC or granted by State Govt. in the form to Short Term Permit (STP), Query license or any other name.
- 13) The Project Proponent shall get the Final Mine Closure Plan along with Financial Assurance approved from Indian Bureau of Mines/Department of Mining & Geology as required under the Provision of the MMDR Act, 1957 and Rules/ Guidelines made there under. A copy of approved final mine closure plan shall be submitted within 2 months of the approval of the same from the competent authority to the concerned Regional Office of the Ministry of Environment, Forest and Climate Change for record and verification.
- 14) The land-use of the mine lease area at various stages of mining scheme as well as at the end-of-life shall be governed as per the approved Mining Plan. The excavation vis-à-vis backfilling in the mine lease area and corresponding afforestation to be raised in the reclaimed area shall be governed as per approved mining plan. PP shall ensure the monitoring and management of rehabilitated areas until the vegetation becomes self-sustaining. The compliance status shall be submitted half-yearly to the MoEFCC and its concerned Regional Office.

## **VI. Land reclamation**

- 15) The Overburden (O.B.) generated during the mining operations shall be stacked at earmarked OB dump site(s) only and it should not be kept active for a long period of time. The physical parameters of the OB dumps like height,

width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by D.G.M.S w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of top soil/OB dumps. The topsoil shall be used for land reclamation and plantation.

- 16) The reject/waste generated during the mining operations shall be stacked at earmarked waste dump site(s) only. The physical parameters of the waste dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of waste dumps.
- 17) The reclamation of waste dump sites shall be done in scientific manner as per the Approved Mining Plan cum Progressive Mine Closure Plan.
- 18) The slope of dumps shall be vegetated in scientific manner with suitable native species to maintain the slope stability, prevent erosion and surface run off. The selection of local species regulates local climatic parameters and help in adaptation of plant species to the microclimate. The gullies formed on slopes should be adequately taken care of as it impacts the overall stability of dumps. The dump mass should be consolidated with the help of dozer/ compactors thereby ensuring proper filling/ leveling of dump mass. In critical areas, use of geo textiles/ geo-membranes / clay liners / Bentonite etc. shall be undertaken for stabilization of the dump.
- 19) The Project Proponent shall carry out slope stability study in case the dump height is more than 30 meters. The slope stability report shall be submitted to concerned regional office of MoEF&CC.
- 20) Catch drains, settling tanks and siltation ponds of appropriate size shall be constructed around the mine working, mineral yards and Top Soil/OB/Waste dumps to prevent run off of water and flow of sediments directly into the water bodies (Nallah/ River/ Pond etc.). The collected water should be utilized for watering the mine area, roads, green belt development, plantation etc. The drains/ sedimentation sumps etc. shall be de-silted regularly, particularly after monsoon season, and maintained properly.
- 21) Check dams of appropriate size, gradient and length shall be constructed around mine pit and OB dumps to prevent storm run-off and sediment flow into adjoining water bodies. A safety margin of 50% shall be kept for designing of sump structures over and above peak rainfall (based on 50 years data) and maximum discharge in the mine and its adjoining area which shall also help in



providing adequate retention time period thereby allowing proper settling of sediments/ silt material. The sedimentation pits/ sumps shall be constructed at the corners of the garland drains.

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

## **VII. Transportation**

- 23) No Transportation of the minerals shall be allowed in case of roads passing through villages/ habitations. In such cases, PP shall construct a 'bypass' road for the purpose of transportation of the minerals leaving an adequate gap (say at least 200 meters) so that the adverse impact of sound and dust along with chances of accidents could be mitigated. All costs resulting from widening and strengthening of existing public road network shall be borne by the PP in consultation with nodal State Govt. Department. Transportation of minerals through road movement in case of existing village/ rural roads shall be allowed in consultation with nodal State Govt. Department only after required strengthening such that the carrying capacity of roads is increased to handle the traffic load. The pollution due to transportation load on the environment will be effectively controlled and water sprinkling will also be done regularly. Vehicular emissions shall be kept under control and regularly monitored. Project should obtain Pollution Under Control (PUC) certificate for all the vehicles from authorized pollution testing centers.
- 24) The Main haulage road within the mine lease should be provided with a permanent water sprinkling arrangement for dust suppression. Other roads within the mine lease should be wetted regularly with tanker-mounted water sprinkling system. The other areas of dust generation like crushing zone, material transfer points, material yards etc. should invariably be provided with dust suppression arrangements. The air pollution control equipments like bag filters, vacuum suction hoods, dry fogging system etc. shall be installed at Crushers, belt-conveyors and other areas prone to air pollution. The belt conveyor should be fully covered to avoid generation of dust while transportation. PP shall take necessary measures to avoid generation of fugitive dust emissions.

## **VIII. Green Belt**

- 25) The Project Proponent shall develop greenbelt in 7.5m wide safety zone all along the mine lease boundary as per the guidelines of CPCB in order to arrest pollution emanating from mining operations within the lease. The whole Green belt shall be developed within first 5 years starting from windward side of the active mining area. The development of greenbelt shall be governed as per the EC granted by the Ministry irrespective of the stipulation made in approved mine plan.
- 26) The Project Proponent shall carryout plantation/ afforestation in backfilled and reclaimed area of mining lease, around water body, along the roadsides, in community areas etc. by planting the native species in consultation with the State Forest Department/ Agriculture Department/ Rural development department/ Tribal Welfare Department/ Gram Panchayat such that only those species be selected which are of use to the local people. The CPCB guidelines in this respect shall also be adhered. The density of the trees should be around 2500 saplings per Hectare. Adequate budgetary provision shall be made for protection and care of trees.
- 27) The Project Proponent shall make necessary alternative arrangements for livestock feed by developing grazing land with a view to compensate those areas which are coming within the mine lease. The development of such grazing land shall be done in consultation with the State Government. In this regard, Project Proponent should essentially implement the directions of the Hon'ble Supreme Court with regard to acquisition of grazing land. The sparse trees on such grazing ground, which provide mid-day shelter from the scorching sun, should be scrupulously guarded/ protected against felling and plantation of such trees should be promoted.
- 28) The Project Proponent shall undertake all precautionary measures for conservation and protection of endangered flora and fauna and Schedule-I species during mining operation. A Wildlife Conservation Plan shall be prepared for the same clearly delineating action to be taken for conservation of flora and fauna. The Plan shall be approved by Chief Wild Life Warden of the State Govt.
- 29) And implemented in consultation with the State Forest and Wildlife Department. A copy of Wildlife Conservation Plan and its implementation status (annual) shall be submitted to the Regional Office of the Ministry.

## **IX. Public hearing and human health issues**

- 30) The Project Proponent shall appoint an Occupational Health Specialist for Regular as well as Periodical medical examination of the workers engaged in the mining activities, as per the DGMS guidelines. The records shall be maintained properly. PP shall also carryout Occupational health check-ups in respect of workers which are having ailments like BP, diabetes, habitual smoking, etc. The check-ups shall be undertaken once in six months and necessary remedial/ preventive measures be taken. A status report on the same may be sent to MoEFCC Regional Office and DGMS on half-yearly basis.
- 31) The Project Proponent must demonstrate commitment to work towards 'Zero Harm' from their mining activities and carry out Health Risk Assessment (HRA) for identification workplace hazards and assess their potential risks to health and determine appropriate control measures to protect the health and wellbeing of workers and nearby community. The proponent shall maintain accurate and systematic records of the HRA. The HRA for neighborhood has to focus on Public Health Problems like Malaria, Tuberculosis, HIV, Anaemia, Diarrhoea in children under five, respiratory infections due to bio mass cooking. The proponent shall also create awareness and educate the nearby community and workers for Sanitation, Personal Hygiene, Hand washing, not to defecate in open, Women Health and Hygiene (Providing Sanitary Napkins), hazard of tobacco and alcohol use. The Proponent shall carryout base line HRA for all the category of workers and thereafter every five years.
- 32) The Proponent shall carry out Occupational health surveillance which be a part of HRA and include Biological Monitoring where practical and feasible, and the tests and investigations relevant to the exposure (e.g. for Dust a X-Ray chest; For Noise Audiometric; for Lead Exposure Blood Lead, For Welders Full Ophthalmologic Assessment; for Manganese Miners a complete Neurological Assessment by a Certified Neurologist, and Manganese (Mn) Estimation in Blood; For Inorganic Chromium- Fortnightly skin inspection of hands and forearms by a responsible person. Except routine tests all tests would be carried out in a Lab accredited by NABH. Records of Health Surveillance must be kept for 30 years, including the results of and the records of Physical examination and tests. The record of exposure due to materials like Asbestos, Hard Rock Mining, Silica, Gold, Kaolin, Aluminium, Iron, Manganese, Chromium, Lead, Uranium need to be handed over to the Mining Department of the State in case the life of the mine is less than 30 years. It would be obligatory for the State Mines Departments to make arrangements for the safe and secure storage of the records including X-Ray. Only conventional X-Ray will be accepted for record purposes and not the digital one). X-Ray must meet ILO criteria (17 x14 inches and of good quality).

- 33) The Proponent shall maintained a record of performance indicators for workers which includes (a) there should not be a significant decline in their Body Mass Index and it should stay between 18.5 -24.9, (b) the Final Chest X-Ray compared with the base line X-Ray should not show any capacities ,(c) At the end of their leaving job there should be no Diminution in their Lung Functions Forced Expiratory Volume in one second (FEV1),Forced Vital Capacity (FVC), and the ratio) unless they are smokers which has to be adjusted, and the effect of age, (d) their hearing should not be affected. As a proof an Audiogram (first and last need to be presented), (e) they should not have developed any Persistent Back Pain, Neck Pain, and the movement of their Hip, Knee and other joints should have normal range of movement, (f) they should not have suffered loss of any body part. The record of the same should be submitted to the Regional Office, MoEFCC annually along with details of the relief and compensation paid to workers having above indications.
- 34) The Project Proponent shall ensure that Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.
- 35) Project Proponent shall make provision for the housing for workers/labors or shall construct labor camps within/outside (company owned land) with necessary basic infrastructure/ facilities like fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche for kids etc. The housing may be provided in the form of temporary structures which can be removed after the completion of the project related infrastructure. The domestic waste water should be treated with STP in order to avoid contamination of underground water.
- 36) The activities proposed in Action plan prepared for addressing the issues raised during the Public Hearing shall be completed as per the budgetary provisions mentioned in the Action Plan and within the stipulated time frame. The Status Report on implementation of Action Plan shall be submitted to the concerned Regional Office of the Ministry along with District Administration.

#### **X. Corporate Environment Responsibility (CER)**

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

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







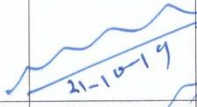
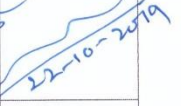
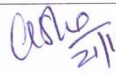




- 38) Project Proponent shall keep the funds earmarked for environmental protection measures in a separate account and refrain from diverting the same for other purposes. The Year wise expenditure of such funds should be reported to the MoEFCC and its concerned Regional Office.

## **XI. Miscellaneous**

- 39) The Project Proponent shall prepare digital map (land use & land cover) of the entire lease area once in five years purpose of monitoring land use pattern and submit a report to concerned Regional Office of the MoEF&CC.
- 40) The Project Authorities should inform to the Regional Office regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.
- 41) The Project Proponent shall submit six monthly compliance reports on the status of the implementation of the stipulated environmental safeguards to the MOEFCC & its concerned Regional Office, Central Pollution Control Board and State Pollution Control Board.
- 42) A separate 'Environmental Management Cell' with suitable qualified manpower should be set-up under the control of a Senior Executive. The Senior Executive shall directly report to Head of the Organization. Adequate number of qualified Environmental Scientists and Mining Engineers shall be appointed and submit a report to RO, MoEFCC.
- 43) The concerned Regional Office of the MoEFCC shall randomly monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the MoEFCC officer(s) by furnishing the requisite data / information / monitoring reports.

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**List of Expert Appraisal Committee (Non Coal Mining)**

Sl. No	Name and Address	Designation	Signature 21.10.2019	Signature 22.10.2019
1	<b>Dr. S.R. Wate,</b> 148/149, Nagar Vikas Society, Narendra Nagar, Nagpur-440015, Maharashtra	Chairman		
2	<b>Dr. Ajay Deshpande,</b> Flat A-101, Pristine Privilege Apartments, Opposite Prism, Near RohanNilay, Behind Spicer College, Aundh, Pune-410007, Maharashtra	Member		
3	<b>Shri G.P. Kundargi,</b> Plot No. 32, MOIL Vatika, Chicholi Road, Fetri, Nagpur 441501, Maharashtra	Member		
4	<b>Dr. A.K. Malhotra,</b> C-6, Subhavna Niketan, Road No. 41, Pitampura, Delhi- 110034	Member		
5	<b>Dr. Gurdeep Singh,</b> Department of Environmental Science & Engg. Indian Institute of Technology (Indian School of Mines), Dhanbad-826004	Member		
6	<b>Shri B Ramesh Kumar,</b> H.No. 6-1-134/6, Balram Compound, Padmarao Nagar, Secunderabad-500025, Andhra Pradesh	Member		
7	<b>Dr. Asha Rajvanshi,</b> WII, P.B# 18, chandrabani, Dehradun-248001, Uttarakhand	Member		
8	<b>Prof. S. Ramakrishna Rao,</b> D.No. 50-120-9/1, North Ext., Seethammadhara, Visakhapatnam-530013, Andhra Pradesh	Member		
9	<b>Shri Santosh Gupta,</b> Flat No. 405, Gaur Green Vista, NyayKhand-I, Indrapuram, Ghaziabad, UP-201014	Member		
10	<b>Dr. Parimal Chandra Bhattacharjee,</b> A/3 Asiyana Housing Complex Maligaon, Guwahati- 781011, Assam	Member		
11	<b>Prof. Mukesh Khare,</b> Department of Civil Engineering, IIT, Delhi	Member		
12	Representative of DGMS Head Office, Sardar Patel Nagar, Dhanbad, Jharkhand 826001 dg@dgms.gov.in	Member		
13	<b>Shri Mantu Biswas,</b> Controller of Mines, IBM Block D, Second Floor, Indira Bhavan, Civil Lines, Nagpur - 440001	Member		
14	<b>Shri V.K. Soni,</b> Scientist 'E', IMD, New Delhi - 110 003	Member		
15	<b>Shri. Sundeep,</b> Director IA-Division (Non-coal Mining sector) Agni-A106, Indira Paryavaran Bhawan, Ministry of Environment, Forest & Climate Change, Jorbagh Road, New Delhi- 110003	Member Secretary	