

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

SUMMARY RECORD OF 11th MEETING OF THE COMMITTEE OF THE EXPERT APPRAISAL COMMITTEE FOR ENVIRONMENTAL APPRAISAL OF NON-COAL MINING PROJECTS CONSTITUTED UNDER THE EIA NOTIFICATION, 2006.

The 11th 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 **November 27-28, 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 10th EAC Meeting held during October 21-22, 2019:

The Minutes of the 9th Meeting of EAC held during **October 21-22, 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 Minutes of the Meeting uploaded for agenda item no 2.15 proposal of M/s. Uranium Corporation of India Limited for Uranium project in para 2, on the 5th line the EAC meeting date was inadvertently mentioned as 27-28 October, 2019 in place of October 21-22, 2019. The Committee agreed with the corrections.

DAY 1: November 27, 2019 (Wednesday)

2.1 Lanjiberna Limestone and Dolomite Mine of M/s. OCL INDIA Limited with expansion in production of limestone from 4.2 million TPA to 9.5 million TPA, 0.08 million TPA of Dolomite and Rejects/Waste 7.42 Million TPA (Total Excavation: 17 MTPA) along with four existing crushers installed within mine lease area i.e. 400 TPH, 1200 TPH and 2x 200 TPH (aggregate) and installation of one new crusher of 1600 TPH in the mine lease area of 873.057 ha located at Villages-Alanda, Bihabandh, Jhagarpur, Kesramal, Raiberna, Katang, Dhauraada, Lanjiberna and Kukuda, Tehsil-Rajgangpur and Kutra, District Sundargarh, Odisha--Consideration of Environmental Clearance.

(File No: J-11015/220/2016-IA-II (M), Proposal No: IA/OR/MIN/100679/2016; Consultant: J. M. EnviroNet. Pvt. Ltd)

The proposal of M/s. OCL India Ltd is for Lanjiberna Limestone and Dolomite Mine with expansion in limestone production capacity from 4.2 million TPA to 9.5 million TPA, Dolomite 0.08 million TPA and Rejects/Waste 7.42 million TPA (Total excavation 17.0 Million TPA) along with four existing crushers installed within mine lease area i.e. 400 TPH, 1200 TPH and 2x 200 TPH (aggregate) and installation of one new crusher of 1600 TPH in the mine lease area of 873.057 ha. The mine lease area is located at Villages-Alanda, Bihabandh, Jhagarpur, Kesramal, Raiberna, Katang, Dhauraada, Lanjiberna and Kukuda, Tehsil-Rajgangpur and Kutra District- Sundargarh, Odisha. The mine lease area falls between Latitude-22°14'31.96383"N to 22°15'37.47389" N and Longitude-

84029'10.73846" E to 84036'17.79270"E. The Survey of India toposheet Numbers are 76B/7, 76B/8, 76B/11 and 76B/12.

2. As per EIA Notification dated 14th September, 2006 as amended from time to time, the project falls under Category A or Activity 1(a) as the mining lease area is greater than 100 ha.
3. PP submitted that the ToR proposal was appraised by the EAC in its meeting held during November 23-25, 2016 and the Ministry issued Terms of Reference (ToRs) vide letter no. J-11015/220/2016-IA.II (M) dated 16 December 2016 for the preparation of Environmental Impact Assessment (EIA) Report and Environmental Management Plan (EMP). PP submitted the EIA/EMP report to Ministry at PARIVESH Portal, accordingly, the proposal is considered in this EAC meeting.
4. PP submitted that total mining lease area is 873.057 ha, out of which 65.40 ha is Government land, 745.097 ha is tenancy land (agricultural & village settlement) and about 62.560 ha is Forest land. PP further submitted the diversion of 62.56 ha of forest land (62.04 ha for mining and allied activities and 0.52 ha for safety zone) has been obtained from MoEFCC vide letter no. F. No 8-56/1994-FC (pt) dated 30 September 2013. In addition, PP submitted that the NPV has been paid to the Forest Department vide PP's letter dated 15.05.2010. The Office of the Divisional Forest Officer (DFO) vide letter No 2889 4F/Misc/10 dated 21.05.2010 approved the same. Furthermore, PP submitted that 20.493 ha area comprising 0.093 ha forest land (DLC) and 20.400 ha thickly populated Alanda Village has been surrendered to State Government. State Government vide letter no 8604 / SM / Bhubnaeshwar dated 23.10.2017 accepted the surrender of par area of 20.493 ha out of existing total mining lease area of 893.55 ha, so the total mine lease area reduced to 873.057 ha. PP further certificate that the FRA certificate has been obtained from District collector for village Dhaudara dated 03.09.2011, village Bihabandh dated 03.09.2011 & village Katang vides letter no. 865, dated 18.03.2011.
5. PP submitted that the Lanjiberna Limestone & Dolomite area was originally leased to M/s Bisra Stone & Limestone Company Limited (BSLC) over an area of 1002 Ha with effect from 02.05.1951. In order to fulfil the requirement of limestone for the cement plant of M/S Orissa Cement Limited, the company managed its limestone requirement from BSLC as a sub-lessee till 28.02.1990. Subsequently, a direct Mining lease was granted to OCL over an area of 893.55 ha with effect from 01.03.1990 for 20 years (from 01.03.1990 to 28.02.2010) and the mining lease was executed on 29.01.1997. The company in the meantime changed its name from Orissa Cement Ltd to OCL India Limited w.e.f. 15.01.1996. PP further submitted that the application for renewal of mining lease was filed by OCL India Limited and the mine was working under deemed renewal. In view of section 8A of Mines and Minerals (Development and Regulation) Act, 2015 (as amended), the validity period of lease has now been extended up to 29.02.2040 over the originally granted area of 893.55 ha vide supplementary lease deed dated 15.07.2016. Furthermore, PP surrendered the lease area of 20.493 ha, so the lease deed for reduced lease area (873.057 ha) was executed on 15.12.2017 and the lease is valid up to 29 February 2040.
6. PP submitted that the modification of Mining Plan along with Progressive Mine Closure plan for Lanjiberna Limestone and Dolomite Mine (M.L. Area- 873.057 ha) was approved by IBM vide letter no MSM/FM/37-ORI/BHU/2017-18 dated 25.01.2018 which is valid up to 31.03. 2020.

7. PP submitted that the Ministry has accorded environmental clearance on 02.12.2005 for production of 1.7 million TPA of Limestone and 0.08 million TPA of Dolomite. Subsequently, the Ministry has granted environmental clearance for expansion in production of limestone from 1.7 MTPA to 4.2 MTPA and 0.08 MTPA Dolomite vide letter no. J-11015/372/2007-IA-II (M) dated 28.04. 2010. PP submitted compliance report for existing EC from RO, MoEF&CC, Bhubaneswar vide letter No. 101-673/EPE/ 3581, dated 27.11.2018. PP further submitted that the limestone production capacity per annum will be 9.5 Million TPA, so the estimated life of mine will be ~10 years which may be increased after further exploration.
8. PP submitted that baseline data were collected during December 2016-February 2017. PP further submitted that Public Hearing (PH) was conducted on 03.10.2018 at Playground gate of Dalmia Industrial Training Institute (DITI), GP Jhagarpur, Tehsil Rajgangpur, District Sundergarh, Odisha. The public hearing was chaired by Shri Bhaskar Chandra Turuk, OAS (SAG), Additional District Magistrate (ADM), Sundergarh and Shri Hemendra Nath Nayak, Regional Officer, Rourkela, SPCB, Odisha. PP submitted that around 500 to 600 people locked the gate and blocked the entry route for officials, they were requesting for conducting Gram Sabha. Authorities explained that the conducting the Gram Sabha is not required as per EIA notification, 2006 and amended thereafter. Therefore, the public hearing was conducted at in front of playground gate of DITI. Around 3000 participants have attended the public hearing and about 600 have put their signature in the attendance sheet. Furthermore, 52 persons took part in the deliberation and expressed views in the public hearing. PP further submitted that the issues raised during Public Hearing were about Employments to the local unemployed youths, Social Welfare activities like Drinking water facility, Electricity facility, and Health care facility etc. PP submitted the action plans for public concerns.
9. PP submitted that there is no National Park, Wildlife Sanctuary, and Biosphere Reserve, Wildlife Corridors, Tiger/Elephant Reserves etc. within 10 km radius of the Mine site. PP further submitted the letter for the same along with authenticated location map from the Forest Department vide their letter no 7328/4F(Misc)/2017 dated 13.11.2017. PP further submitted that there are 19 Reserved Forests and 2 Protected Forests falling within 10 km radius of the mining lease area and No schedule I species exist in the study area.
10. PP submitted that the open cast mechanized system will be used for mining with a system of bench formation with deep hole blasting keeping in mind the quality, cost, safety and conservation of mineral. PP submitted that the use of rock breaker for primary breaking of boulders in quarries near village settlements has been adopted and the materials are loaded and sent to crusher by dumpers and excavator combination. Further, PP submitted that the blasting is carried out by conventional explosives and with the SME & ANFO and the charging pattern as recommended by CMRI to restrict the ground vibration, fly rock & sound within safe limit. Use of NONEL and multi-delay detonators in a hole is practiced to reduce sound, ground vibration, back break, fly rock within the safe limit. The fragmentation is reasonably well and the oversize is-10%. Maximum permissible feed size of ROM limestone to crusher is -1200 mm. Loading of limestone from quarries is monitored at different ratio for proper pre blending at mine head. The blasted ROM is loaded by Hydraulic Excavators of various sizes from 3.8 m³ to 4.5 m³ bucket size and also by 6.5 m³ to 35 tonner capacity and 50 tonner rear dump trucks and ultimately the material is transported to the crushing plant/reclamation area.

11. PP submitted that there are two legal court cases pending against the project. The case details such as W.P. (C) no. 15143/ 2013 pending at Hon'ble High Court, Odisha and the Revision application No:-22/(11)/2015/RC-I at Revision Authority, Ministry of Mines.
12. PP submitted that total project cost is Rs. 70 Crores, capital cost for EMP is Rs. 2.0 Crore and annual recurring cost for EMP is Rs. 80 lakhs per annum. PP further submitted that the additional manpower required for the proposed expansion project will be around 689 persons.
13. PP submitted that existing water requirement for the project is 295 KLD, water requirement for the proposed expansion project will be 214 KLD, and so, the total water requirement after the expansion project will be 509 KLD. The water will be sourced from Rainwater stored in mine pit, mine seepage and ground water from dug well. PP further submitted that the NOC for withdrawal of 58 cu.m/day of ground water (and not exceeding 2,11,70 cu.m/year) through one (1) existing bore well and 1,411 cu.m/day (not exceeding 4,23,300 cu.m/year) through dewatering the mine seepage from three (3) proposed mine pits on account of mining intersecting the water table has been granted by CGWA vide file no. 21-4/1311/OR/MIN/2017-2277 & NOC No CGWA/NOC/MIN/ORIG/2018/4309 dated 07.12.2018. Accordingly, total water withdrawal should not exceed 1,469 cu.m/day (not exceeding 4,44,470 cu.m/year).
14. PP submitted the affidavit dated 05.10.2018 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. Furthermore, PP submitted the past production details from Office of Deputy Director of Mines, Rourkela circle vide letter no. 2334/mines dated 17.09.2019 for the year of 1990-91 to 2018-19. The record of production suggests that PP has not exceeded production with respect to EC condition during the period.
15. PP submitted the compliance response to ToR conditions and presented the other details including site photographs and .kml files before EAC. 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 needs to refurbish the R & R plan for village within the lease area. Specifically the details of percentage of money going to spend for compensation of villagers.
 - (ii). PP requires to submit the water budget and alternative plans for reducing water usage.
 - (iii). PP needs to carry out vehicular emission impact analysis for with and without installation of conveyor belt and explain the impact on environmental quality.
 - (iv). PP needs to submit details of technology being deployed for blasting/rock breaking.
 - (v). PP needs to submit copy of CGWA approval since inception of mining and compliance report of the CGWA conditions mentioned therein.
 - (vi). PP needs to submit details of environment management cell and their educational backgrounds, role and experience.
 - (vii). PP need to submit the details of laboratory and their accreditation certificate for the hydrogeological study.

- (viii). 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.
- (ix). PP submitted that one seasonal Nala and Peru or PichhraNadi (towards Eastern part of the mine) is crossing through the lease area. PP needs to submit conceptual plans for protection of these nallah including plantation or forest development along the rivers and their budgetary provisions.
- (x). PP needs to submit updated status of court cases.

2.2. Limestone Mine of M/s. ACC Ltd for production of Limestone-3.90 MTPA, Top soil-0.07 MTPA and Waste (OB/SB/IB)-0.27 MTPA (Total Excavation: 4.24 MTPA) along with installation of mobile crusher of 1000 TPH Capacity in the mine lease area of 582.962 ha, located at Villages Bidiyadih, Bhurkunda, Godadih&Bohardih, Tehsil Masturi, District Bilaspur, Chhattisgarh-Reconsideration of EC.

(File No: J-11015/45/2018-IA-II (M), Proposal No: IA/CG/MIN/109258/2018; Consultant: J. M. EnviroNet. Pvt. Ltd)

The EC proposal of M/s. ACC Limited is for production of Limestone-3.90 MTPA, Top soil-0.07 MTPA and Waste (OB/SB/IB)-0.27 MTPA (Total Excavation: 4.24 MTPA) along with installation of mobile crusher of 1000 TPH capacity in the mine lease area of 582.962 ha. The mine lease area is located at Villages Bidiyadih, Bhurkunda, GodadihandBohardih, Tehsil Masturi, District Bilaspur, Chhattisgarh. The mine lease area falls between the latitude and longitude of 21°45'30.50" N to 21°54'08.67" N and 82°14'02.99" E to 82°21'38.95" E and located on the Survey of India Toposheet No for Core Zone is 64 K/5 and for Buffer Zone - 64 K/1, 64 K/2, 64 K/5 and 64 K/6, respectively.

2. PP submitted that as per EIA Notification dated 14th September, 2006 and amended time to time, the project falls under Category "A, Project or Activity 1(a) (3) (mining of minerals) and 2 (b) (3) (for crusher).
3. Project proponent (PP) submitted that the Terms of reference (ToR) for EIA study was recommended by EAC (Non-Coal Mining) in its meeting held during 17-18 May, 2010 and the ToR has been issued by the Ministry vide letter no. J-11011/27/2010-IA.II (M) dated 22 June, 2010 but the project was not executed due to some unavoidable circumstances and poor condition of demand of cement in eastern market. The validity of ToR got expired therefore PP submitted the fresh ToR proposal which was considered in the 31st EAC meeting held during 14-15 May 2018 wherein the Committee deferred the proposal. The proposal was reconsidered in the 33rd EAC meeting held during June 21-22, 2018 wherein the Committee recommended the proposal for grant

of ToR. The Ministry has granted ToR vide letter no. J-11015/45/2018-IA-II (M) dated 17 July 2018 for preparation of Environmental Impact Assessment (EIA) Report and Environmental Management Plan (EMP).

4. PP submitted the EIA/EMP Report to Ministry for seeking environmental clearance and the proposal was considered in 7th EAC meeting held during July 30-31, 2019 wherein the Committee deferred the proposal and sought requisite information for further consideration.
5. PP submitted that the total mine lease area is 582.962 ha, out of which 77.795 ha is government land and 505.167 ha is private agricultural land. PP further submitted that the lease area is spreads in four villages such as Bidiyadh, Bhurkunda, Godadih and Bohardih, where the project affected families are 722 out of which 10 families have house as well as the land; family having land in the MLA is 712. PP submitted that M/s. ACC Limited is proposing to put up a new cement plant (clinkerization) of 2.72 MTPA. So, the Limestone requirement for the plant will be obtained from this proposed captive Limestone Mine.
6. PP submitted that no forest land falls within the lease area. In support of this claim, PP submitted letter from DFO, Bilaspur vide letter no. Maa. Chi/2123 dated 26.05.2009. PP submitted that there is no Reserved, Protected Forest, National Park, Wildlife Sanctuary, Biosphere Reserves, Tiger Reserves, and Wildlife Corridors etc. within core zone and 10 km radius of the mining lease area. PP further submitted that no schedule I species (according to Wildlife Protection Act, 1972) found in the study area. PP further submitted the authenticated list of flora & fauna from DFO, Bilaspur (Chhattisgarh) vide letter no. Tak/3587, Bilaspur, dated 25.07.2018.
7. PP submitted that the mining lease was granted to M/s. ACC Limited by Department of Mineral Resources, Government of Chhattisgarh vide letter no. F-3-86/2007/12(1) dated 10.08.2009 and the lease was executed on 21.10.2009 for an area of 582.962 ha for 30 years. PP submitted that the mining plan along with progressive mine closure plan was approved by IBM vide letter no. Bilaspur/Chup/Khyo-1187/2018-Raipur/1371 dated 04.02.2019.
8. PP submitted that the public hearing (PH) was conducted on 07.06.2019 at Play ground near village Bohardih, Adarsh Aanganbadi house no. 1 Gram panchayat, Bohardih, Tehsil Masturi, District Bilaspur, Chhattisgarh. The PH was chaired by Mr. B.S. Uike, ADM Bilaspur. The major issues raised during Public Hearing were setting up cement plant, Plan related to the provision of health, education, roads, water and electricity and Plan for over-all development in the surroundings villages etc.
9. PP submitted that the baseline data was collected during summer season (March to May, 2018). PP submitted that the air quality monitoring has been carried out at 12 locations for 24 hours (twice a week) for three months (26 observations for one location) and the Ambient Air Quality Monitoring (AAQM) reveals that the concentrations of PM_{2.5} and PM₁₀ for all the 12 AAQM stations were found between 23.7 to 42.3 µg/m³ and 53.8 to 87.6 µg/m³ respectively. The concentrations of NO₂ and SO₂ were found to be in range of 11.8 to 22.2 µg/m³ and 6.2 to 14.0 µg/m³, respectively. PP further submitted that during summer season, dusty winds also contribute to the PM level of the area and AAQ parameters in the study area have been found well within prescribed norms. Ambient noise levels were measured at 12 locations in and around the mine site. Noise levels varied from 51.4 to 54.5 Leq dB(A) during day time and from 40.9 to 44.3 Leq dB(A) during night time. PP further

submitted that water samples were collected from 3 surface water bodies within study area. PP submitted that the total hardness (55 to 130 mg/l), total dissolved solids (181 to 344 mg/l), total alkalinity (40.80 to 142.80 mg/l) and conductivity (263 to 526 mg/l) were low indicating good mineral enrichment of the water sample. The COD (14.20 to 24.30 mg/l), BOD (4.30 to 9.10 mg/l), the nutrients were also low viz. nitrate (1.68 mg/l to 2.96 mg/l), iron (0.19 to 0.27 mg/l), calcium (12.04 to 36.08 mg/l), magnesium (4.56 to 9.72 mg/l) in above mentioned water bodies. The dissolved oxygen (4.70 to 5.60 mg/l) indicated that the water bodies are safe for aquatic biodiversity.

10. PP submitted that ground water samples were collected around the mine site by collecting 8 water samples. The ground water is potable at most of the locations as per drinking water standards IS-10500: 2012. The parameters of water samples are pH (7.29 to 8.09), total hardness (117.30 mg/l to 535.50 mg/l), total dissolved solids (231 mg/l to 618 mg/l), Conductivity (279 mg/l to 942 mg/l), chloride (26.13 to 308.77 mg/l), SO₄ (6.07 to 34.03 mg/l) and fluoride (0.40 to 0.85 mg/l), respectively.
11. PP submitted that total water requirement for the proposed project will be 210 KLD. Out of 210 KLD, 50 KLD water for dust suppression (used for sprinkling on haulage roads), 120 KLD for dust suppression at Crusher(s), 25 KLD for greenbelt development, 10 KLD for mining operation and balance 5 KLD for drinking purpose. The water will be sourced from Lilagarh river flowing adjacent to mine lease (permission has been granted by CG-Government for withdrawal of water vide letter no.06.09.2018) and from mine sumps (as and when developed). Further, PP submitted the hydrogeological study and rain water harvesting plan for the proposed mine lease area. In addition, PP submitted rehabilitation and resettlement action for proposed mine lease area. PP informed that perennial river such as Lilagarh River (250 m in the east direction) that flows from north to south, Sheonath River (~ 6.5 km in SSW direction) that flows from WNW to ESE and Kurang Left Bank Canal (Adjacent in West direction) are present.
12. PP submitted that the mining will be open cast working with formation of benches by fully mechanized means. The mechanized method of opencast mining with deep hole blasting and secondary breaking by hydraulic breaker, (if required) will be adopted. The dumpers will be used for loading and transport of material to the proposed mobile crusher(s) of 1000 TPH capacity to be installed within lease area. The crushed limestone will be supplied to the proposed ACC Cement plant by covered conveyor belt. PP submitted that till setup of cement plant, small quantity of limestone (approx. 10000-15000 tons) may be dispatched to Jamul Plant of ACC Limited situated at Durg District, Chhattisgarh by Road. Further, PP submitted that at the end of Life of mine 1800000 CuM of top soil will be generated. The top soil will be removed and stored in a proper place and used for covering OB dump/reclamation for plantation purpose. At conceptual stage, about 7200000 CuM of waste will be generated, the entire waste will be used for backfilling and making of bunds. PP further submitted that water table will be intersected during mining operation. Application has been submitted to CGWA for taking permission for intersection of ground water table vide letter no.21-4/2596/CT/MIN/2019 dated 26.06.2019.
13. PP submitted that out of total mining lease area (582.962 ha), total excavated area will be 360 ha, out of which about 54 ha area will be backfilled and remaining area i.e. 306 ha will be converted as water reservoir. At the end of the life of mine total 127 ha (54 ha on backfilled area, 43 ha around

lease periphery and 30 ha on non-mineralized area) area will be covered under greenbelt and plantation.

14. PP submitted that the total manpower required for the proposed mining project will be around 56 persons including Supervisory staff, Skilled, Semi-skilled & Unskilled staff. Preference will be given to the local people as per their eligibility and experience.
15. PP submitted that there was a court cases in High Court of Chhattisgarh at Bilaspur vide Writ Petition (C) No. 1090 of 2014, which has been disposed with a direction to the Secretary of Water Resources Department, Govt. of Chhattisgarh to consider the petitioner's representation/application as early as possible. The order also mention that "this Court has not expressed any opinion on the merits of the case and the respondent authorities shall decide the representation, on its own merits strictly in accordance with law, without treating any observation made in this order as opinion on the merits of the case."
16. PP submitted that the total project cost is Rs. 393.01 Crores after including the total land compensation paid and going to be paid (including all equipment, machines, EMP etc.)
17. The proposal was placed in the 7th EAC meeting held July 30-31, 2019 wherein the Committee deferred the proposal and asked the PP to submit the following information for further consideration and assessment.
 - i. PP submitted that the limestone production is 3.9 Million TPA and waste and topsoil of production 225000 CuM per annum (Maximum) along with installation of mobile crusher(s) of 1000 TPH capacity in the mine lease area. The Committee asked the PP to submit the total excavation details in same unit (MTPA) including mineral, overburden (OB), interburden (IB), side burden (SB) and waste/topsoil production and etc. The Committee also informed the consultant that the presentation should be in the same unit and should not mix the units for representation.

PP submitted that the total excavation details are Limestone-3.90 MTPA, Top soil-0.07 MTPA and Waste (OB/SB/IB)-0.27 MTPA (Total Excavation: 4.24 MTPA), respectively.

- ii. PP submitted that the total mine lease area is 582.962 ha, out of which 77.795 ha is a government land and 505.167 ha is private agricultural land. PP submitted the land acquisition detail which revealed that 82.247 ha agriculture land is acquired and the land yet to be acquired is 422.62 ha. PP needs to submit the timeline for land acquisition and plans for mining activities, if the part of land is not acquired by PP.

PP submitted that as per approved mining plan, there will be no production or development during year 2019-20 and during the year 2020-21 only development is proposed. In the 2021-22 and 2022-23 years, mining is proposed in government land only and in 2023-24 year mining will be carried out partially in government land and partially in private land. However, entire land falling in a block will be procured prior to commencement of mining as per approved Mining Plan. PP further submitted that the life of mine is 40 years which may be changed in future after detailed exploration. Year wise plan for mining activity is given below

S.No	Block	Period	Area of Pit (Ha)
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1	J	From 1 st to 6 th year	79.5
2	H2	From 7 th to 10 th year	39.5
3	H1	From 8 th to 14 th year	41
4	B	From 15 th to 17 th year	26
5	A	From 18 th to 19 th year	22.2
6	C1	From 19 th to 20 th year	7.5
7	E	From 20 th to 21 st year	15.5
8	D	From 22 nd to 24 th year	39
9	C2	From 25 th to 28 th year	19
10	C3	From 29 th to 31 st year	16.5
11	I	In 40 th year	54.3
Total			360

- iii. PP submitted that the M/s. ACC Limited is proposing to put up a new cement plant (clinkerization) of 2.72 MTPA capacity outside mine lease over an area of ~105 ha. PP further submitted that the distance between the plant and mine lease area is ~500 m. The Committee asked the PP to submit land break up details for 105 ha cement plant.

PP submitted that the total land required for proposed cement plant will be 105.0269 ha of which 67.3793 ha land is Govt land, 36.5156 ha land is private agriculture land and rest 1.132 ha land is of ACC Ltd.

- iv. PP should perform the cumulative effect of mine lease area and cement plant in the EIA studies and submit a separate report for the same.

PP submitted the cumulative impact studies of mining and proposed cement plant with prediction of incremental ground level concentrations (GLC's) by using AERMOD version 8.2.0 model as per CPCB guidelines.

- v. PP has submitted the average annual rainfall in the region is around 1167 mm. PP needs to submit the methodologies used for calculation and references used for validation of the results. Furthermore, PP needs to submit the water balance budget and it should also mention total water requirement for mining activities and cement plant and the source for the same. In addition, the PP should mention how much water is harvested,utilized, drawn and conserved.

PP submitted that the annual rainfall data (monthly rainfall) for the Bilaspur district from 2004-2018 (fifteen years rainfall data) is 1167 mm which have taken from the website of India Meteorological Department.Further, PP submitted the water harvesting plan

PP submitted that total water requirement is 1753 KLD {Mine-210 KLD, Cement plant-523 KLD, WHRS-67 KLD, CPP-437 KLD, Domestic (Canteen + Guest House)-116 KLD, Plantation/Green Belt-400 KLD} and total waste water generation is 250 KLD and the waste water to be reused is 211 KLD and the losses is 39 KLD, respectively.

- vi. Committee had observed that the land use/land cover status of the study area has been assessed using satellite data but analysis is not adequate and therefore, PP needs to revise the plans and submit the same.

PP submitted the revised land use/land cover status of the study area.

- vii. PP presented that the perennial river such as Lilagarh River (250 m in the east direction) that flows from north to south, Sheonath River (~ 6.5 km in SSW direction) that flows from WNW to ESE and Kurang Left Bank Canal (Adjacent in West direction). PP need to submit the details of precautionary measures considered in the proposal to avoid water ingress (surface or sub-surface) in the mine area during the period of mine operation, including proposal for plantation, if any and associated budgetary provisions.

PP submitted that Lilagarh River is at 250 m in the east direction from mine lease boundary and the Lilagarh River is at 782 m and 725 m from Block-I and J. Furthermore, the minimum difference of contour levels between active mine pits and Lilagarh River is 8-9 m (239-230 m). Radius of influence for the maximum quantity of groundwater seepage at conceptual stage in Block-I and Block J will be 432 m and 537 m, respectively. Therefore, it may be concluded that any sub-surface water from Lilagarh River into excavated mine pits of Block-I and Block-J is not envisaged at any stage of mine development. Further, PP submitted that no mining activity will be carried out within 50 m of canal from mining lease boundary; protective bunds of 7.5 width and 5 m height will be constructed towards canal and river. The bunds will be 6.1 km long with an area of 4.57 ha and plantation (11,425 total saplings) will be undertaken for its stabilization (Total budget: Rs.50 Lakhs).

- viii. PP submitted that the two nallah flowing easterly divides the mining lease area into blocks and further mentioned that the lease has been granted excluding that part of the area. PP needs to submit the conceptual plans for protection of these nallah including plantation or forest development along the rivers and their budgetary provisions.

PP submitted that the nallahs will not be disturbed during any stage of mining activities; safety barrier of 50 m along nallah is proposed in which no mining activity will be carried out. Furthermore, PP submitted that additional 7.5 m safety barrier will be left within the lease boundary and protective bunds (5 m height and 7.5 m width) inside this safety barrier will be prepared and dense plantation (20265 saplings) will be done for its stabilization. Green belt/plantation will be developed all along the mining lease boundary in a safety barrier of 7.5m which shall act an additional protective barrier for nallah within lease besides 50 m of barrier located outside the lease boundary.

PP further submitted that check dams will be constructed to prevent sedimentation /siltation of natural water courses with prior permission from Concerned Authority. Furthermore, Garland drains/storm water drains along with siltation ponds at regular intervals will be

constructed through proper plan, nallah culvert / bridge will be constructed for the vehicle transporting limestone without affecting the natural course of nallah. (Total budget: Rs.1 Crore).

- ix. PP presented the KML file and the Committee observed there is multiple water reservoirs (ponds) present in the mining lease area which provides water facility to the village people. PP requires to submit the details of precautionary measurement for conservation and management of water bodies, and their budgets plans. In addition, PP should also submit the details that how the villagers will access the reservoirs (ponds). Alternatively, if PP propose to facilitate alternative sources of water to villagers, PP needs to submit the details (timeline for implementation of such system, capacity, availability during the year, etc), and budget provisions for such proposed water facility.

PP submitted that the study area has multiple water ponds while there is only one pond which slightly falls inside the mining lease between block H1 and C1. Mining in H1 block shall be commenced after 10 years whereas in C1 block after 20 years. Further, no pond will be disturbed and any access of villagers to this pond will remain unaltered. PP further submitted that safety barrier of 50 m around pond (i.e. no mining activity) and additional 7.5 m safety barrier will be left within the lease boundary and protective bunds inside this safety barrier will be prepared and dense plantation will be undertaken on bunds.

PP further submitted that the rock breaker/vibro ripper etc will be used for mining beyond 50 meter and upto 100 meter of ponds or its any access route and controlled blasting will be carried out within 300 meter of pond or its any access route.

For alternative source of water to villagers, PP has proposed to adopt 16 number of existing village ponds in surrounding areas of mine lease. Rejuvenation of these ponds includes deepening/de-silting and maintenance work will be done. Furthermore, the ghats will be made which will store and recharge surface runoff from surrounding areas (Total Budget: 60 lakhs; Timeline: Within first 5 years of mine opening and development)

- x. PP submitted that village road is passing through mine lease area which is connecting three villages and also used for other transport purposes. PP needs to submit details of precautionary measurement for safeguarding the transport infrastructure from any impact of mining. In case, PP proposed for alternate option, detail plan, timeline for implementation, necessary approval from competent authority, concurrence of proposal from local representatives along with budgetary provision and safety procedure for the alternate option is required to be submitted.

PP submitted that there is one tar/revenue road passing nearby lease area and between mining blocks and it falls outside the mining lease area and a cart track is passing through the mining lease area. PP submitted that the company will not disturb this road during entire life of mine and PP will not use village road for mineral transport. PP further submitted that 50 m safety barrier will be left on both sides of the road and mining will not be carried out in safety zone. Furthermore, additional 7.5 m safety barrier will be left within the lease boundary and protective bunds inside this safety barrier will be prepared and dense plantation will be undertaken on these bunds. In addition, wherever road crossing for

transport is involved, proper gate and signaling system will be installed and necessary security will be deployed as safety measures.

- xi. PP submitted that the total mine lease area is divided into 10 blocks. PP needs to submit the time line for blocks such as which one is going start first and when followed by the same details for other blocks as well.

PP submitted that the mining will be carried out in total eleven blocks (pits), varying in size from 7.5 ha to 79.5 ha which have been planned with cumulative mining area at conceptual stage to be around 360 ha. Rest of the area will be covered under safety zone, afforestation etc. Depending on the geology and life of each pits a sequence of the pit operation has been planned for scientific mining. The proposed sequences of working of the pit operations as conceptualized are given table below:

S.No	Block	Sequence of block operation	Area of Pit (Ha)	Estimated Life of Block(Years)
1	J	1	79.5	6
2	H2	2	39.5	4
3	H1	3	41	4
4	B	4	26	3
5	A	5	22.2	2
6	C1	6	7.5	1
7	E	7	15.5	1
8	D	8	39	3
9	C2	9	19	4
10	C3	10	16.5	3
11	I	Continuous	54.3	9
Total			360	40

The Committee observed that the Blocks E and C1 are close to the village and mentioned that it will be considered as a no mining zone till the life of mine. PP requested the Committee for reconsideration based on the available resources and utility. The Committee reiterated that in order to protect the environment as well as the project affected villages both blocks (E and C1) will be a no mining zone till the life of mine and PP accepted the same.

- xii. PP presented point-wise compliance of stipulated TOR; however, the Committee felt that few of the points have been responded in very generic terms. The units used for submitting quantity of material is not uniform, and presentation doesn't have coherence with the proposed activities in detail, but is very generic. PP needs to submit the compliance of TOR in more specific way, especially the compliance to TOR condition no.5, 6, 7 8, 10 and 11.

PP submitted the revised compliance report for ToR conditions no. 5, 6, 7 8, 10 and 11.

- xiii. PP presented that stage wise land use pattern for core zone of the mine lease area and mentioned that external waste dump area is 2.0 ha during the mine plan period. PP needs to submit specific reasons for the same. Furthermore, PP mentioned in the conceptual stage that out of total lease area, 360 ha is total excavated area and out of this 54 ha will be backfilled and 306 ha will be converted as water reservoir. PP should submit the timeline details for the same.

PP submitted that as per approved mining plan, it is proposed to use 2.0 ha area for waste dumps inside mining lease which will be temporary in nature. PP further submitted the following proposed sequence of reclamation and rehabilitation plans. The 54 ha will be backfilled from the year of 32nd to 39th year.

Block	Area of Pit (Ha)	Area converted into water reservoir (ha)	Converted into water reservoir (years from mine opening)
J	79.5	79.5	End of 6 th year
H2	39.5	39.5	from 7 th to 10 th year
H1	41	41	from 8 th to 14 th year
B	26	26	from 15 th to 17 th year
A	22.2	22.2	from 18 th to 19 th year
C1	7.5	7.5	from 19 th to 20 th year
E	15.5	15.5	from 20 th to 21 th year
D	39	39	from 21 th to 24 th year
C2	19	19	from 24 th to 28 th year
C3	16.5	16.5	from 28 th to 31 th year
I	54.3	0.3	40 th year
Total	360	306	

- xiv. PP submitted that the public hearing was conducted at 07.06.2019 and mentioned that there was continuous sloganeering and protest was held by affected people throughout the public hearing. PP further submitted that the 11 written/oral objections/suggestions were received. PP submitted that major public concerns raised was that the complete details of project has not been properly informed to the villagers. PP informed that the information was shared only with regard to mining activities as the PH was for mining proposal. PP informed that out of 11 suggestions/objections, 10 people opposed the proposed mining activity; also alleged that the public hearing was not as per the rules and regulation. It was also requested that the PH needs to be postponed and conducted after giving proper information to project affected villages and families. Therefore, the Committee is of the view that the details of public hearing need to be verified. It was suggested by the committee that the Ministry may get the confirmation on the concerns highlighted from the State Pollution Control Board regarding the public hearing.

The Chhattisgarh Environment Conservation Board vide letter dated 07.11.2019 has responded to Ministry letter dated 26.08.2019 wherein it is mentioned that the public hearing was conducted as per the EIA Notification, 2006 and the public hearing details were properly displayed and intimated to the project affected villages and families.

Further, PP submitted that as the PH was for Mining project and limited information for the proposed clincker plant was made, has lead more dissatisfaction among the public. However, after clarification that there will be separate PH for the clincker plant and all the details will be shared, there was somewhat satisfaction among the Public.

- xv. PP submitted the point-wise action plans for public hearing (PH) issues; however, the Committee felt that the points have been responded in very generic terms. PP needs to revise the actions plans for PH issues and submit the associated budgetary provisions with timeline.

PP submitted the revised action plan for public hearing issues along with budgetary provisions and timeline.

- xvi. PP submitted that the mined limestone (approximately 10000-15000 ton per annum) will be send to Jamul Cement Works of ACC (Durg, Chhattisgarh) by road, till the proposed cement plant is made operational. PP needs to submit the details of transport route map, environmental impact by road transportation as well as the precautionary measures for mitigating the impact.

PP submitted that Jamal Cement plant is 159 km distance from the mine site and till setting up of the Chilhati Cement Plant, approximately 10000-15000 ton per annum of limestone will be dispatched to Jamul Cement Plant. PP further submitted that 50 ton of limestone will be transported per day by truck with capacity of 25 ton and total trips will be 4 (to and from). Furthermore, the existing condition (i.e. LOS value) of the road (SH-9) is good and after road transportation also, the LOS value remain same. Material prior to loading will be water sprayed and trucks will be covered with tarpaulin to avoid any dust spillage over roads.

- xvii. PP mentioned that the total amount of compensation for land will be divided in three parts such as one-time partial payment, fixed deposit and annuity and also mentioned that option will be explored for alternative land to land owners. PP requires to revise the entire R & R plans with quantitative values, specifically the details of percentage of money going to spend in above mentioned budget heads and their timeline and how the affected person/families will receive it and get access to it throughout their lifetime.

PP submitted that the total amount of compensation will be divided in three budget heads such as one-time partial payment (40%), fixed deposit (40%) and annuity (20%). The details are given below:

In one-time payment: PP will initially provide one time partial payment of 40% of total compensation in joint bank account (Name of husband& wife); in case of widow and widower money will be transferred in single name bank account.

In fixed deposit:

40% of total compensation will be put into fixed deposit in their name to the all affected families by providing support of finance experts and banks.10% amount in the name of girl child for her education and marriage for 10 years. If the girl child is married then money will be fixed in the name of married girl and in case of more than 1 girl child, the money will be divided equally in all girl children. 30% amount will be fixed in the name of land owner for 10 years for financial security.

In Annuity:

The money will be deposited under monthly income scheme on joint name (husband and wife) and the project affected family will get interest of money as their monthly income. In case of widow and widower, the scheme will be on single name with the concerned to get monthly income for keeping the affected family's livelihood for life time. This money of 20% cannot be withdrawn by any one of the family and they will get interest as monthly or quarterly installment for running their livelihood minimum up to 20 years.

- xviii. In R & R plan, PP mentioned that the company shall facilitate employability training under its skill development initiatives (ACC DISHA-Hunar Shala) and enhance their skill for employability and placement elsewhere. PP needs to submit the specific plans details, timeline and budgetary provisions for the skill development.

PP submitted that three pronged approach such as employment at company operations (i.e. Mines and Plant), Employment elsewhere and Livelihood through self-employment opportunity (Budget: Rs. 1.97 Crores, 3-4 years).

- xix. PP should revise the total project cost by including all compensation paid and going to pay for the remaining agricultural land, accordingly, revise all the budget details of the project.

PP submitted that total project cost after including total land compensation paid and going to be paid including all equipment, machines, EMP etc is Rs 393.01 Crores.

- xx. PP presented that the 10 families have houses in the mine lease area and it will be shifted and the company will provide the cost of land for construction of houses for all 10 families. The company will construct houses in adjoining village with basic amenities like road, playground and electricity. The Committee is of the view that PP should submit the details of family (members), budgetary provisions for construction of houses with all facility, family members (if family have girl child separate budget need to be allotted) and their implementation timeline.

PP submitted that 10 houses having 47 members exist within mining lease area, they will be shifted and provided with the cost of land and money for construction of houses for all 10 families. The company will construct houses in adjoining village with basic amenities like road, playground and electricity. Budget Provision: Rs. 4 Crores (timeline- up to year 2024).

- xxi. The emission rate data reference for air quality prediction should be submitted.

PP submitted that the emission rate data has been taken from CMFRI, 1998;

- xxii. PP presented that there will be water table intersection due to mining activities and mentioned that no surface run off will be mixed with the ground water. PP needs to submit details of control measurements for protecting the surface run off so that it will not mix with the ground water. PP need to submit management of ground water after the water table is intersected.

PP submitted that garland drains with protective bunds will be created around excavated area to avoid entrance of surface run off into pit and mixing with ground water. Furthermore, PP submitted that the garland drains/storm water drains along with siltation/settling tanks at regular interval will be constructed around the active mine pits through proper plan which follow the natural slope of surface run off and/or to avoid its mixing with groundwater. Apart from this, garland drains will be constructed around dumps and along the periphery of mine lease across the flow direction of surface runoff in a phase wise manner. Further, PP submitted two types of garland drains such as prevent entry from area outside of mine lease and prevent entry from rest of the mining lease area to active mining area are proposed for surface run off management.

PP submitted that the initial working area during first five year plan period has the general elevation of about 235-239 above msl(average 237 mRL) with a gentle slope towards south while rest of the area maximum elevation is upto 263 mRL. Depth to water level in and around proposed mine lease area is varying between 4.5 m bgl (232 mRL) to 9.3 m bgl (228 mRL). The mineral availability and depth of mine working will go up to 17 m bgl (246mRL) in the present five year plan period while 43 m bgl (220 mRL) up to conceptual plan period. Hence, groundwater table shall be intersected by mining activities and groundwater ingress will be there during present plan period and up to conceptual stage. The pumping of ground water /dewatering of mine pit shall be carried out after prior permission from competent authority.

- xxiii. PP should revise and submit the KML file with proper marking and displaying of mining lease area and other details (marking of ponds, rivers and their direction, villages, homes present in the MLA, proposed position of cement plant and others etc.).

PP submitted the revised KML file with proper marking and displaying of mining lease area and other details.

- xxiv. PP reported that there is no forest land in the mine lease area and submitted the letter from DFO. However, the Committee is of the view that DFO is not competent authority responsible for providing the no forest land certificate. PP needs to submit certificate from the Competent Authority (PCCF and Chief Wildlife Warden) and the certificate should have mention of name, designation, official seal of the person signing the certificate and letter number.

PP submitted a letter from APCCF vide letter dated 09.10.2019 wherein it is mentioned that the project area is 12 kms from distance Forest area known as Bharari Forest. Further, it is mentioned that there is no wildlife sanctuary and national park within a radius of 10 km from the applied area.

xxv. As per the TOR Conditions, PP needs to submit the mitigation measures on impact of mining activities on Habitations as per Ministry's OM No. Z-11013/57/2014-IA-II(M) dated 29.10.2014. However, the PP neither submitted nor presented any compliance to this TOR conditions. PP needs to submit the same.

PP submitted the compliance to OM No. Z-11013/57/2014-IA-II(M) dated 29.10.2014 on mitigation measures on impact of mining activities on Habitations.

xxvi. PP needs to submit an authenticated English translated copy of the document for surface water permission letter.

PP submitted the authenticated English translated copy of the document for surface water permission.

xxvii. PP needs to submit the authorization letter of the person delegated or authorized by the company for pursuing the application with the ministry.

PP submitted the authorization letter dated 17.09.2019 in the name of Mr. Vaibhav Dixit.

Based on the above presentation made by PP and the discussion held, the Committee **recommended** the proposal for grant of environmental clearance for production of Limestone-3.90 MTPA, Top soil-0.07 MTPA and Waste (OB/SB/IB)-0.27 MTPA (Total Excavation: 4.24 MTPA) along with installation of mobile crusher of 1000 TPH Capacity in the mine lease area of 582.962 ha, located at Villages Bidiyadih, Bhurkunda, Godadih & Bohardi, Tehsil Masturi, District Bilaspur, Chhattisgarh with standard EC conditions along with following specific conditions.

- i. This EC for production of Limestone-3.90 MTPA, Top soil-0.07 MTPA and Waste (OB/SB/IB)-0.27 MTPA (Total Excavation: 4.24 MTPA) along with installation of Crusher of 1000 TPH Capacity in the mine lease area of 582.962 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.
- ii. PP should provide a budget of Rs. 6.75 Crore on CER as per commitment made before EAC.
- iii. Installation of one mobile crusher of 1000 TPH capacity only will be allowed. No further installation of crusher and screening plants are allowed without permission of the Ministry
- iv. The block E and block C1 will be a no mining zone till life of mine.
- v. Dispatch of limestone to Jamul Cement Plant (approximately 10000-15000 ton per annum) through road is allowed only till commissioning of the Chilhati Cement Plant. No further mineral transport is allowed after construction of Chilhati Cement Plant without permission of the Ministry.
- vi. Dust control measures need to be installed and strengthened during initial road transportation to eliminate impact on air quality.
- vii. PP shall not disturb village road during entire life of mine and shall not use village road for mineral transport. PP shall make 50 m safety barrier on both sides of the road and mining will not be allowed in safety barrier zone. Furthermore, PP shall make additional 7.5 m safety barrier along the road

within the lease boundary and protective bunds inside this safety barrier and dense plantation on these bunds.

- viii. PP should make arrangement for all time water availability to the villages and their maintenance. Furthermore, the water quality will be monitored and reviewed throughout the life of mine and maintain the record for water quality data.
- ix. As per the commitment made, PP should comply the compensation amount proposed under three budget heads such as one-time partial payment (40%), fixed deposit (40%) and annuity (20%) and maintain the record for the same.
- x. PP will construct houses for 10 families (i.e. exist in the mine lease are) in adjoining village with all basic amenities in the timeline committed.
- xi. PP shall not disturb the nallahs, rivers and canals at entire life of mine. PP shall make safety barrier of 50 m along nallah, rivers and canals and no mining activity will be allowed in the safety barrier. Furthermore, PP shall make additional 7.5 m safety barrier within the lease boundary and prepare protective bunds (5 m height and 7.5 m width) inside this safety barrier and make dense plantation (minimum of 50000 saplings) for its stabilization and make regular monitoring.
- xii. PP shall make check dams to prevent sedimentation/siltation of natural water courses. Further, PP make nallah culvert/bridge for the vehicle transporting limestone without affecting the natural course of nallah.
- xiii. PP shall comply the proposed sequences of working of the pit operations; if any changes are required PP needs to take prior permission from the Ministry.
- xiv. PP shall construct garland drains with protective bunds around excavated area, to avoid entrance of surface run off into pit and mixing with ground water. Furthermore, PP shall make garland drains/storm water drains along with siltation/settling tanks at regular interval around the active mine pits through proper plan which follow the natural slope of surface run off and/or to avoid its mixing with groundwater.
- xv. PP shall make progressive greenbelt and plantation and needs to cover the total area of 127 ha (54 ha on backfilled area, 43 ha around lease periphery and 30 ha on non-mineralized area) at the end of life of mine.
- xvi. PP shall comply all action plans made for public hearing concerns and make regular maintenance and record the progressive activity outcomes.
- xvii. PP shall make rainwater harvesting system in the villages stations and also install air quality monitoring stations nearby village for continuous monitoring and record the analytic data for future reference.

2.3 Hatgacha (JL No. 1)–Jethia (JL No.-4) Black Stone Mine with proposed production capacity 0.8 Million TPA (ROM) by M/s West Bengal Mineral Development and Trading Corporation Ltd., located at village; Hatgachia, P.s.-Mohammad Bazar, Mouza-Jethia, District-Birbhum, West Bengal (MLA 71.20 ha)

(File No. J11015/379/2015-IA. II (M); Proposal No. IA/WB/MIN/62270/2015)

The proposal of M/s West Bengal Mineral Development and Trading Corporation Ltd. is for the mining of Black Stone Mine with proposed production capacity of 0.8 Million TPA (ROM). The mine is located at Hatgachia, P.s.- Mohammad Bazar, Mouza-Jethia, District Birbhum, West Bengal. The proponent informed that the lease area is mostly flat, involving no forest land. The leases are alies between Latitude: 240 06' 54.55" to 240 07' 16.78" N and Longitude: 87035' 20.00" to 87036' .85" E.

The proposal was earlier considered by EAC in its meeting held during 20- 21 March 2017 for consideration of EC. The Committee deferred the proposal for want of requisite information. The proponent submitted the information online and the proposal was again reconsidered in the EAC meeting held on 29-30 August, 2017. Based on the discussion committee deferred the proposal and was of the opinion that the proposal can be reconsidered after the proponent submits the requisite information. PP vide letter no MDTC/P-32(III)/1111 dated 23rd November, 2018 had submitted the information, Accordingly the same was considered in the EAC in its meeting held during 22-23, January, 2019 wherein the Committee deliberated on the information submitted by PP and noted that PP did not submit the requisite information as sought by the EAC's held during 29-30 August, 2017. The Committee asked the representatives of M/s West Bengal Mineral Development and Trading Corporation Ltd. whether they have examined the reports before coming as the EIA/EMP report is not in agreement with the requirement of Appendix-III of EIA notification, 2006 and requirement arising for compliance TOR. The Committee therefore returned the proposal in the present form and the Committee opined that as the Consultant has provided inadequate information in the EIA report as per the provision of the notifications and other guidelines, accordingly necessary action against the consultant may be initiated by the Ministry.

PP vide letter no MDTC-P32(II)CAMP-BBS/1 dated 10th April, 2019 had submitted revised application online in the PARIVESH portal, accordingly, the proposal was appraised in the EAC in its meeting held during May 29-30, 2019 wherein the Committee observed that PP/Consultant uploaded incomplete information and PP also submitted the letter no 695-C1/O/MM/42/10/MINES dated 15.11.2018 from the Department of Large Industries and Enterprise, Mines Branch, Government of West Bengal w.r.t. lease validation wherein inter-alia mentioned that " a mining lease for blackstone in respect of the under mentioned area for a period of twenty(20) years shall be granted provisionally to WBMDTCL on complying with the following conditions and execution according to law within a period of 6 months from the date of this order". However, PP did not submit any proof of execution and revalidation of mine lease area. The committee also observed that PP/Consultant did not submitted the required documents as sought by the EAC in earlier meeting. Therefore, the committee deferred the proposal and informs the PP to submit the following information:

- I. Occupational health survey and dust surveillance plan and its mitigation measurements plan.
- II. Detailed mineralogical and chemical composition of the mineral and percentage of free silica from a NABL/MoEF&CC accredited laboratory.
- III. Cumulative impact study of for the dust generation from mine and crusher with suggested mitigation measures to reduce the amount of dust.

- IV. Hazard Identification and Risk Assessment Plan
- V. A letter from the State Mines and Geology department revalidating the Lol.
- VI. Need based survey of the project affected families.
- VII. The District Survey Report as per S.O. 3611(E) dated 25.07.2018.
- VIII. 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.

PP vide letter no MDTC/P-32(II)/921 dated 19th September, 2019 has submitted the following:

- I. PP submitted the Health Survey in and around the Project Area. PP also submitted the dust surveillance Plan along with the mitigation plan.
- II. PP submitted the report of the detailed mineralogical and chemical composition study of the mineral and percentage of free silica along with SiO₂, Al₂O₃, MgO, Fe₂O₃, Cao is done at National Test House (Eastern Region), Kolkata. In the free silica percentage by mass was found as NIL.
- III. PP submitted the detailed Impact and imitative measures for the dust generation from mine and crusher is submitted.
- IV. PP submitted the Hazard Identification and Risk Assessment Plan for the mine.
- V. PP submitted that the mine lease over an area of 178.93ha was provisionally granted by the Department of Large Industries and Enterprises, Mines Branch, Govt. of West Bengal vide letter no 695-CI/O/MM42/10/MINES dated 15.11.2018 for a period of 20 years i.e. from 08.11.2002 to 07.11.2022 in favor of WBMDTC with a condition of to execution according to law within a period of 6 months from the date of 15.11.2018. PP submitted the vide letter No.428-CI/O/MM42/10/Mines dated 9.08.2019 obtained by the Department of Large Industries and Enterprises, Mines Branch, Kolkata, Govt. of West Bengal stating that validity of the G.O. bearing no. 695-CI/O/MM/42/10/MINES dated 15.11.2018 is extended for a further period of six(6) months w.e.f. 15.05.2019 till 14.11.2019 only.
- VI. PP submitted the need based report the same is verified agreed by the Office of the Sub-Divisional Officer, Suri(Sadar) Birbhum, Government of West Bengal Memo no 1183(I)/s dated 02.09.2019.
- VII. PP also submitted the vide letter no 410/-CI/O/MIN/GEN-MIS/34/2016 dated 30th July, 2019 by the Department of Industry, Commerce & Enterprises, Mines Branch, Govt. of West Bengal stating that the preparation of DSR for the districts of West Bengal is under process in the Department.
- VIII. PP submitted the Affidavit no AB 132814 dated 06.03.2019 undertaking by way of affidavit as required as per Ministry's O.M No 3- 50/2017 -IA. II(M) dated 30.05.2018 to comply with all the statutory requirements and judgment of Hon'ble Supreme Court dated the 2nd

August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors.

Based on the discussion held and document submitted the committee **deferred** the proposals and sought the following details

- I. District Survey Report as per the Ministry notification S.O. 3611(E) dated 25.07.2018
- II. PP submitted letter No.428-CI/O/MM42/10/Mines dated 9.08.2019 obtained from Department of Large Industries and Enterprises, Mines Branch, Kolkata, Govt. of West Bengal stating that validity of the G.O. bearing no. 695-CI/O/MM/42/10/MINES dated 15.11.2018 is extended for a further period of six (6) months w.e.f. 15.05.2019 till 14.11.2019. PP need to submit the extended validity of lease and its execution details.
- III. 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.

2.4. Ghoraburhani - Sagasahi Iron Ore with proposed production of 7,162,538 TPA iron ore (ROM), 18750 TPA Topsoil and 2,868,896 TPA OB/SB/IB (Total excavation: 1,00,50,184 TPA) along with Crushing & Screening Plant and Beneficiation Plant with capacity of 6.7 Million TPA (1250 TPH) Capacity by M/s Essar Steel India Limited in the mine lease area of MLA 139.165 ha, located at village- Ghoraburhani, Sagasahi and Kalmang, Tehsil Koira, District Sundargarh, Odisha- Re consideration of Environmental Clearance.

(File No: J-11015/192/2016-IA-II(M), Proposal No: IA/OR/MIN/56152/2016; Consultant: Creative Engineers and Consultants)

The proposal of M/s ESSAR Steel India Limited is for Ghoraburhani – Sagasahi Iron ore block with proposed production of 7,162,538 TPA iron ore (ROM), 18750 TPA Topsoil and 2,868,896 TPA OB/SB/IB (Total excavation: 1,00,50,184 TPA) along with Crushing & Screening Plant and Beneficiation Plant with capacity of 6.7 Million TPA (1250 TPH) Capacity in mine lease area of 139.165ha. The mine lease area is located at Ghoraburhani, Sagasahi and Kalmang villages, Koira Tehsil, Sundargarh District, Odisha. The lease area is bounded by Latitude 21° 56' 08.83896" to 21° 57' 09.61956" North and Longitude 85° 17' 02.54580" – 85° 17' 57.53148" East and falls in Survey in India Topo Sheet No.73 G/1 & 73 G/5.

2. PP submitted that as per EIA Notification dated 14th September, 2006 and amended time to time, the project falls under Category "A, Project or Activity 1(a) (3) (mining of minerals) and 2(b)-Mineral beneficiations.
3. PP submitted that the ToR has been considered by the EAC in its meeting held during September 19-20, 2016 wherein the Committee deferred the proposal for want of requisite information. The proposal considered again by EAC in its meeting held during November 15-16, 2016 wherein the Committee recommended the proposal for grant of ToR. The Ministry has granted ToR vide letter no. J-11015/192/2016-IA-II(M) dated 19.01.2017 for preparation of Environmental Impact Assessment (EIA) Report and Environmental Management Plan (EMP).
4. PP submitted that the total mine lease area is 139.165 ha. Out of total lease area, 126.401 ha is forest land and balance 12.764 ha is non-forest land (6.063 ha of Govt. land, 3.257 ha of Private

tenanted land and 3.444 ha of Gochar land). PP further submitted that Stage-I forest clearance for entire forest land (126.401 ha) including safety zone area of 5.563 ha has granted by the Ministry vide letter no.8-55/2018-FC dated 06.03.2019.

5. PP submitted that Director of Mines, State Government of Odisha has granted letter of intent (LOI) for 139.165 ha vide letter no. MXII-(b)-60/2015-3114/DM dated 28.03.2016 for a period of 50 years. The LOI is valid for three years. Subsequently, the Director of Mines, State Government of Odisha has extended the validity of LOI up to 27.03.2021 vide letter no. MXII-(b)-60/15-2584/DM dated 19.03.2019. PP further submitted that mining plan along with progressive mine closure plan over an area of 139.165 ha has been approved by the IBM vide letter no. MP/FM/02-ORI/BHU/2016-17/964 dated 11.07.2016 which is valid up to 31.03.2021.
6. The EC proposal was appraised by the EAC in its meeting held during February 26-27, 2018 wherein the PP has informed that the company is in bidding process and likely to approach the National Company Law Tribunal (NCLT) regarding the bids received as part of the steelmaker's insolvency resolution process since both the bidders are facing eligibility issues. In this context, the Committee was of the view that when PP is under bidding process it may be advisable to appraise the project with new PP. But, the PP requested to consider the project as they felt that grant of EC would add value to the company asset and raised valuation of the company. Thus, the Committee has deliberated the proposal and deferred the proposal and asked the PP to submit requisite information along with revised EIA/EMP report by rectifying the errors.
7. PP submitted the revised EIA/EMP report online. PP requested the Ministry vide letter dated 09.07.2018 and 26.07.2018 to consider the proposal before the EAC. The request has been examined by the Ministry and the Competent Authority had decided to consider the proposal after proceeding in NCLT is completed. PP again vide letter dated 09.11.2018 requested the Ministry to consider the proposal for EC and not wait indefinitely for closure of corporate insolvency resolution process under NCLT and LOI will expire in March 2019. Competent authority approved the PP's request. Accordingly, the proposal was considered in the EAC meeting held during February 20-21, 2019 wherein the Committee returned the proposal in present form and the proposal may be considered only after submission of revised EIA/EMP report along with requisite information sought by EAC. PP submitted the information, accordingly, the proposal was considered in the 7th EAC meeting held during July 30-31, 2019 wherein the Committee deferred the proposal for want of certain requisite information. PP submitted the information and the proposal is considered in this EAC meeting.
8. PP submitted that baseline data was collected during October to December, 2016 (post monsoon season). PP further submitted that ambient air quality study was studied at 8 different locations, ground water quality analysis was carried out on 6 borewell water and 2 surface water at different locations and noise levels are monitored at 8 different locations in the core and buffer zone. PP submitted that the PM10 and PM2.5 values were in the range of 40.9 – 81.2 µg/m³ and 18.2-36.6 µg/m³. SO₂ levels were ranging from below detection level (BDL) [Detection limit (DL)-3.0] – 6.1 µg/m³, NO₂ levels were ranging from 6.8 – 16.1 µg/m³. The CO values in the all locations found to be BDL (DL – 1144 µg/m³). Silica values in the study area are found to be below detectable limit (DL – 0.05 mg/m³) which is well within the prescribed limit of 5mg/m³. The lower values may be attributed to the absence of mining or mineral transport activities in and around the area. The pH

values of 6 bore well water samples were ranging in between 6.27-7.01, TDS values were in the range of 30-165 mg/L, Chloride values were ranging from 14.2-29.8 mg/L and Iron content was found to be in the range BDL (DL-0.01)-0.25 mg/L, respectively. The water quality of ground water is found to be within the prescribed permissible limits of IS: 10500 Norms in the absence of an alternative source as per Drinking Water Specifications.

9. PP submitted that for 2 surface water samples, pH varied from 6.42 – 6.51, TDS varied from 40-42 mg/l, Dissolved oxygen varied from 6.4 to 6.6 mg/l, BOD was found to be < 2 mg/l and Chloride varied between 13.7 to 15.2, Nitrates was found to be < 1 mg/l, and sulphates was found to be < 5 mg/l. Iron content was found to be below detectable limit BDL(DL-0.01). PP further submitted that heavy metals are well within the limit and values are below standard classification. In addition, PP submitted that the day Equivalent Noise (Leq-d) level were ranging from 41.3 to 50.8 dB(A) and Night Equivalent Noise (Leq-n) level were ranging from 37.0 to 42.0 dB(A), respectively.
10. PP submitted that the public hearing was conducted on 19.05.2017 at near primary school at Ghoraburhani village under Koiratahesil of Sundargarh District. Shri R N Mishra, Addl. District Magistrate, Sundargarh presided over the meeting along with Dr. M. Mahaling, Regional officer, Rourkela, State Pollution Control Board, Odisha. PP further submitted that about 450 participants have attended the public hearing and about 43 persons expressed their views about the project. PP submitted action plan for the public concerns and the Committee deliberated the same.
11. PP submitted that there are three court cases against the project which are mentioned below
 - (i) OA No. 34/2018 in the NGT-EZ Branch against the public hearing of this instant proposal, however, the Hon'ble NGT had disposed the OA on 21.01.2019 with the direction that the MoEF&CC shall consider all the issues raised in the present application while examining the EIA report in the process of grant of Environmental Clearance;
 - (ii) W.P. (C): 9980/2017 in the Hon'ble High Court of Odisha in the form of PIL for challenging the public hearing dated 19.05.2017. PP submitted that the petitioner filed a memo for withdrawal of the write petition. Thus, the Hon'ble High Court of Odisha dismissed the petition as withdrawn.
 - (iii) W.P. (C). No.9247 of 2018 in the Hon'ble High Court of Odisha in the form of PIL for seeking cancellation of allocation of Iron ore mine pursuant to invitation of bids for grant of mine lease for iron ore dated 23.12.2015 issued by the Government of Odisha. PP submitted that this case subjudice and the next date of hearing is 16.12.2019.
12. PP submitted that there is no National Park, Wildlife Sanctuary, Elephant Reserve, and Biosphere Reserve, Ramsar site or Tiger Reserve in the study area. PP further submitted that Schedule I species such as Elephant, Indian Python, Peafowl, Wild Cat, Yellow monitor and Brahminy Kite are present. PP further submitted that the conservation plan for the same for Rs.1367.261 lakhs was approved by PCCF (Wild life) & Chief Wildlife Warden vide letter no. 6757/1WL-FC-MRL-SSP-196/2018 dated 1308.2019.
13. PP submitted that total water requirement for the project is 3230 m³/day out of which 2800 m³/day for beneficiation plant make up and 430 m³/day for mines which will be obtained from bore well. The water will be required for sprinkling on haul road to suppress dust, servicing of earth

moving and other equipment, machinery and plant, drinking and other domestic use, sanitation, plantation, beneficiation plant for grinding and beneficiation and for slurry pumping through pipeline. PP further submitted that the clearance for drawl of ground water has been obtained from CGWA vide letter no.CGWA/NOC/MIN/ORIG/2018/3118 dated 07.02. 2018.

14. PP submitted that the mining will be carried out by mechanized opencast method by removal of topsoil, drilling and blasting of ore zone, excavation, loading and haulage of run of mine ore. Top soil if any will be removed first, which will be stock piled for future use for plantation purposes. After the removal of top soil, drilling and blasting operation will be carried out at hard / laminated iron ore zone for loosening. These loosened iron ore are then excavated and loaded to the dumpers for processing. PP further submitted that the proposed bench height in the quarry area is 10 m with 20 m working width. Bench slope angle of 70° for soil and 80° for Ore benches will be maintained as suggested by CIMFR, Dhanbad. Inter bench ramp at a gradient of 1 in 10 (Maximum) and haul road at a gradient of 1 in 16(Maximum) has been planned to facilitate transportation of ROM ore from different faces to the crushing plant. PP submitted that the drilling is proposed to be done using 150mm/115mm diameter drills with 10% sub graded drilling. Blasting will be done by adopting the State of Art technology by using mostly SME (Site Mixed Emulsion Explosives) along with conventional explosives such as PGC, Toe blast and ANFO. Both conventional as well as None I (non-electric initiation) blasting will be done. Controlled blasting technique using NONEL and shock tube initiation system will be practiced. Quantity of explosive charges and other blasting parameters will be maintained as suggested by CIMFR Dhanbad. Boulders generated during the course of blasting will be broken in to smaller pieces by using rock breaker.
15. PP submitted that during 1st year of mine plan period all the pre-production activities will be achieved. Initially two pits namely pit-1 and pit-2 will be opened. PP further submitted that total of 88.759 ha will be utilized for mining during conceptual period. In the northern part the UPL covers about 22.114 ha and in the southern and eastern part the UPL covers an area of about 66.645 ha. Planning of pit- 1 has been envisaged that part of pit- 1 will be exhausted during 4th and 5th year of plan period. Waste generated from pit-1during 4th and 5th year of plan period will be utilized for back-filling of the exhausted part of pit-1. PP submitted the following year wise planned production schedule of ore, waste and total excavation for the next five years are tabulated below (unit: Tonne). Furthermore, PP submitted that peak production will be achieved in 5th year.
16. PP submitted that the Company has decided to set up a slurry transportation system from Sagasahi mine to Dabuna slurry pumping station and thereby avoid road transportation of beneficiated product. The route survey for this 27.884 km system has been completed and required statutory permissions are being taken from competent authorities. For initial years till beneficiation and slurry pumping system is commissioned, ore transportation will be by road. PP submitted that up to3rd Year fines and CLO will be transported to Dabuna Beneficiation plant by Road (28 Km) and CLO will be transported to nearest railway siding (approx. 20 Km) by Road for onward transportation to Hazira by Rail. Then, from the beginning of 4th year beneficiated ore will be transported in slurry mode through pipe line to Dabuna (captive beneficiation and slurry pumping station). The slurry pipeline and slurry pumps are scheduled for commissioning together with beneficiation plant by 4th year of mine operation. From 4th year onwards fines will be transported to Dabuna through pipeline in the slurry form.

17. PP submitted that in the 10 km buffer zone, water bodies such as Topadihi Nala (3.1 km-N), Kunduru Nala (6.5 km-NE), Suna Nadi (1.6km-E), Kalmang Nala (0.9 km-E), Kakarpani Nala (5.1 km-E), Gahirajala Nala (6.2 km-SE), Teherei Nala (2.9 km-SE), Khajurdihi Nala (6.3km-S), Khuntachira Nala (8.4 km-S), Lekerapani Nala (2.2 km-SW), Archanda Nala (7.0 km-S), Karo Nadi (4 km-W) are present and few seasonal nallahs are passing through the lease area.
18. PP submitted that reserved forests such as Lakrhaghat (7. Km-N), Siddhamath (4km-NE), Baitarani (5km-NW), Mendhamaruni (adjacent to lease boundary-SW), Kathamala (4 km-SW), Bhabani Paharh (6.3 km-SW), Karo (3.3 km-NW), Uilburu (5.5 km-NW) are located within 10 km radius. PP further submitted that Jharkhand State Boundary is about 7.5 km NW of the lease boundary.
19. PP submitted the compliance status for ToR condition and CSIR-NEERI's carrying capacity study conditions.
20. PP submitted that the list of flora and fauna was authenticated by the Office of the Divisional Forest Officer, Bonai Division vide letter no.5819/6F-(Mg.) dated 28.07.2017. PP further submitted that affidavit dated 16.06.2019 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.
21. PP submitted that the total project cost is Rs. 998 Crores and the funds allocated for Environment Management (Capital) is Rs. 2.20 Crores, for EMP (Recurring per annum) Rs. 4.82 Crores and for CER Rs. 25 Crores. PP further submitted that total manpower requirement for the Mines and the plant for various categories (skilled, semi- skilled etc) is estimated to be 212 numbers for Mines and 45 numbers for the plant.
22. Based on the above presentation made by PP and the discussion held, the Committee **recommended the proposal** for grant of environmental clearance for Ghorabhurani – Sagasahi Iron ore block with proposed production of 7,162,538 TPA iron ore (ROM), 18750 TPA Topsoil and 2,868,896 TPA OB/SB/IB (Total excavation: 1,00,50,184 TPA) along with Crushing & Screening Plant and Beneficiation Plant with capacity of 6.7 Million TPA (1250 TPH) Capacity in mine lease area of 139.165 ha located at village- Ghoraburhani, Sagasahi and Kalmang, Tehsil Koira, District Sundargarh, Odisha with **standard EC conditions for mining and beneficiation plant along with following specific conditions.**
 - i. This EC for production of 7,162,538 TPA iron ore (ROM), 18750 TPA Topsoil and 2,868,896 TPA OB/SB/IB (Total excavation: 1,00,50,184 TPA) along with Crushing & Screening Plant and Beneficiation Plant with capacity of 6.7 Million TPA (1250 TPH) Capacity in the mine lease area of 139.165 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.
 - ii. Till the construction of beneficiation plant in the mine lease area, the transportation of ore from mine to Dabuna Beneficiation plant by road is allowed only for 3 years. No more road transportation is allowed after 3 years without permission of the Ministry. From 4th year onwards, the ore should be transported only through proposed slurry pipeline **or** as per the guidelines of CSIR-NEER's recommendation. PP shall inform Ministry for any deviation in the proposed mode of transport of minerals in case the timeline is not complied with.

- iii. Accessing the forest land for activities shall be applicable after getting Stage-II FC approval.
 - iv. Installation of crusher and screening plant with proposed capacity only will be allowed. No further installation of crusher and screening plants are allowed without permission of the Ministry.
 - v. PP shall construct the tailing pond as committed and make regular maintenance for the same.
 - vi. PP shall make the rainwater harvesting system as committed before the EAC.
 - vii. PP shall construct garland drains with protective bunds around excavated area, to avoid entrance of surface run off into pit and mixing with ground water. Furthermore, PP shall make garland drains/storm water drains along with siltation/settling tanks at regular interval around the active mine pits through proper plan which follow the natural slope of surface run off and/or to avoid its mixing with groundwater.
 - viii. PP shall make check dams to prevent sedimentation/siltation of natural water courses.
 - ix. PP shall make progressive greenbelt and plantation like bench plantation and also make plantation mineral storage, top soil stack, road, magazine and other places as committed.
 - x. PP shall comply all action plans made for public hearing concerns and make regular maintenance and record the progressive activity outcomes.
23. The Committee has also deliberated the various specific recommendations of carrying capacity study report conducted by CSIR-NEERI w.r.t. mining proposal of Iron Ore and/or manganese in the State of Odisha. There are recommendation which needs to be implemented by the State Govt. of Odisha and Project Proponent. Based on detailed deliberations on the recommendations of the carrying capacity study report, the **Committee has also recommended the CSIR-NEERI recommendation as specific conditions, accordingly, it will be included in the EC.**

Re-CONSIDERATION OF AMENDMENT OF EC

(2.5). Daitari Iron Ore Mining project of M/s. The Odisha Mining Corporation Limited over an area of 1812.99 ha located in Village Talapada, Teshil Haroc jamdanppur & Sukinda, District Keonjhar & Jaipur, Odisha. Permission for transportation of mineral by road from Daitari Iron Ore Mining Project beyond 31.03.2019-Reconsideration of Amendment in EC.

(File No: J-11015/1003/2007-I.A. II (M); Proposal No: IA/OR/MIN/7061/2007)

The proposal of M/s.The Odisha Mining Corporation Limited for requesting permission for transportation of mineral (1 MTPA) by road beyond 31.03.2019 from Daitari Iron Ore mine located at village Talapada, Tehsil Harichandanpur & Sukinda, District Keonjhar and Jajpur, Odisha. The proposal was considered in the 6th EAC meeting held during 27-28 June, 2019 wherein the Committee deferred the proposal and referred the proposal to Ministry for taking appropriate directions and actions in this regard. The project proposal was examined by the Ministry and is of

the view that the request of PP for extending the permission for transportation of mineral through the road network will have significant impact on the environment and it needs to be appraised by the EAC. Thus, the proposal has been considered in this EAC meeting after approval of competent authority.

2. PP submitted that the Environmental Clearance to M/s The Orissa Mining Corporation Ltd was granted by the Ministry vide letter no. J-11015/1003/2007-IA.II(M) dated 22.09.2010 for Daitari Iron Ore mining project with the annual production of 3,000,000 ton (3 million ton) of iron ore by the opencast mechanized method in the mine lease area of 1812.99 ha. Subsequently, the Ministry has granted amendment in the EC letter dated 22.09.2010 vide letter even number dated 31.03.2017. The amendment letter granted w.r.t grant of temporary permission of two years for completing the installation of conveyor belts and rail heads in the Daitari Iron Ore mining project from the issue of this letter.
3. The proposal considered in this EAC meeting and PP presented their request before EAC. Based on the presentation made by PP and the discussion held, the Committee deferred the proposal. The Committee is of the view that first the PP has to demonstrate what environmental and social benefits that project can bring to the local area through the activities that it wants to continue beyond 31st March, 2019. In addition, the PP needs to submit detailed study report in support of no damage to the environment by current practices and measures taken by the PP that it proposes to improve environmental quality for further consideration. Also the PP needs to submit its preparedness and present status on installation of conveyor transport system for compliance of condition specified in the earlier EC amendment letter dated 31.03.2017.

2.6. Pachhtardi Limestone Mine of M/s. Shree Digvijay Cement Co. Ltd with Production Capacity 0.35 million TPA (ROM) in the mine lease area of 18.03.88 ha Near Village: Pachhtardi, Taluka: Bhanvad, District: Devbhumi Dwarka (Erstwhile Jamnagar), Gujarat-Consideration of Environmental Clearance

(File No: J-11015/240/2016-IA-II(M), Proposal No: IA/GJ/MIN/65781/2017; Consultant: J. M. EnviroNet. Pvt. Ltd)

The proposal of M/s. Shree Digvijay Cement Company Ltd. (SDCCL) is for Pachhtardi Limestone Mine with limestone Production Capacity of 0.35 Million TPA in the mine lease area of 18.03.88 ha. The mine lease area is located at survey No 78/p near Village: Pachhtardi, Taluka: Bhanvad, District: DevbhumiDwarka (Erstwhile Jamnagar), Gujarat. The mine lease area falls between the Latitude 21° 51' 16.39"N to 21° 51' 38.11"N and Longitude 69° 40' 58.74"E to 69° 41' 33.83"E.

2. PP submitted that as per EIA Notification dated 14th September 2006 and amended time to time, the project falls under Category "A", Project or Activity '1(a) -5 as general condition is applicable due to proximity of Barda Wildlife Sanctuary from the mine site. PP further submitted that Barda Wildlife Sanctuary is located at ~1.5 km from mine site and the ESZ of Barda Wild life Sanctuary is ~1.18 km from mine site. PP submitted Lr No. A/JMN/TE-7/282/2017-18 dated 7.10.2017 certifying that the distance of Mining lease in question is 1.5 KM from Barda Wildlife Sanctuary and 1.18 Km from notified Eco Sensitive Zone.

3. PP submitted that total mine lease area 18.03.88 ha which is a Govt. waste land and no forest land involved in the lease area. PP submitted a letter from office of Deputy Conservative of Forest, Porbandar Forest Division vide letter no. K/JMN/T.7/203/2018-19 dated 18.06.2018 that no forest area is exist in the mine lease area.
4. PP submitted that letter of intent (LOI) issued by Industries and Mines Department, Government of Gujarat, Gandhinagar vide letter no.MCR-1103-2119(2)-Chh dated 09.11.2005 in survey no78/paiki over an area of 18.03.88 ha. PP further submitted that earlier application was submitted to the Ministry for getting environment clearance on 04.09.2006 and the project was considered before EAC on 17.04.2007 for technical presentation. Project was closed and delisted by the Ministry on 25.08.2008 due to one court case pending. The proponent also submitted the order dated 17.10.2016 passed by Hon'ble Gujarat High Court wherein it was stated that "Hence, I do not find any illegality in the order dated 9.11.2005 passed by the Secretary, Industries & Mines Department, State of Gujarat by which the respondent No.4 has been granted mining lease for a period of 30 years to excavate limestone in different villages of Taluka Bhanvad, Dist. Jamnagar. Hence, the present petitions stand dismissed. Rule discharged in each of the petitions. Interim relief, if any, is hereby vacated forthwith." PP further submitted Industries and Mines Department, Government of Gujarat, Gandhinagar vide letter no. MCR-1103-2119(2)-CHH-CHH-1 dated 08.01.2017 granted the lease for a period of 50 years for the area of 18.03.88 ha and the lease was executed on 11.01.2017.
5. PP submitted that the revised ToR proposal was submitted and the same was considered by the EAC in its meeting held during January 30-31, 2017 wherein Committee observed that the project is at a distance of about 1 km from the Barda Wildlife Sanctuary. The Committee was of the opinion that the proposal cannot be considered under the existing rules and rejected the case. PP further submitted that final Notification on Eco –Sensitive Zone around Barda Wildlife Sanctuary was published by MOEFCC and PP submitted request for consideration of proposal. Subsequently, the EDS were raised and the ToR proposal was considered by EAC in its meeting held 21-22 December 2017 wherein the Committee recommended the proposal. The Ministry has granted the ToR vide letter No: J-11015/240/2016-IA-II(M) dated 09.01.2018 for the preparation of Environmental Impact Assessment (EIA) Report and Environmental Management Plan (EMP). Subsequently, PP submitted proposal for amendment in ToR letter dated 09.01.2018. The amendment in ToR was considered by the EAC in it meeting held during February 20-21, 2019 wherein committee recommended the amendment in the TOR subject to confirmation from the State Mines and Geology w.r.t. mine lease area and the amendment in ToR not yet granted. PP submitted the EIA/EMP report to Ministry at PARIVESH Portal, accordingly, the proposal is considered in this EAC meeting.
6. PP submitted that the mining plan with progressive mine closure plan has been approved by IBM, Ajmer vide letter no. 682 (23) (450)/2006-Udai dated 11.07.2006 and 21.07. 2006. PP further submitted that baseline data was collected during winter season (December 2017-February 2018).
7. PP submitted that the public hearing was conducted on 12.10.2018 at Survey No 78/P, near Pachhtardi primary school, Village: Pachhtardi, Taluka: Bhanvad, District: DevbhumiDwarka (Erstwhile Jamnagar), Gujarat under the chairmanship of Shri J.R. Dodiya (I.A.S), Collector & District

Magistrate, DevbhumiDwarka and Shri B.G. Sutreja, Regional Officer, Gujarat Pollution Control Board, Jamnagar.

8. PP submitted that the three Schedule –I species i.e. Peafowl, Monitor Lizard and Leopard were observed within the study area. PP further submitted that conservation plan along with the Budget has been prepared and submitted for approval. Furthermore, PP submitted that total water requirement for proposed project will be 22 KLD which will be sourced from proposed bore wells to be constructed within the lease area and the application vide proposal no. 21-4/4141/GJ/MIN/2018 dated 16.07.2018 has been submitted to CGWA for ground water withdrawal.
9. PP submitted that the total project cost is Rs. 5.0 Crores/-, capital cost for EMP is Rs. 0.50 Crore/- and recurring cost for EMP is Rs. 0.10 Crores per annum.
10. 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 The Committee observed that the amendment in ToR is not yet granted. The Committee mentioned that the Ministry will investigate the same and issue the amendment in ToR, if all necessary documents are submitted as sought in February 2019 EAC meeting. However, the Public Hearing carried out for the proposal shall be valid for consideration of appraisal as the same has been carried out as per the provision of EIA-2006, provided there is no significant change in basic proposal in the amended ToR.
 - ii PP shall submit revised action plan to address the concerns raised in public hearing with budgetary provision and timeline.
 - iii 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.
 - iv PP requires to properly address the details of issues arises from shifting of school from MLA and find appropriate alternative land for shifting of school and their EMP along with budgetary provisions and timeline.
 - v PP needs to submit details of measures required for protection of agriculture land in the adjoining lands and probable impact zone area along with budgetary provisions.
 - vi PP needs to carry out the impact analysis on transportation of truck over 90 km road and also submit health impact considering the baseline health data of the people in the regions.
 - vii PP requires to submit details and status of plantation in buffer zone and plans for protecting the same.
 - viii PP needs to submit the details of precautionary measures considered for protection of village (Pachhtar- adjacent to MLA) and associated budgetary provisions.
 - ix PP needs to submit details of environment management cell and proposed performance including monitoring and their educational backgrounds.

2.7 Mining of 2.8 LTPA of Sand, Bajri and Boulders in River Yamuna Lot No. 23/1 by M/s Garhwal Mandal Vikas Nigam Ltd. from mining lease area 30.035 Ha located at Village-Dumet, Tehsil-Vikashnagar, Distt-Dehradun, Uttarakhand [File No. J-11015/125/2013-IA-II (M); Proposal No: IA/UK/MIN/18535/2013; Consultant: Grass Root Research & Creation India (P) Ltd]-EC Regarding

The proposal of M/s Garhwal Mandal Vikas Nigam Ltd. (GMVN) is for production of 2.8LTPA of Sand, Bajri and Boulders in River Yamuna Lot No. 23/1 from mining lease area 30.035 Ha located at Village-Dumet, Tehsil-Vikashnagar, Distt-Dehradun, Uttarakhand. The Project Proponent submitted that mining lease area is coming under Survey of India Topo-Sheet No 53F11 and falls between Latitude: 30° 30' 42.15" N to 30° 30' 40.55" N & Longitude: 77° 50' 22.59" E to 77° 51' 10.91" E.

The project proponent (PP) applied for grant of EC online vide proposal no. IA/UK/MIN/18535/2013 on 04.04.2015 and submitted the EIA Report after conducting the Public Hearing. The proposal was last considered in EAC meeting held during 21-22 June, 2018 wherein the EAC sought requisite information. The PP submitted the information online on 17.10.2019 and the proposal is now placed in EAC meeting held during 27-28 November, 2019. The Committee observed that complete information with respect to initial level of mining lease, replenishment study details, impact arising out of cluster scenario etc. is not addressed properly and consultant is not able to present the same during the meeting which is taken seriously by the Committee. The Committee is of the view that PP should re-submit the information after making necessary corrections and in the next EAC meeting the PP should accompany the expert from IIT-Roorkee, who has conducted the baseline survey and replenishment study. In addition to this impact arising due to cluster situation also needs to be accounted for in the study and propose necessary management plan, if any. The Committee therefore deferred the proposals.

2.8 Mining of 3.3 LTPA of Sand, Bajri and Boulders in River Yamuna Lot No.21/2 by M/s Garhwal Mandal Vikas Nigam Ltd. from mining lease area 34.940 Ha located at Village-Dhakrani, Tehsil-Vikashnagar, Distt-Dehradun, Uttarakhand [File No. J-11015/137/2013-IA-II (M); Proposal No: IA/UK/MIN/18558/2013; Consultant: Grass Root Research & Creation India (P) Ltd.]-EC Regarding

The proposal of M/s Garhwal Mandal Vikas Nigam Ltd. (GMVN) is for production of 3.3LTPA of Sand, Bajri and Boulders in River Yamuna Lot No. 21/2 from mining lease area 34.940 Ha located at the Village-Dhakrani, Tehsil-Vikashnagar, Distt-Dehradun, Uttarakhand. The Project Proponent submitted that mining lease area is coming under Survey of India Topo-Sheet No 53F11 and falls between Latitude: 30° 28' 3.21" N to 30° 27' 16.24" N & Longitude: 77° 42' 59.22" E to 77° 42' 4.73" E.

The Proponent applied for grant of EC online on 02.06.2015 and submitted the EIA Report after conducting the Public Hearing vide letter dated 29.11.2017. The proposal was last considered in EAC meeting held during 21-22 June, 2018 wherein the EAC sought requisite information. The PP submitted the information online on 17.10.2019 and the proposal is now placed in EAC meeting held during 27-28 November, 2019. The Committee observed that complete information with respect to initial level of mining lease, replenishment study details, impact arising out of cluster scenario etc. is not addressed properly and consultant is not able to present the same during the meeting which is taken seriously by the Committee. The Committee is of the view that PP should

re-submit the information after making necessary corrections and in the next EAC meeting the PP should accompany the expert from IIT-Roorkee, who has conducted the baseline survey and replenishment study. In addition to this impact arising due to cluster situation also needs to be accounted for in the study and propose necessary management plan, if any. The Committee therefore deferred the proposals.

2.9: Limestone Mine of M/s UltraTech Cement Limited with Production Capacity of 3.3 Million TPA (ROM), located at Villages-Moharai, Dagla, Asarlai, Tunkara, NimberaKhurd in Tehsil-Jaitaran and Village -Meshia in Tehsil-Raipur, District –Pali, Rajasthan (ML Area 689.76 ha, ML No. 29/99) (F. No. J-11015/281/2011-IA-II(M); Proposal No. IA/RJ/MIN/19184/2013)– Amendment in Environmental Clearance for utilization of waste in Ready Mix Concrete plant for captive purpose for construction of Integrated Cement Plant.

The proposal is of M/s UltraTech Cement Ltd for amendment in Environmental Clearance granted for Limestone Mine (ML Area 689.76 ha, ML No. 29/99) with Production Capacity of 3.3 Million TPA (ROM) for utilization of waste in Ready Mix Concrete plant for captive purpose for construction of Integrated Cement Plant. The mine lease is located Near Villages Moharai, Dagla, Asarlai, Tunkara, Nimbera Khurd in Tehsil-Jaitaran and Village -Meshia in TehsilRaipur, District -Pali (Rajasthan). The mine lease area falls between Latitude of 21° 30' 46" to 21° 31' 20" N & Longitude of 81° 47' 15" to 81° 48' 15" E. Mine lease falls within the Survey of India Toposheet No. 64 G/14. The Project is located in Seismic zone-II.

2. The PP reported that earlier Environment Clearance for Limestone Mine (ML Area 689.76 ha, ML No. 29/99) with Production Capacity of 3.3 Million TPA (ROM) was obtained from MoEF&CC vide letter no J-11015/281/2011-IA. II (M) dated 2nd January, 2014. Amendment in Environment Clearance regarding reduction in ML area from 755.10 ha to 689.76 ha was accorded by MoEF&CC vide their letter dated 24th February, 2016. Consent to Establish has been obtained from SPCB for production capacity 3.3 Million TPA (ML Area 689.76 ha, ML No. 29/99) vide letter no. F (Mines)/ Pali (Jaitaran) /79(1)/2015-2016/2722-2726 dated 06.10.2015. After that, Consent to Operate under Air and Water Act, was obtained for production capacity of 3.3 Million TPA (ML Area 689.76 ha, ML No. 29/99) vide letter no. F (Mines) / Pali (Jaitaran) /85(1)/2016-2017/8702-8706 dated 06.12.2016 which is valid upto 30.11.2021. The mining lease deed was granted in favor of M/s UTCL and Mining Lease deed was executed for 50 years on 17.03.2015. Ground water withdrawal permission was obtained from CGWA vide letter no. 21-4(600)/WR/CGWA/2014-1675 dated 15.10.2014. The same has been renewed vide letter No.21-4(600)/WR/CGWA/2014-531 dated 08.03.2017.
3. M/s UTCL has proposed Integrated Cement Plant (Clinker 2.2 Million TPA, Cement 3.3 Million TPA) along with installation of Captive Power Plant (30 MW) at Tehsil-Jaitaran, District -Pali (Rajasthan), Environmental Clearance of which was obtained vide letter no J-11011/ 569/2011-IA-II-(I) dated 27.02.2015. The limestone requirement for manufacturing of cement will be met from Captive Limestone Mine located at district –Pali Rajasthan. Now, M/s UTCL is planning to start the construction of Integrated Cement Plant for which part of waste generated from Mines will be taken in Ready Mix Concrete plant for captive purpose. Therefore, in the earlier EC, out of total 14.53 Million m3 of waste generation from Captive mine was proposed to be backfilled but now the company proposes to utilize 0.72 Million m3 of waste in the form of Gitti and Bajri for the

construction of Plant and remaining quantity of the waste i.e. 13.81 Million m³ will be backfilled. The quantity of waste utilization will be 2000 TPD hence a crusher of capacity 2000 TPD will be installed at the Plant site. No change is proposed in the production quantity and ML area only potential use of waste is proposed.

4. PP requested to amend the EC for utilization of waste in construction of Integrated Cement Plant in the form of Gitti and Bajri. In view of the above facts, request has been made to grant permission for Amendment in existing EC with the following changes: -

Sl. No.	Reference in EC	Particulars	Amendment Required
1	<i>Sl. No 3, Para 4, line 13 of EC letter dated 24.02.2016</i>	<i>The Para 4, line 13, may be read as Proponent informed that at the end of life of mine 14.53 million m³ waste will be generated, out of which 0.76 million m³ is OB and 13.77 million m³ is waste rejects. The same will be utilized for back filling of mined out area</i>	<i>End of life of mine 14.53 million m³ waste will be generated, out of which 0.72 million m³ will be used in construction of Cement Plant and remaining quantity will be backfilled in the mined out area.</i>
2	<i>B. General Conditions, point vii, line 10</i>	<i>The entire excavated area shall be backfilled and afforested.</i>	<i>Some part of area will be converted into water reservoir and remaining area will be backfilled. Hence, there will be reduction in backfilled area due to utilization of waste</i>

5. The proposal was earlier considered in EAC meeting held during 21-22 June, 2018 wherein the Committee asked the PP to modify the mining plan and take permission from State Government for utilization of waste. In compliance of the suggestion of EAC the PP vide letter dated 12.04.2019 submitted the Letter No. Khaa/Sojat/STP/M. L/29/99/441 dated 28.12.2018 issued by mining officer wherein State Government agreed for utilization of waste, subject to inclusion of the same in the EC letter. PP also submitted the approval letter no 564(4)(3) (1751)/2018-Khakhani-ajm dated 23.08.2018 for modification in the mining plan. The proposal was considered in EAC meeting held during 29-30 May 2019 wherein the Committee deferred the proposal as PP did not submit the copy of modified mining plan. The Committee also suggested that Ministry may take comments of Policy Division. PP submitted information on 7.10.2019 and the matter was examined in the Ministry and it has observed that for utilization of waste/OB Ministry has already issued O.M. No. No. Z-11013/49/2018-IA. II (M) dated 18.06.2018 as per which there is a requirement of EC for handling waste/OB and accordingly the proposal is placed in EAC meeting held during 27-28 November, 2019.

6. Based on the discussion held and document submitted the Committee observed that the modified mining plan is for the period 2018-19 & 2019-20 wherein under reclamation PP has proposed for

the utilization of waste for plant construction. Further the quantity of waste generation in the plan period is mentioned as 408670 m³ and till the end of life is mentioned as 30.5 Million m³ but the PP has proposed to use 720000 m³ of waste for the construction purpose. This shows that waste utilization is extended beyond the modified mining plan period (2018-20).

The Committee observed that amendment sought in the application w.r.t to waste quantity at the end of life is not matching with the mining plan and thus of the view that PP should apply a fresh with correct information as per approved mining plan and details of change in waste quantity, management, waste utilization, land use and total excavation as compared to previous EC. The Committee therefore **returned the proposal in present form.**

Table Agenda

2.10 Finalisation of standard Term of Reference by the Committee for issuance of automatic ToR for non-coal mining project

Member Secretary submitted before the committee that MoEF&CC is exploring the potential to ease the process of Scoping by grant of standard TOR through PARIVESH portal system on auto-generation basis, on acceptance of application by the regulatory authority, in order to facilitate Project proponent to start base line study work at the earliest. However, the regulatory authority (EAC / SEIAA) shall retain the liberty to assess the project details for grant on additional ToR, on case to case basis, within 30 days of acceptance of application. It was with this view that a standard ToR needs to be developed based on the past experiences and generic requirement in agreement with the provision of EIA-2006 notification for stipulating the EIA studies. A draft in this regard has been prepared and approval of EAC is requested.

The committee agreed to the proposal and after basic discussion on the proposal, opined that the draft may be circulated by email to all members for their inputs and feedback. As many members were not present, it was decided that input of all members shall be incorporated for comprehensive formulation of standard ToR. Member secretary shall collate the input received from all Members and after due harmonization, may submit to the committee for further deliberation and approval. It was decided that the standard ToR shall be finalized in the January meeting.

The meeting ended with thanks to the chair.

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

I. Statutory compliance

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

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

II. Air quality monitoring and preservation

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

III. Water quality monitoring and preservation

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

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

- 3) Project Proponent shall regularly monitor and maintain records w.r.t. ground water level and quality in and around the mine lease by establishing a network of existing wells as well as new piezo-meter installations during the mining operation in consultation with Central Ground Water Authority/ State Ground Water Department. The Report on changes in Ground water level and quality shall be submitted on six-monthly basis to the Regional Office of the Ministry, CGWA and State Groundwater Department / State Pollution Control Board.
- 4) The Project Proponent shall undertake regular monitoring of natural water course/ water resources/ springs and perennial nallahs existing/ flowing in and around the mine lease and maintain its records. The project proponent shall undertake regular monitoring of water quality upstream and downstream of water bodies passing within and nearby/ adjacent to the mine lease and maintain its records. Sufficient number of gullies shall be provided at appropriate places within the lease for management of water. PP shall carryout regular monitoring w.r.t. pH and included the same in monitoring plan. The parameters to be monitored shall include their water quality vis-à-vis suitability for usage as per CPCB criteria and flow rate. It shall be ensured that no obstruction and/ or alteration be made to water bodies during mining operations without justification and prior approval of MoEFCC. The monitoring of water courses/ bodies existing in lease area shall be carried out four times in a year viz. pre- monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the record of monitored data may be sent regularly to Ministry of Environment, Forest and Climate Change and its Regional Office, Central Ground Water Authority and Regional Director, Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board. Clearly showing the trend analysis on six-monthly basis.
- 5) Quality of polluted water generated from mining operations which include Chemical Oxygen Demand (COD) in mines run-off; acid mine drainage and metal contamination in runoff shall be monitored along with Total Suspended Solids (TDS), Dissolved Oxygen (DO), pH and Total Suspended Solids (TSS). The monitored data shall be uploaded on the website of the company as well as displayed at the project site in public domain, on a display board, at a suitable location near the main gate of the Company. The circular No. J-20012/1/2006-IA.II (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change may also be referred in this regard.

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

IV. Noise and vibration monitoring and prevention

- 9) The peak particle velocity at 500m distance or within the nearest habitation, whichever is closer shall be monitored periodically as per applicable DGMS guidelines.
- 10) The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day /night hours.
- 11) The Project Proponent shall take measures for control of noise levels below 85 dBA in the work environment. The workers engaged in operations of HEMM, etc. should be provided with ear plugs /muffs. All personnel including laborers working in dusty areas shall be provided with protective respiratory devices along with adequate training, awareness and information on safety and health aspects. The PP shall be held responsible in case it has been found that workers/ personals/ laborers are working without personal protective equipment.

V. Mining plan

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

VI. Land reclamation

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

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

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

VII. Transportation

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

VIII. Green Belt

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

IX. Public hearing and human health issues

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

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

X. Corporate Environment Responsibility (CER)

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

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

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

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: The Committee has also deliberated the various specific recommendations of carrying capacity study report conducted by CSIR-NEERI w.r.t. mining proposal of Iron Ore and/or manganese in the State of Odisha. There are recommendation which needs to be implemented by the State Govt. of Odisha and Project Proponent.

- 1) Project Proponent and Department of Steel & Mines, Govt. of Odisha shall ensure the implementation of recommendations of carrying capacity study report conducted by CSIR-NEERI w.r.t. mining proposal of Iron Ore and/or manganese in the State of Odisha.
- 2) Department of Steel & Mines, Govt. of Odisha should prepare 5 years regional plan for annual iron ore requirement from the state, which in turn shall be met from different mines/zones (e.g. Joda, Koira.) in the state. Accordingly, sustainable annual production (SAP) for each zone/mine may be followed adopting necessary environmental protection measures.
- 3) Project Proponent shall construct the cement concrete road from mine entrance and exit to the main road with proper drainage system and green belt development along the roads and also construction of road with minimum 300 m inside the mine. This should be done within one year for existing mines and new mine should have since beginning. The Department of Steel & Mines, Govt. of Odisha should ensure the compliance and should not issue the Mining Permits, if mine lease holder has not constructed proper cement concrete road as suggested.
- 4) The Committee observed that as per the recommendations of NEERI report the PP needs to do regular vacuum cleaning of all mineral carrying roads aiming at "zero dust re-suspension" within 3 months.

- 5) Project Proponent shall monitor the environmental quality parameters as per EC and CTE/CTO conditions, and implementation of suggested measures for control of road dust and air pollution. Odisha State Pollution Control Board has to ensure the compliance of CTE/CTO. Regional office of the MoEF&CC, Bhubaneswar shall monitor the compliance of the EC conditions. Regional office of the Indian Bureau of Mines (IBM) shall monitor the compliance of mining plan and progressive mine closure plan. Any violation by mine lease holder may invite actions per the provisions of applicable Acts.
- 6) Project Proponent shall ensure the compliance of Suggested Ore Transport Mode (SOTM) with association of the State Government of Odisha. All existing mines should ensure adoption of SOTM within next 5 years. New mines or mines seeking expansion should incorporate provision of SOTM in the beginning itself, and should have system in place within next 5 years.
- 7) The State Govt. of Odisha shall ensure dust free roads in mining areas wherever the road transportation of mineral is involved. The road shoulders shall be paved with fence besides compliance with IRC guidelines. All the roads should have proper drainage system and apart from paving of entire carriage width the remaining right of way should have native plantation (dust capturing species). Further, regular maintenance should also be ensured by the Govt. of Odisha. Progress on development of dust free roads, implementation of SOTM, increased use of existing rail network, development of additional railway network/conveyor belt/ pipelines etc. shall be submitted periodically to Regional office of the MoEF&CC.
- 8) Project Proponent shall develop the parking plazas for trucks with proper basic amenities/ facilities inside the mine. This should be done within one year for existing mines and new mines should have since beginning.
- 9) Department of Steel & Mines shall ensure the construction of NH 215 as minimum 4 lane road with proper drainage system and plantation and subsequent regular maintenance of the road as per IRC guidelines. Construction of other mineral carrying roads with proper width and drainage system along with road side plantation to be carried out. This shall be completed within 2 Years.
- 10) Regular vacuum cleaning of all mineral carrying roads aiming at "Zero Dust Re-suspension" shall be adopted by PWD / NHAI/ Mine Lease Holders within a time Period of 3 months for existing roads..
- 11) In case the total requirement of iron ore exceeds the suggested limit for that year, permission for annual production by an individual mine may be decided depending on approved EC capacity (for total actual dispatch) and actual production rate of individual mine during last year or any other criteria set by the State Govt., i.e. Dept. of Steel & Mines. Department of Steel and Mines in consultation with Indian Bureau of Mines-RO should prepare in

advance mine-wise annual production scenario so that demand for iron ore can be anticipated, and actual production/dispatch does not exceed the suggested annual production.

- 12) R&D studies towards utilization of low-grade iron ore should be conducted through research/academic institutes like IMMT, Bhubaneswar, NML, Jamshedpur, and concerned metallurgical departments in IITs, NITs etc., targeting full utilization of low-grade iron ore (Fe content upto 45% by 2020 and upto 40% by 2025). In fact, life cycle assessment of whole process including environmental considerations should be done for techno-economic and environmental viability. R&D studies on utilization of mine wastewater having high concentration of Fe content for different commercial applications in industries such as cosmetics, pharmaceutical, paint industry should also be explored. Responsibility: IBM, Dept. of Steel & Mines, Individual Mine Lease Holders.
- 13) The mining activity in Joda-Koira sector is expected to continue for another 100 years, therefore, it will be desirable to develop proper rail network in the region. Rail transport shall not only be pollution free mode but also will be much economical option for iron ore transport. The rail network and/or conveyor belt system upto public railway siding needs to be created. The total length of the conveyor belt system/ rail network to be developed from mines to nearest railway sidings by 11 mines in Joda region is estimated to be about 64 km. Similarly, in Koira region, total length of rail network/ conveyor system for 8 mines (under SOTM 1 & 2) is estimated to be around 95 km. Further, it is suggested to develop a rail network connecting Banspani (Joda region) and Roxy railway sidings in Koira region. Responsibility: Dept. of Steel & Mines, Govt. of Odisha and Concerned Mines along with Indian Railways. Time Period: Maximum 7 years (by 2025). The Department of Steel & Mines, Govt. of Odisha should follow-up with the concerned Departments and railways so that proposed proper rail network is in place by 2025.
- 14) State Govt. of Odisha shall make all efforts to ensure exhausting all the iron & manganese ore resources in the existing working mines and from disturbed mining leases/zones in Joda and Koira region. The criteria suggested shall be applicable while suggesting appropriate lease area and sustainable mining rate. Responsibility: Dept. of Steel & Mines, Govt. of Odisha.
- 15) **Mining Operations/Process Related:** Project Proponent shall implement the following mitigation measures: (i) Appropriate mining process and machinery (viz. right capacity, fuel efficient) should be selected to carry out various mining operations that generate minimal dust/air pollution, noise, wastewater and solid waste. e.g. drills should either be operated with dust extractors or equipped with water injection system. (ii) After commencement of mining operation, a study should be conducted to assess and quantify emission load generation (in terms of air pollution, noise, waste water and solid waste) from each of the mining activity (including transportation) on annual basis.

Efforts should be made to further eliminate/ minimize generation of air pollution/dust, noise, wastewater, solid waste generation in successive years through use of better technology. This shall be ensured by the respective mine lease holders. (iii) Various machineries/equipment selected (viz. dumpers, excavators, crushers, screen plants etc.) and transport means should have optimum fuel/power consumption, and their fuel/power consumption should be recorded on monthly basis. Further, inspection and maintenance of all the machineries/ equipment/ transport vehicles should be followed as per manufacturer's instructions/ recommended time schedule and record should be maintained by the respective mine lease holders. (iv) Digital processing of the entire lease area using remote sensing technique should be carried out regularly once in 3 years for monitoring land use pattern and mining activity taken place. Further, the extent of pit area excavated should also be demarcated based on remote sensing analysis. This should be done by ORSAC (Odisha Space Applications Centre, Bhubaneswar) or an agency of national repute or if done by a private agency, the report shall be vetted/ authenticated by ORSAC, Bhubaneswar. Expenses towards the same shall be borne by the respective mine lease holders. Responsibility: Individual Mine Lease Holders.

- 16) **Air Environment Related:** Project Proponent shall implement the following mitigation measures: (i) Fugitive dust emissions from all the sources should be controlled regularly on daily basis. Water spraying arrangement on haul roads, loading and unloading and at other transfer points should be provided and properly maintained. Further, it will be desirable to use water fogging system to minimize water consumption. It should be ensured that the ambient air quality parameters conform to the norms prescribed by the CPCB in this regard. (ii) The core zone of mining activity should be monitored on daily basis. Minimum four ambient air quality monitoring stations should be established in the core zone for SPM, PM₁₀, PM_{2.5}, SO₂, NO_x and CO monitoring. Location of air quality monitoring stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board (based on Emission Load Assessment Study). The number of monitoring locations may be more for larger capacity mines and working in larger area. Out of four stations, one should be online monitoring station in the mines having more than 3 MTPA EC Capacity. (iii) Monitoring in buffer zone should be carried out by SPCB or through NABET accredited agency. In addition, air quality parameters (SPM, PM₁₀, PM_{2.5}, SO₂, NO_x and CO) shall be regularly monitored at locations of nearest human habitation including schools and other public amenities located nearest to source of the dust generation as applicable. (iv) Emissions from vehicles as well as heavy machinery should be kept under control and regularly monitored. Measures should be taken for regular maintenance of vehicles used in mining operations and in transportation of mineral. (v) The vehicles shall be covered with a tarpaulin and should not be overloaded. Further, possibility of closed container trucks should be explored for direct to destination movement of iron ore. Air quality monitoring at one location should also be carried out along the transport

route within the mine (periodically, near truck entry and exit gate),
Responsibility: Individual Mine Lease Holders and SPCB.

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

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

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

- 19) **Land/ Soil/ Overburden Related:** Project Proponent shall implement the following mitigation measures: (i) The top soil should temporarily be stored at earmarked site(s) only and it should not be kept unutilized for long (not more than 3 years or as per provisions mentioned in the mine plan/ scheme). The topsoil should be used for land reclamation and plantation appropriately. (ii) Fodder plots should be developed in the non-mineralised area in lieu of use of grazing land, if any. (iii) Over burden/ low grade ore should be stacked at earmarked dump site (s) only and should not be kept active for long period. The dump height should be decided on case to case basis, depending on the size of mine and quantity of waste material generated. However, slope stability study should be conducted for larger heights, as per IBM approved mine plan and DGMS guidelines. The OB dump should be scientifically vegetated with suitable native species to prevent erosion and surface run off. In critical areas, use of geo textiles should be undertaken for stabilization of the dump. Monitoring and management of rehabilitated areas should continue until the vegetation becomes 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.

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

be recorded and documented by respective forest divisions, and State Forest Department should present mine-wise annual status, along with expenditure details. Responsibility: Individual Mine Lease Holders and State Forest & Wildlife Department.

- 21) **Socio-Economic Related:** Project Proponent shall implement the following mitigation measures: (i) Public interaction should be done on regular basis and social welfare activities should be done to meet the requirements of the local communities. Further, basic amenities and infrastructure facilities like education, medical, roads, safe drinking water, sanitation, employment, skill development, training institute etc. should be developed to alleviate the quality of life of the people of the region. (ii) Land outtees and land losers/affected people, if any, should be compensated and rehabilitated as per the national/state policy on Resettlement and Rehabilitation. (iii) The socio-economic development in the region should be focused and aligned with the guidelines/initiatives of Govt. of India/ NITI Aayog around prosperity, equality, justice, cleanliness, transparency, employment, respect to women, hope etc. This can be achieved by providing adequate and quality facilities for education, medical and developing skills in the people of the region. District administration in association with mine lease holders should plan for "Samagra Vikas" of these blocks well as other blocks of the district. While planning for different schemes in the region, the activities should be prioritized as per Pradhan Mantri Khanij Kshetra Kalyan Yojna (PMKKKY), notified by Ministry of Mines, Govt. of India, vide letter no. 16/7/2017-M.VI (Part), dated September 16, 2015. Responsibility: District Administration and Individual Mine Lease Holders.
- 22) **Road Transport Related:** Project Proponent shall implement the following mitigation measures: (i) All the mine lease holders should follow the suggested ore transport mode (SOTM), based on its EC capacity within next 5 years. (ii) The mine lease holders should ensure construction of cement road of appropriate width from and to the entry and exit gate of the mine. Further, maintenance of all the roads should be carried out as per the requirement to ensure dust free road transport. (iii) Transportation of ore should be done by covering the trucks with tarpaulin or other suitable mechanism so that no spillage of ore/dust takes place. Further, air quality in terms of dust, PM₁₀ should be monitored near the roads towards entry & exit gate on regular basis, and be maintained within the acceptable limits. Responsibility: Individual Mine Lease Holders and Dept. of Steel & Mines.
- 23) **Occupational Health Related:** Project Proponent shall implement the following mitigation measures: (i) Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects periodically. (ii) Occupational health surveillance program for all the employees/workers (including casual workers) should be undertaken periodically (on annual basis) to observe any changes due to exposure to dust, and corrective measures should be taken immediately, if needed. (iii) Occupational health and safety

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

Annexure-III

Standard EC conditions for Mineral Beneficiation Plants:

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