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

***

SUMMARY RECORD OF 7th MEETING OF THE COMMITTEE OF THE EXPERT APPRAISAL COMMITTEE FOR ENVIRONMENTAL APPRAISAL OF NON-COAL MINING PROJECTS CONSTITUTED UNDER THE EIA NOTIFICATION, 2006.

The 7th 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 **July 30-31, 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 6th EAC Meeting held during June 27-28, 2019:

The Minutes of the **6th** Meeting of EAC held during **June 27-28, 2019**, were circulated to the members of the Committee. The Committee made brief deliberations on the proposals placed in the last meeting and confirm the same.

DAY 1: July 30, 2019 (Tuesday)

2.1. Proposed Limestone Mine of M/s. ACC LTD for production of Limestone with production capacity of 3.9 Million TPA and waste/ topsoil 225000 CuM per annum (Maximum) with installation of 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 [Proposal No: IA/CG/MIN/109258/2018; File No: J-11015/45/2018-IA-II (M); Consultant: J. M. EnviroNet Pvt. Ltd.]-Consideration of EC.

The EC proposal of M/s. ACC Limited is for production of limestone with capacity of 3.9 Million TPA and waste and topsoil of 225000 CuM per annum (Maximum) along with installation of mobile crusher(s) 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 $21^0$45'30.50" N to $21^0$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.

Project proponent (PP) submitted that the proposal for Terms of Reference (ToRs) was considered in the EAC meeting held during June 21-22, 2018 wherein the Committee recommended the proposal for grant of ToR. The Ministry granted ToR vide letter no. J-11015/45/2018-IA-II (M) dated 17 July 2018for preparation of Environmental Impact Assessment (EIA) Report and Environmental Management Plan (EMP). PP submitted the EIA/EMP Report to Ministry for seeking environmental clearance and the proposal has been considered in this EAC meeting.

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 Bidiyadih, Bhurkunda, GodadihandBohardih, 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 (clinckerization) of 2.72 MTPA. So, the Limestone requirement for the plant will be obtained from this proposed captive Limestone Mine. 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/1371dated 04.02.2019. PP further submitted that the **public hearing was conducted on 07.06.2019** and chaired by Mr. B.S. Uike, ADM Bilaspur, at Play ground near village Bohardih, Adarsh Aanganbadi house no. 1 Gram panchayat, Bohardih, Tehsil Masturi, District Bilaspur, Chhattisgarh. PP submitted that the baseline data was collected during **summer season (March to May, 2018)**.

The proposal was placed in before the EAC and PP made presented about the project, findings of their study and EMP. Based on the deliberation by EAC and presentation made by PP, 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.

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.

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.

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.

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.

vi. PP submitted 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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

xvi. PP submitted that the mined limestone (approximately 10000-15000 tonnes 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.

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.

xviii. In R & R plan, PP mentioned that the company shall facilitate employability training under its skill development initiatives (ACC DISHA-hunarShala) 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.

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.

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.

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

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.

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.).

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.

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.

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

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

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2.2. Mining of beach sand minerals of M/s. Indian Rare Earths Limited for mining of beach sand minerals with enhancement in production capacity from 2, 37,150 TPA to 7, 50,000 TPA in NK Block IV EE Ilmenite mine with the total mine lease area of 180 ha located at Alappad, Panmana and Ayanivelikulangara villages in Karunagapally Taluk, Kollam, Kerala (New File No: J-11015/227/2015-IA-II (M); New Proposal No: IA/KL/MIN/25461/2014;IA/KL/MIN/109526/2008; Old File No:11-36/2008-IA-III; Old proposal No: IA/KL/MIN/85725/2008; Consultant: CSIR-NIIST)-Consideration of EC.

The environmental clearance (EC) proposal of M/s Indian Rare Earth Limited (IREL) is for mining of beach sand minerals with enhancement in production capacity from 2,37,150 TPA to 7,50,000TPA in NK Block IV EE Ilmenite mine with the total mine lease area of 180 ha. The mine lease area is located at village(s)-Alappad, Panmana and Ayanivelikulangara, Tehsil-Karunagappally, District-Kollam, Kerala. The latitudes and longitudes of the mine lease area lies between 09°00'55.97" to 09°02'3.80" N, 76° 31'17.19" to 76° 30'29.90"E.

The proposal was placed in 6th EAC meeting held during June 27-28, 2019 wherein the Committee returned the proposal in present form and asked to submit certain requisite information, in addition to following:

(i). PP informed the Committee that the company name has been changed from Indian Rare Earth Limited to IREL (India) Limited on 15.03.2019, but, there is no change in ownership of the company. Accordingly, the Committee suggested that the PP may submit fresh application for grant of EC in the name of IREL (India) Limited. The Committee also advised the Ministry to examine the case appropriately in respect of required documents for amendment in existing EC.

(ii). The specific condition (iii) of EC dated 01.03.2011 mentioned that "50 meter all along the canal shall be maintained as buffer and shall not be disturb at all maintained". The compliance report mentioned that the "PP is carrying out mining very close to the canal and has not maintain 50meter buffer as per EC. However, PP informed that Inland Waterways Authority of India has conveyed No Objection to dredge the canal. PP should get the condition amended". The Committee mentioned that there is non-compliance reported by RO MoEF&CC and the PP has put their contrary view highlighting the ambiguity in understanding of dredging and mining. Accordingly, the Committee advised the Ministry to verify the factual situation and take appropriate action accordingly.

PP made submission on their R&R plan for the affected households and families situated in the proposed mine lease area. The details of model adopted for R&R plan was deliberated with special emphasis on the rehabilitation model, the benefit sharing model till the life of mine. The committee observed that the proposed model, which is also in implementation is very conducive and social friendly without much compromise with the livelihood and living condition of the affected populace. To explore the replication potential of the adopted model in other parts of Country, the committee felt to make a field visit to the site to have interaction with the affected family and the observe the limitation and benefits of the model.

PP informed that there is only change in name of the company and the management remains the same. However, as per suggestion of earlier meeting of EAC, necessary application for change in name of the company in existing EC and ToR has been made and the same is under process at the MoEF&CC end. Therefore, PP submitted that EAC may consider the proposal for grant of EC for expansion, subjected to the change in name in the EC and ToR letter by ministry.

Based on the PP's submission, the proposal was placed in this EAC meeting and the PP presented response to the questions raised during 6th EAC meeting. The Committee deliberated on the presentation and

submission made by the PP and **deferred the proposal** for further consideration after the following is submitted by PP:

(i). The Committee observed that the PP submitted the fresh EC application in the old name, such as Indian Rare Earth Limited. PP responded that there is no option for change in the name from Indian Rare Earth Limited to IREL (India) Limited. Thus, the Committee suggested the Ministry to look into matter. However, the Committee considered the application in present form for consideration.

(ii). PP should also submit application for amendment in the existing EC specific conditions (iii), to overcome the ambiguity arising due to recovery of minerals from waste material of dredging material carried out by IWAI, and in compliance to the observation reported by RO MoEF&CC in their compliance report.

Additionally, the committee recommended a field visit to the project site by team comprising of following EAC members and representatives from Ministry, with due information to the PP, during mutually consented period of visit, preferably in September 2019, and submit a report to Chairman on the potential of replication of the R&R model in other projects.

1. Dr. A K Malhotra
2. Prof. S. Ramakrishna Rao
3. Shri Santosh Gupta
4. Dr. Gurdeep Singh
5. Member Secretary or representatives from Ministry

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

The proposal of M/s ESSAR Steel India Limited is for Ghorabhurani – Sagasahi Iron ore block with proposed production of 7.16 Million TPA of Iron ore (ROM) along with Crushing & Screening Plant and Beneficiation Plant with capacity of 6.7 Million TPA Capacity in mine lease area of 139.165ha. The mine lease area is located at Ghorabhurani, Sagasahi and Kalmang villages, Koira Tehsil of Sundargarh district of Odisha. The lease area is bounded by Latitude 21° 56’ 08.83896” to 21° 57’ 09.61956” North and Longitude 85° 17’

02.54580”– 85° 17’ 57.53148” East and falls in Survey in India Topo Sheet No.73 G/1 & 73 G/5.

The EC proposal was earlier appraised in the EAC 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. In addition, during deliberation, the Committee noted that there were various discrepancies in the Report/Presentation. Thus, the Committee deferred the Proposal and asked to submit requisite information along with revised EIA/EMP report by rectifying the errors and suggested that a letter be written to QCI-NABET for necessary action on consultant.

PP submitted the revised EIA/EMP Report and accordingly the proposal was placed in the EAC meeting held during February 20-21, 2019. The Committee noted that the PP/Consultant has not removed all the discrepancies as raised by the EAC in its meeting held during February 26-27, 2018. Furthermore, the Committee noted that PP has submitted Form II wherein it is mentioned that there is no court case with this project. However, on perusal of record it was observed that there was one court case filed in Hon’ble NGT vide OA No. 34/2018/EZ against the public hearing of the instant proposal. Based on the presentation made and the discussion held, the Committee returned the proposal in present form with observation that the proposal may be considered only after submission of revised EIA/EMP report along with requisite information for further consideration.

PP has re-submitted the EIA/EMP report and accordingly the proposal is placed in this EAC meeting for consideration. Based on the presentation made by PP and the discussion held, the Committee observed the following:

(a) PP submitted that there are **three court cases** namely

(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 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. **The court case is not yet disposed.**

(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 further submitted that the next date of hearing is 26.08.2019 and the matter is not yet disposed off**.

The Committee deliberated the issues and observed that the pending litigation in Hon'ble High Court of Odisha is related to mine lease, and therefore it is not appropriate to appraise the project at this stage. The committee **Deferred the proposal** for want of following:

(i). PP submitted that Rs.25 crores/- has been allotted for CER. PP needs to submit a year wise plans for CER amount for total of 5 years.
(ii). PP needs to submit quantitative plans for the CO_2 reduction in transportation and excavation of the mineral.
(iii). PP requires to demonstrate through a conceptual plan for quantification of dust control as per NEERI report.
(iv). PP needs to submit approved specific conservation plans for Schedule-I species from concerned PCCF.
(v). PP requires to submit water budget for project including water harvesting, conservation and utilization within project and nearby villages.
(vi). PP requires to submit the details of sources taken for emission factor analysis.
(vii). PP should submit the Court Order for consideration of the proposal.

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2.4 Amendment in Environmental Clearance w.r.t. mention the crusher (800 TPH) & ML no. (08/99) in EC granted for limestone production capacity at 2.0 Million TPA (ML Area – 448.5 ha, ML No. 08/99) located near Village Shyamgarh-Neemgarh, Tehsil Masuda District Ajmer (Rajasthan) by M/s Shree Cement Ltd [Proposal No.: IA/RJ/MIN/106777/2019; File No. J-11011/195/2009-IA. II (I); presented by PP]

The Proposal of M/s Shree Cement Ltd is for inclusion of crusher (800 TPH) & ML no. (08/99) in the Environmental Clearance granted vide letter no J-11011/195/2009-IA. II (I) dated 4.11.2010. The PP thus applied under Form-4 online on 30.5.2019 for amendment in Environmental Clearance and the proposal is placed in EAC meeting held on 30-31 July, 2019.

The PP submitted that Rajasthan State Pollution Control Board vide its order no. CD& SCMG (Gen-03)/RSPCB/1235-1271 dated 24.01.2017

directed the PP that crusher capacity along with ML no.(08/99) of mine should be included in the EC letter and due to this PP applied for the amendment in EC. The PP submitted that while seeking the above previous EC, the details of crusher were mentioned in the Form-I, EIA/EMP Report & Approved Modified Mining plan. In addition to this PP has submitted the past production details, Annexure-III as per agenda item and submitted an undertaking by way of affidavit in pursuant to Ministry's O.M. dated 30.05.2018 for compliance of statutory conditions and Common Cause Judgment dated 02.08.2017.

Based on the discussion held on the information and document submitted by PP, the Committee **recommended** the proposal for inclusion of crusher (800 TPH) and ML no.(08/99) of mine in the EC granted vide letter no. J-11011/195/2009-IA. II (I) dated 4.11.2010 subject to examination of proposal in light of Common Cause Judgment dated 2.08.2017 and S.O. 804(E) dated 14.03.2017. The Committee also suggested for inclusion of additional conditions in the EC letter in pursuant to Ministry's O.M. dated 30.05.2018 and Standard EC conditions published by the Ministry.

2.5 Quarrying River Sand in u/s and d/s of Kattalai Bed Regulator in Cauvery River with production capacity of 15,01,247 m3 over an extent of 196.25 ha by M/s Public Works Department, State Government of Tamilnadu, located at Village Sriramasamuthiram /Silaipillayaputtur, Tehsil- Thottiyam, District- Trichy, Tamil Nadu [Proposal No IA/TN/MIN/20350/2013; File No. J-11015/343/2013-IA. II (M)]-EC Amendment Reg.

The proposal of M/s Public Works Department, State Government of Tamil Nadu is for extension of validity of the EC granted vide Lr No.J-11015/343/2013- IA.II(M) dated 14th May, 2015 to M/s Public Works Department, State Government of Tamil Nadu for Quarrying River sand in u/s and d/s of Kattalai Bed Regulator in Cauvery River with production capacity of 15,01,247 m3 over and extent of 196.25 ha located at Village Sriramasamuthiram /Silaipillayaputtur, Tehsil- Thottiyam, District- Trichy, Tamil Nadu.

The PP submitted that no forest land is involved. There is no wild life sanctuary within 10Km. radius from the project site area. The quarry is located around 200 km away from Bay of Bengal. There is no litigation pending against this project. Mining is by open cast semi mechanized, shallow mining on sand shoals above the River bed. There is no permanent or temporary change in land use.

The PP submitted that in the EC granted vide Lr. No. J-11015/343/2013-IA. II(M) dated 14th May, 2015 in para 3 it has mentioned that life of mine is 3 years. The PP has mentioned that quantity of sand

could not get exhausted due to flow in the river and storage of water in the newly constructed barrage. Due to this reason the project was not completed in 3 years. The PP has now requested for extension of validity for 3 more years. Accordingly, the proposal was placed in EAC Meeting held during January 22-23, 2019 wherein the Committee deferred the proposal as PP did not attend the meeting. The Proposal is now again placed in EAC Meeting held on 26.03.2019 wherein the Member Secretary informed the Committee about the provision of validity of EC as per notification No S.O. 2944(E) dated 14.06.2016. Accordingly, the Committee deferred the proposal with recommendation for reconsideration provided PP is able to submit any supporting document to Ministry supporting their claim that PP has approached the Ministry for extension of validity of EC before the expiry of the same. The Committee also asked the Ministry to examine the matter first and if found appropriate then place in EAC. In case, Ministry did not find it appropriate then PP has to apply a fresh.

The PP on 11.06.2019 replied to the query raised by EAC and proposal is now placed in EAC meeting held during 30-31 July, 2019. The PP did not attend the meeting and Committee therefore **deferred** the proposal and is of the view that proposal may be placed in next EAC on receipt of request from PP.

2.6 Quarrying River Sand in u/s and d/s of Kattalai Bed Regulator in Cauvery River with production capacity of 15,18,958 m3 over an extent of 256.06 ha by M/s Public Works Department, State Government of Tamilnadu, located at Village Mayanur Tehsil-Krishnarayapuram, District-Karur, Tamil Nadu-[Proposal No: IA/TN/MIN/23694/2013; File No. J-11015/64/2014-IA-II (M)]-EC Amendment

The proposal of M/s Public Works Department, State Government of Tamil Nadu is for extension of validity of the EC granted vides Lr No. J-11015/64/2014-IAII(M) dated 14th May, 2015 to M/s Public Works Department, State Government of Tamil Nadu for Quarrying River sand in u/s and d/s of Kattalai Bed Regulator in Cauvery River with production capacity of 15,18,958 m3 over and extent of 256.06 ha located at Village Mayanur Tehsil – Krishnarayapuram, District- Karur, Tamil Nadu

The PP submitted that in the EC granted vide Lr. No. J-11015/64/2014-IAII(M) dated 14th May, 2015 in para 3 it is mentioned that the life of mine is 3 years. The PP has mentioned that quantity of sand could not get exhausted due to flow in the river and storage of water in the newly constructed barrage. Due to this reason the project was not completed in 3 years. The PP has now requested for extension of validity for 3 more years. Accordingly, the proposal was placed in EAC Meeting held during January 22-23, 2019 wherein the Committee deferred the proposal

as PP did not attend the meeting. The Proposal is now again placed in EAC Meeting held on 26.03.2019 wherein the Member Secretary informed the Committee about the provision of validity of EC as per notification No S.O. 2944(E) dated 14.06.2016 wherein the Committee deferred the proposal the proposal with a recommendation for reconsideration provided PP is able to submit any supporting document to Ministry supporting their claim that PP has approached the Ministry for extension of validity of EC before the expiry of the same. The Committee also asked the Ministry to examine the matter first and if appropriate then place in EAC. In case, Ministry did not find it appropriate then PP has to apply a fresh.

The PP on 11.06.2019 replied to the query raised by EAC and proposal is now placed in EAC meeting held during 30-31 July, 2019. The PP did not attend the meeting and Committee therefore **deferred** the proposal and is of the view that proposal may be placed in next EAC on receipt of request from PP.

2.7. Bhangaon Iron Ore Block of M/s South West Mining Limited (SWML) for production of 2.0 MTPA of Iron Ore in the mine lease area of 111 ha located at village Bhangaon, Saranda Forest Division, West Singhbhum District, Jharkhand [File No: J-11015/35/2019-IA-II(M); Proposal No: IA/JH/MIN/95332/2019; Consultant: Crystal Consultants]- Consideration of TOR.

The proposal of Bhangaon Iron Ore Block of M/s South West Mining Limited (SWML) for production of 2.0 MTPA of IronOre in the mine lease area of 111 ha located at village Bhangaon, Saranda Forest Division, West Singhbhum, Jharkhand. The Latitudes and Longitudes of the project area are 22^0 01' 37.20720" to 22^0 02' 38.28422" N and 85^0 14' 22.14298" to 83^0 15' 21.02400" E.

Project Proponent (PP) submitted that Letter of Intent (LOI) for an area of 111 ha was granted to M/s. South West Mining Limited by Directorate of Mines, Department of Mines and Geology, Government of Jharkhand vide letter no. Kh.Ni.(Lauh)-22/2017 dated 28.08.2018. PP further submitted that the total lease area is forest land and applications for forest clearance has been submitted vide application no.FP/JH/MIN/38831/2019 dated 07.02.2019.

DSS Report revealed that as per the Management Plan for Sustainable Mining in Saranda & Chaibasa forest division in Singhbhum District, Jharkhand, the instant mine is located in Forest Compartment No. KP-27 (Conservation Area/No Mining Zone), KP-28 (Conservation Area/No

Mining Zone), KP-29 (Mining Zone-I) and KP-30 (Mining Zone-II), respectively. PP submitted a letter No. 1518 dated 19.06.2019 from State Forest Department which supported the DSS report. DSS report further mentioned that the mine lease area is located in Elephant Movement Corridor as suggested by ICFRE during its study on Saranda region. In addition, the mine boundary coincides with another lease i.e. Karampada iron ore mine of M/s. Saha Brothers (W) project boundary.

The Committee suggested that the PP may revise the mine lease area (MLA) so that the MLA should not fall within the conservation area/no mining zone with necessary supporting document from competent authority that the proposed and considered mining area does not fall under conservation area/no mining zone.

Furthermore, the Form- I is wrongly filled by submitting the application in the name of consultant. Therefore, the PP requested the **Committee to allow for withdrawal of the current proposal, so that a fresh application, devoid of any discrepancy may be submitted**. Thus, the Committee **returned the proposal in present form**.

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2.8. Expansion in Production Capacity from 5.50 million TPA ROM (Limestone - 5.00 million TPA & Screen Reject – 0.50 million TPA) to 9.00 million TPA ROM (Limestone - 8.10 million TPA & Screen Reject - 0.90 million TPA) and Maximum Soil/Top soil - 0.91 million TPA, OB - 0.40 million TPA (Maximum Total Excavation 10.31 million TPA) along with existing crusher and Wobbler with capacity of 1200 TPH & 300 TPH and new installation of additional crusher and Wobbler with capacity of 1200 TPH & 300 TPH & Limestone recovery system (Washery) plant 450 TPH x 2=900 TPH by M/s. Emami Cement Ltd in the mine lease area of 395.05 ha located at Villages- Kukurdih & Risda, Tehsil–Baloda Bazar, District–Baloda Bazar-Bhatapara, Chhattisgarh [File No: J-11015/135/2015-IA.II (M); IA/CG/MIN/104018/2019; Consultant: J. M. EnviroNet Pvt. Ltd.]- Consideration of TOR

The proposal of M/s. Emami Cement Ltd for expansion in production capacity from 5.50 million TPA ROM (Limestone - 5.00 million TPA & Screen Reject – 0.50 million TPA) to 9.00 million TPA ROM (Limestone - 8.10 million TPA & Screen Reject - 0.90 million TPA) and Maximum Soil/Top soil - 0.91 million TPA, OB - 0.40 million TPA (Maximum Total Excavation 10.31 million TPA) along with existing crusher and Wobbler with capacity of 1200 TPH & 300 TPH. The proposal also includes new installation of additional crusher and Wobbler with capacity of 1200 TPH & 300 TPH and the Limestone recovery system (Washery) plant with the capacity of 450 TPH x 2=900

TPH. The total mine lease area is 395.05 ha located at Villages- Kukurdih & Risda, Tehsil–BalodaBazar, District–Baloda Bazar-Bhatapara, Chhattisgarh.

PP submitted that out of total mine lease area (395.05 ha), 35.401 ha is Government land, 359.649 ha is Private land and there is no forest land in the MLA. The lease area is mostly a flat terrain with gentle slope towards east. The elevation ranges from 247 m to 258 m above MSL. Further, PP submitted that the mining lease was granted to M/s. Emami Cement Ltd. by Mineral Resources Department, Government of Chhattisgarh vide letter no. F 2-3/2007/12 dated 09.09.2008 for the period of 30 years and it was executed on 08.09.2009 for the period of 30 years which is valid up to 07.09.2039. PP further submitted that, the mining lease period was extended from 08.09.2039 to 7.9.2059 as per the MMDR Amendment Act, 2015 and the lease deed was executed on 11.01.2017.

PP submitted that the Ministry has accorded EC to M/s. Emami Cement Ltd vide letter no J-11011/372/2007-IA II(I) dated 31 October 2011 under EIA Notification, 2006 for Cement Plant (2.5 MTPA), Captive Power Plant (40 MW) at Risda and Dhandhani village along with Limestone mine covering an area of 395.05 ha for limestone mining to produce 3.17 MTPA limestone at Risda and Kukurdih village. Further, the Ministry has granted EC for enhancement of production of limestone from 3.17 MTPA to 5.5 MTPA vide letter no: J-11015/135/2015-IA.II(M) dated 6April 2018. PP submitted that the mine production was started in the year of 2016. PP submitted the past production details from the Office Collector (Mineral Branch), District–Baloda Bazar-Bhatapara, Chhattisgarh vide letter no. 844/Khali2/Kh.P./2017 dated 01.09.2017 from the year of 2016-2017 and the month of April 2017 to July 2017. Further, PP submitted the past production details for the financial year of 2017-18 and 2018-19 from the Office Collector (Mineral Branch), District–Baloda Bazar-Bhatapara, Chhattisgarh vide letter no. 368/Teen-6/ML No./2019 dated 12.06.2019. PP has not enhanced the production capacity after grant of EC. PP submitted the affidavit dated 09.05.2019 as per Ministry's O.M No 3-50/2017 -IA. II(M) dated 30.05.2018 and mentioned that the company will 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 submitted that it is interlinked project and the M/s. Emami Cement Ltd. is proposing Expansion of Integrated Cement Plant - Clinker (3.2 to 5.5 MTPA), Cement (3.0 MTPA to 5.0 MTPA), CPP (30 to45 MW) and WHRB (15 to 27 MW) along with proposed Standby Boiler (100 TPH) and D.G. Set (2180 KW) at Villages: Risda & Dhandhani, Tehsil: Balodabazar, District: Balodabazar-Bhatapara (Chhattisgarh). PP informed that to meet the

limestone requirement of the integrated cement plant, the M/s. Emami Cement Ltd. has submitted this expansion proposal. Moreover, PP submitted that the mined out limestone will be used for captive purpose at proposed expansion of Integrated Cement Plant, so, there will be no other uses for the limestone from this mine.

PP submitted that the mining will be carried out by fully mechanized opencast method adopting a system of benches. The lease area has been divided into two blocks (North & South). Bench height is being maintained at 10 m. Drilling is carried out by crawler mounted DTH/Top hammer Drill machine. The holes are blasted in a multiple row using MS delay detonators, cord-relays and non-electric detonators (NONEL). Blasted limestone is being handled and loaded by excavators into dumpers and ROM will be crushed to -80mm in a semi mobile crushing plant and transported to the cement plant of the company by covered conveyor belt. Mining activities such as drilling, blasting, loading, transportation & crushing is being/will be conducted to ensure maximum mineral conservation and minimum environmental degradation. PP further submitted that the same practices will be continued in the future also. At conceptual stage, out of total 283.46 ha excavated area, 99.12 ha area will be backfilled & remaining 184.34 ha area will be converted into water reservoir. Greenbelt will be developed along the 7.5 m wide lease periphery on 11.5 ha and plantation will be doneon 165.13 ha (99.12 ha area on backfilled, unworkedarea 50.53 and 15.48 ha area on waste dump).

PP further submitted that the total water requirement for this expansion project will be 1840 KLD which will be sourced from ground water and already developed mine sump. Total power requirement for this expansion project will be 6.11 MW which will be sourced from the Captive Power Plant & CSEB Grid. PP further submitted that the total man power employment after the proposed expansion will be 134 persons.

PP submitted that there is no National Park, Wildlife Sanctuary, Biosphere Reserve, Wildlife Corridors, or Tiger/Elephant Reserves within study area. PP further submitted that the reserve forest such as Dhabadih RF (~ 0.5 km in SSW direction), Sonbarsa & Latwa RF (~ 4.5 Km in NE direction) and Mohtara RF (~ 7.5 Km in NE direction) are present within 10 km radius of the study area. Furthermore, water bodies such as Kukurdih Talav (Adjacent to Mine site in West), Mahanadi Canal (~ 2.0 km in NW), Khosri Nala (~ 3.5 km in South), Banjari Nala (~ 8.5 km in NW) and Jamuniya River (~ 9.0 km in NNW) are present within 10 km radius of the study area.

PP submitted that the Capital Cost of the Project is Rs. 100.65 Crore, the capital cost for Environment Protection is Rs. 10.6 Crore with recurring Cost of Rs. 1.0 Crore per annum.

PP made a presentation on the project, their proposed project activities arising out of expansion and other associated information before the EAC. Based on the presentation made by PP and the discussion held, the Committee **recommended** the proposal for prescribing the standard **TOR as per annexure-I and II of the MoM** along with following additional term of reference.

(i). The details of beneficiation plant such as wet and dry plants and their comparative study in the EIA report. Cost benefit analysis of the comparative options shall also be included.

(ii). Perform the cumulative effect of mine lease area and cement plant in the EIA studies and accordingly prepare the EMP. The references for the emission factor considered should be clearly mentioned in the EIA report.

(iii). Provide the water requirement for Limestone recovery system (Washery) plant. Submit the quantity of surface or ground water to be used for this project. The complete water balance cycle need to be submitted. In addition to this PP should submit a detailed plan for rain water harvesting measures to be taken. The PP should submit the year wise target for reduction in consumption of the ground/surface water by developing alternative source of water through rain water harvesting measures. The capital and recurring expenditure to be incurred needs to be submitted

(iv). Provide in the EIA Report details of all the statutory clearances, permissions, No objection certificates, consents etc. required for this project under various Acts, Rules and regulations and their status or estimated timeline after grant of EC.

(v). Submit the revenue plan for mining lease, revenue plan should be superimposed on the satellite imaginary clearly demarcate the Govt. land, private land, agricultural land etc.

(vi). Submit the real-time aerial footage & video of the mining lease area and of the transportation route.

(vii). Submit the detailed plan in tabular format (year-wise for life of mine) for afforestation and green belt development in and around the mining lease. The PP should submit the number of saplings to be planted, area to be covered under afforestation & green belt, location of plantation, target for survival rate and budget earmarked for the afforestation & green belt development. In addition to this PP should show on a surface plan (5 year interval for life of mine) of suitable scale the area to be covered under afforestation & green belt clearly mentioning the latitude and longitude of the area to be covered during each 5 years. The capital and recurring expenditure to be incurred needs to be submitted.

(viii). The PP should clearly bring out the details of the manpower to be engaged for this project with their roles /responsibilities/designations. In addition to this PP should mention the number and designation of person to be engaged for implementation of environmental management plan (EMP). The capital and recurring expenditure to be incurred needs to be submitted.

(ix). The PP should submit the year-wise, activity wise and time bound budget earmarked for EMP, occupational health surveillance & Corporate Environmental Responsibility needs to be submitted. The capital and recurring expenditure to be incurred needs to be submitted.

(x). PP should submit the measures/technology to be adopted for prevention of illegal mining and pilferage of mineral.

(xi). PP should submit the detailed mineralogical and chemical composition of the mineral and percentage of free silica from a NABL/MoEF&CC accredited laboratory.

(xii). PP should clearly show the transport route of the mineral and protection and mitigative measure to be adopted while transportation of the mineral. The impact from the center line of the road on either side should be clearly brought out supported with the line source modeling and isopleth. Further, frequency of testing of Poly Achromatic Hydrocarbon needs to be submitted along with budget. Based on the above study the compensation to be paid in the event of damage to the crop and land on the either side of the road needs to be mentioned. The PP should provide the source of equations used and complete calculations for computing the emission rate from the various sources.

(xiii). PP should clearly bring out that what is the specific diesel consumption and steps to be taken for reduction of the same. Year-wise target for reduction in the specific diesel consumption needs to be submitted.

(xiv). PP should bring out the awareness campaign to be carried out on various environmental issues, practical training facility to be provided to the environmental engineers/diploma holders, mining engineers/diploma holders, geologists, and other trades related to mining operations. Target for the same needs to be submitted.

(xv). The budget to be earmarked for the various activities shall be decided after perusal of the Standard EC Conditions published by the Ministry.

(xvi). The PP should ensure that only NABET accredited consultant shall be engaged for the preparation of EIA/EMP Reports. PP shall ensure that accreditation of consultant shall be valid during the collection of baseline date, preparation of EIA/EMP report and during the appraisal process. The PP and consultant should submit an undertaking the information and data provided in the EIA Report and submitted to the Ministry are factually correct and PP and consultant are fully accountable for the same.

(xvii). The PP should submit the photograph of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this PP should submit the original test reports and certificates of the labs which will analyze the samples.

(xviii). All the certificates viz. Involvement of Forest land, distance from protected area, list of flora & fauna should be duly authenticated by Chief Wildlife Warden & Forest Department. The Certificate should bear the name, designation, official seal of the person signing the certificate and letter number.

(xix). **The PP should clearly bring out the protective and mitigative measures to be taken for the nearby habitation and religious structures in line with the Ministry's O.M. No. Z-11013/57/2014- IA. II (M) dated 29.10.2014.**

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DAY 2: July 31, 2019 (Wednesday)

2.9 Proposed Limestone Mine (Applied M.L. Area- 499.641 ha) with Production Capacity of 4.0 MTPA at Village- KolKarhiya, Tehsil- Pawai, District- Panna (Madhya Pradesh) by M/s. SPRINGWAY MINING PRIVATE LIMITED Proposal No: IA/MP/MIN/27304/2015,File no: J-11015/114/2015-IA.II(M)

The proposal of M/s SPRINGWAY MINING PRIVATE LIMITED is for mining of Limestone with proposed production capacity of 4.0 MTPA. The Mine lease area is located at Village- KolKarhiya, Tehsil- Pawai, District- Panna (Madhya Pradesh). The latitudes and longitudes of the mine lease area lies in between 24015'29.02" N to 24017'09.55" N & 79048'24.91" E to 79048'24.91" E. The mine site falls on Survey of India Toposheet no.- 54P/.

Total Mine lease area (MLA) is 499.641 ha, out of which 11.553 ha is Govt. land & 488.088 ha is Private land. PP informed that no forest land is involved in the Project. PP reported that Prospecting License (PL) for exploration of limestone in village- KolKarhiya, Tehsil- Pawai, District- Panna (Madhya Pradesh) was granted for an area of 499.641 ha for a period of 2 years, vide Govt. order no. F- 2-40/ 2013/ 12/ 1, dated 01.03.2014 by Mineral Resources Department, Govt. of Madhya Pradesh. The Letter of Intent (LOI) vide Letter No. F 2-40/ 2013/ 12-1 dated 09.12.2014 has been granted by Mineral Resources Department, Govt. of Madhya Pradesh. Further, the Mining lease was granted by Govt. of Madhya Pradesh vide order No F 3-40/2015/12/1 dated 13.07.2015. Mining lease deed was executed on 13.10.2015 for a period of 15 years from 13.07.2015 to 12.07.2030.

The proposal of ToR was earlier considered by the EAC in its 33rd EAC meeting held dated 15.05.2015 where in the Committee recommended for grant of ToR. The Ministry issued Terms of Reference (ToRs) for the preparation of the Environmental Impact Assessment (EIA) Report and Environmental Management Plan (EMP) vide letter no. J-11015/114/2015-IA. II (M) dated 08thJune, 2015 and the validity of TOR was extended from 08.06.2018 to 07.06.2019 vide Ministry letter of even no dated 08thMay, 2018.

PP reported that the mining plan has been approved by the Office of the Regional Controller of Mines, Indian Bureau of Mines; Government of India vide letter no MP/Panna/Limestone/MPLN/G-22/2014-15(b) dated 27 May, 2015. As per the approved Mining Plan, the mining operations will be carried out by fully mechanized opencast method with deep hole blasting drilling and blasting, with deployment of heavy earth moving machineries of low HP. During the mining operations the bench height will be maintained as 8 meter-high and 5 meter-wide with the slope of 800. The over burden comprises of top soil, clay, shale is part of reject and will be stacked in as OB dumps and utilized for afforestation and plantation purposes. The Ultimate Working Depth of the mine will be 258 m AMSL (58 m bgl). The ground water level ranges in between 5 to 10 m below ground level. Seasonal fluctuation of ground water in the area is about 2 to 4 m. The lowest ground level in the M.L. Area is 310 m AMSL, thus it is anticipated that the ground water level in the M.L. Area may vary from 300 m AMSL to 290 m AMSL. The mining will be carried out upto 282 m RL during the plan period and 258 m RL upto conceptual stage. PP further mentioned that the water table will be intersected due to mining activities and prior permission for Ground water table intersection will be taken from the Concerned Authority and the application vide letter No 21-4/854//MP/MIN/2019 dated 27.05.2019 for permission of the Ground Water intersection has been submitted to CGWA. The life of mine is 31.5 years. PP reported that shale will not use. fultra

The total water requirement will be 100 KLD out of which 60KLD for dust suppression, 20 KLD for green belt development, 10 KLD for Drinking and Sanitation and 10 KLD for others. The water will be sourced from Ground water or River Bearma& Mine Sump as & when developed.

PP reported that there is no National Park, Wild Life Sanctuary, Biosphere Reserve, Tiger Reserve and Wildlife Corridor etc. within 10 km radius of study area. PP has submitted a letter no F-1/2019/10-11/1690 dated 25.05.2019 from Additional Principal Chief Conservator of Forest stating that there is No National Parks, Wildlife Sanctuaries, Biosphere Reserves, Wildlife Corridors, Tiger/ Elephant Reserves (existing or proposed) etc. within 10 km of the mine lease. PP has submitted the authenticated location map obtained from Chief Wildlife Warden vide their

letter no W.A/Maa. Chi/2016/Mine/22/8862 dated 01.12.2016. However, there is one Reserved Forest and 2 Protected Forests falling within 10 km radius of the mining lease area. PP informed that no schedule I species (according to Wildlife Protection Act, 1972) is found in the study area. Authenticated list of flora & fauna has been obtained from DFO vide letter no.- MA.CHI./2015/ 5323 dated 04.11.2015 and Addl Principal Chief Conservator of Forest vide letter no F-1/2019/10-11/1690 dated 25.05.2019.

The PP submitted that the primary baseline data for specific micro – meteorology data, ambient air quality, water quality, noise level, soil quality and flora & fauna has been collected during Monsoon season i.e. (March to May, 2018). The incremental concentrations over and above the baseline value of PM10 and PM2.5 are 4.3 µg/m3 and 0.78 µg/m3 respectively and the concentrations of SO2 and NO2 are in range of 1.02 µg/m3 & 1.85 µg/m3, respectively.

Public hearing was conducted on 26.04.2019 at 11:00 am at Premises of Govt Panchayat Bhawan, Tehsil Pawai, District Panna, MP. The proceeding was chaired by Shri J.P Dhruve, Addl Collector, Panna and Shri VS Rai, Regional Officer Sagar from Madhya Pradesh Pollution Control Board. The issues raised during Public Hearing were about Employments, Land rate, Environment pollution, health, impact on river, road and water facility, Social Welfare activities like Drinking water facility, Electricity facility, Health care facility etc. to address the issues raised during public hearing, Company has allocated Rs 2.18 Crores towards CER activities for the proposed mining project as per MoEFCC OM No 22-65/2017-IA.II (M) dated 1st May, 2018.

Total cost of the Project is Rs. 109 Crore/-. Capital Cost for Environmental Protection Measures is 2 Crore/-. Recurring cost is 50 Lakhs/ annum. There is no Court case/ litigation pending against the Project. Total manpower requirement in for the proposed mine will be 86 persons. Total direct employment generation from this project is 86.

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

1. The details of the activities and budget earmarked for Corporate Environmental Responsibility (CER) shall be as per Ministry's O.M No 22-65/2017-IA. II (M) dated 01.05.2018 and its action plan on the activities proposed under CER should be re-submitted. The Committee suggested that the CER may be taken w.r.t. three years.

2. PP to submit the detailed land break-up involved in the mine lease area along with details on mining conceptual plan.

3. PP should clearly bring out the safeguards for protecting the river, Nallah, water bodies existing in and around the mine lease area from the operation of the mine. PP need to submit the detailed regulations to protect the Rivers from the mining activity duly authenticated by the Irrigation department, State Government of Madhya Pradesh.

4. Revised R&R plan for the affected families in the mine lease area.

5. The Committee noted that the total mine lease area is 499.641 ha out of which 11.553 ha is Govt land and 488.088 ha is Agriculture land. The committee is of the view that the involvement of agriculture lands is significant, thus PP needs to submit a detailed cost benefit analysis (loss of agriculture land Vs benefits from the mineral production) for the life period of mine including the direct financial implication to the affected families.

6. Affidavit stating that there is no Court case/litigations/disputes pending at the Court.

7. Transport route of the mineral and associated protection and mitigative measure proposed to be adopted while transportation of mineral. The impact from the center line of the road on either side should be clearly brought, supported with the line source modeling and isopleths. The reference of the emission factor should be mentioned.

8. Details of cumulative impact of proposed Cement plant along with the proposed mining activity needs to be included in the EIA/EMP report.

9. PP has not submitted the adequate details of total excavation w.r.t. mineral, OB, Inter-burden, Waste etc. This is required to be submitted in uniform unit of expression.

10. The PP should submit the water budget incorporating the quantity of surface and ground water to be used for this project. The complete water balance cycle need to be submitted. In addition to this PP should submit a detailed plan for rain water harvesting measures to be taken. The PP should submit the year wise target for reduction in consumption of ground water by developing alternative source of water through rain water harvesting measures. The capital and recurring expenditure to be incurred in this needs to be submitted.

11. Hydro geological Study for impacts on River during the mining operations duly carried out from the CSIR institutions/NIH/NGRI/CMFER and its mitigation plan need to submit.

12. Detailed Ecology and Biodiversity disaster and risk assessment remediation plan needs to be submit.

13. Certificate clearly stating that there is no forest land involved in the mine lease area duly authenticated by the APPCF.

14. Updated list of Schedule-I species and the map of clearly demarcating the mine lease area and the distance of National Park, Wild Life Sanctuary, Biosphere Reserve, Tiger Reserve and Wildlife Corridor etc from the mine lease area duly authenticated by the CWLW.

15. The Ambient air quality data for SoX, NoX, PM10, PM2.5 submitted in the report claim to be carried out by PP is not acceptable. Consultant/PP need to provide the justification for the same.

2.10. Nuagaon Iron Ore Mines of M/s. KJS Ahluwalia with expansion in production of iron from 5.62 MTPA to 7.99 MTPA (ROM) along with existing beneficiation plant of 2.0 MTPA capacity and Crusher &Screen plants in the mining lease area of 767.284 ha located at village Nuagaon, Guali, Topadihi, Barapada and Katasahi, Tehsil Barbil, District-Keonjhar, Odisha. [File No: J-11015/103/2018-IA.II; Proposal No: IA/OR/MIN/103155/2018; Consultant: Creative Engineers and Consultants]-Consideration of EC.

The proposal of M/s. KJS Ahluwalia is for Nuagaon Iron Ore Mines with expansion in production of iron ore from 5.62 MTPA to 7.99 MTPA (ROM) along with existing beneficiation plant of 2.0 MTPA capacity and Crusher & Screen plants in the mining lease area of 767.284 ha. The mine lease area is located at village Nuagaon, Guali, Topadihi, Barapada and Katasahi, Tehsil Barbil, District-Keonjhar, Odisha. The mine lease area is bounded by latitudes 21°57'11.09"N to 21°59'34.32"N North and longitudes 85°16' 6.04" to 85° 19' 24.93"East and falls under Survey of India toposheet no. 73G/5.

Project proponent (PP) submitted that the Ministry has accorded EC for production of 5.62 MTPA of iron ore vide letter no.J-11015/1156/2007-IA.II (M) dated 02.02.2010. Furthermore, the Ministry has issued amendment in the EC vide letter No. J-11015/1156/2007-IA.II (M) dated 31.03.2017 "w.r.t grant of temporary permission of two years for completing the installation of conveyor belts in the Nuagaon Iron ore mining project from the issue of this letter". PP submitted that the proposal for amendment in the EC was for allowing the transport of mineral from the mines through existing road network/public railway siding. The proposal was considered in the 2nd EAC meeting held during Feb 20-21, 2019 and the Committee deferred the proposal and mentioned that "there is no ground for further relaxation of transportation of mineral through the road

network. The Committee is of the view that first the PP has to demonstrate what environmental and social benefits that project can bring to the local area through the activities that it wants to continue beyond 31st March, 2019. The reasons quoted for relaxation were not in alignment with Directions of MoEF&CC given in 31st March 2017. Let the PP submit detailed study report in support of no damage to the environment by current practices and measures taken by the PP that it proposes to improve environmental quality for further consideration if felt by the Ministry." However, the PP approached a Hon'ble High Court of Odisha, Cuttack and received an interim relief order that the "opposite parties-authorities shall not restrain the petitioner (PP) from carrying its mining activities, pursuant to the aforesaid communication dated 31.03.2017 of the MoEF&CC, Impact Assessment Division, Govt. of India, New Delhi, till next date".

Member Secretary informed the Committee that the Ministry is primary respondent in the pending case at Hon'ble High Court of Odisha. The matter is listed for hearing on 6th August 2019 and Ministry is in process of filing its reply. The main contention is non-agreement of PP with recommendation of NEERI on mode of transportation of mineral. Furthermore, the current proposal is for expansion in production capacity from the instant mine lease area. For appraising the expansion proposal, the compliance report of existing EC is mandatory. PP submitted the compliance report from RO, MOEF&CC, Bhubaneswar vide letter No. 101-391/EPE dated 22.01.2019. Furthermore, the proposal for amendment in existing EC conditions was considered in 2nd EAC meeting held during Feb 20-21, 2019 and the Committee deferred the proposal and asked 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". The Committee was informed by Member Secretary that the Ministry has not received any compliance report from PP with regard to communication made against recommendation of 2nd EAC.

The EAC observed that the Hon'ble Supreme Court in W.P.(C) 114/2014 in its judgment dated 02.08.2017 in para no 124 inter-alia mentioned that ***"...there is no doubt that the of an EC cannot be taken as a mechanical exercise. It can only be granted after due diligence and reasonable care since damage to the environment can have a long term impact..."*.** In the instant case also in absence of above mentioned study report as requested in 2nd EAC, it will be difficult to ascertain the cumulative impact on air environment arising due to transportation of mineral from the existing capacity as well as proposed expansion.

The Committee deliberated the issues and observed that the matter is **sub-judice** on compliance to earlier EC condition. It is inappropriate for

the committee to appraise the proposal at this stage when one of the important condition imposed in earlier EC, for mitigating air pollution is under consideration of adjudication. Based on information submitted by the PP and deliberation thereof, the committee **recommended to return the proposal in present form**, and requested the PP to submit the recommended study report as requested in 2nd EAC, Feb 20-21, 2019 as well as the proposal for consideration after the matter pending before the Hon'ble High Court of Odisha is disposed.

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2.11 Narora Limestone Mine (ML Area 147.940 ha) of M/s. UltraTech Cement Ltd. with Limestone Production Capacity of 1.0 Million TPA (ROM), located at Villages Sonra, Hinauti & Narora, Tehsil Huzur, District Rewa, Madhya Pradesh [File No. J-11015/249/2014-IA.II(M); Proposal No. IA/MIN/MP/24024/2014; Consultant: JM EnviroNet Pvt. Ltd.– Consideration of EC

The proposal of M/s. UltraTech Cement Limited is for Narora Limestone Mine (ML Area: 147.940 ha) with Limestone Production Capacity 1.0 Million TPA, Overburden/Waste -1.2 Million TPA and Soil- 0.3 Million TPA. The mine lease is located at Villages Sonra, Hinauti & Narora, Tehsil Huzur, District Rewa, Madhya Pradesh. The mine lease area falls between Latitude-24030'20" to 24031'09" N and Longitude of 81008'32" to 81009'48" E. The mine lease area is located in Survey of India toposheet no G44V2 in core zone & G44V2, G44V3, G44V6, G44V7 in buffer zone. The PP presented the KML file during the presentation to indicate the location of mine lease on Google Earth/ DSS.

The Terms of references was granted by MoEFCC, vide letter no. J11015/249/2014-IA.II (M) dated 28.10.2014 in favor of M/s. Jai Prakash Associates Limited. Validity of ToR was extended vide letter dated 09.09.2016 which was valid up to 27.10.2017. Thereafter ToR was transferred in the name of UltraTech Cement Limited vide letter No. J-11015/249/2014-IA.II (M) dated 27.10.2017 and Validity of the TOR was further extended by MoEF&CC from 27.10.2017 to 26.10.2018 vide letter no. J-11015/149/2014-IA.II (M) dated: 27.10.2017. The EIA/EMP Report was submitted online to the Ministry on 25.10.2018 for appraisal after conduction of public hearing on 01.09.2018.

"The proposal is earlier considered in the EAC Meeting held during January 22-23, 2019, wherein the Committee is of the view that since the mine lease has been transferred from M/s Jaiprakash Associates Limited to M/s Ultra Tech Cement Limited, accordingly the Mining Plan along with Progressive Mine Closure Plan dated 26.03.2009 should also be transferred in the name of M/s Ultra Tech Cement Limited. However, the PP has not transferred the Mining

Plan along with Progressive Mine Closure Plan in the name of M/s Ultra Tech Cement Limited, and conducted the Public hearing without transfer of Mine plan in the name of M/s UltraTech Cement Limited. The Committee noted that the Public Hearing has been conducted based on the mine plan in favor of M/s Jaiprakash Associates Limited".

The Committee therefore returned the proposal in the present form and recommended to that PP needs to first resolve the above mentioned issues. PP submitted online application on PARIVESH portal and the proposal is put before the EAC for its consideration in its meeting during 30-31 July, 2019. PP made presentation before the committed and submitted as follows:

Total Mining Lease Area comprises of 147.940 ha, out of which 146.09 ha area is private land and 1.85 ha is Government land. Initially, the Mining Lease was granted in favor of M/s. Jai Prakash Associates Limited (JAL) by Mineral Resource Department, Government of Madhya Pradesh vide letter no. F 3-50/2007/12/1, Bhopal dated 22.06.2009. Mining lease was registered on 30.03.2011. Thereafter, some Cement Business of M/s. Jai Prakash Associates Limited (JAL) and Jaypee Cement Corporation Ltd. (JCCL) was transferred to UltraTech Cement Ltd (UTCL) by National Company Law Tribunal Bench (NCLTB) at Mumbai on 15.02.2017 in case of UTCL and NCLTB at Allahabad on 02.03.2017 in case of Sellers. Accordingly, the Mining Lease has been transferred to M/s. UltraTech Cement Limited by Mineral Resource Department, Government of Madhya Pradesh vide order no. F-3-50/2007/12/1 dated 25.05.2017 and same has been registered on 23.08.2017 and executed with effect from 10.08.2017 which is valid for thirty year upto 29.03.2041. Mining lease is valid upto 29.03.2061 as per section 8 (A) (3) of Mines and Minerals (Development & Regulation) Amendment Act, 2015.

The Mining Plan along with Progressive Mine Closure Plan vide letter no. 314(3)/2008-MCCM(C)/MP-48 dated 26.03.2009 over mine lease area of 147.940ha in the name of M/s Jaiprakash Associates Limited has been approved by The Controller of Mines (CZ), Indian Bureau of Mines (IBM), Nagpur. Further the mine lease was transferred from M/s Jaiprakash Associates Limited to M/s Ultra Tech Cement Limited. Review of Mining Plan along with the Progressive Mine Closure Plan in the name of M/s UltraTech Cement Limited vide letter Mp/Rewa/Limestone/RMP-80/2018-19 dated 23.05.2019 was approved by O/O the Regional Controller of Mines, Indian Bureau of Mines (IBM), Government of India.

PP reported that there is no forest land within the lease area. Letter regarding the same has been obtained from Forest Department vide letter no. Ma.Chi. / 3154 dated 04.08.2018. There is no National Park, Wildlife

Sanctuary, and Biosphere Reserve, Wildlife Corridors, Tiger/Elephant Reserves etc. within 10 km radius of the Mine site. Letter showing the same has been obtained from Forest Department vide letter no. Ma.Chi/ 3154 dated 04.08.2018. No Protected Forest is found within 10 radius study area, Santhari Reserved Forest exist within the study area. No schedule I & II species (according to Wildlife Protection Act, 1972) is found in the study area. The Mining Lease Area is located in Madhya Pradesh District hence Project area does not fall under Aravali range.

PP reported that opencast fully mechanized method of mining will be carried out by deploying Heavy Earth Moving Machineries. The mine working will involve removal of overburden soil (OBS) & Upper Magnesian Shale (UMS) to expose upper grey limestone (UGL). Drilling will be carried out by drilling 6-8 m deep hole. Controlled blasting will be adopted with the use of ANFO and/or Column Charge (Slurry Explosives) and booster charge. Loading operations will be carried out by hydraulic excavators. Limestone will be crushed in the crusher installed at Plant Site of the company. After primary crushing; mineral will be used for captive purpose in the company's Bela cement plant. Transportation of limestone from working face to crusher hopper will be carried out by dumpers. At end of the 5th year of mining plan, total 761452 cubic meter top soil will be generated. The scrapped top soil will be used for spreading and onward plantation activity. At the end of life of mine, total 7.138 million cum waste will be generated. Total generated Waste will be backfilled into the mined out area and later it will be stabilized by the plantation. There will be no waste dump at the end of life of mine. PP reported that shale will not use.

Total water requirement will be 90 KLD which will be sourced initially from mine sump of the adjacent mine and later from rain water accumulated in the mine sump of this mine as and when developed. Total existing manpower will be utilized for the proposed mining project. Total power requirement for the limestone mining project will be 150 KW (for mine lighting and illumination) which will be sourced from captive power plant and MPSEB grid.

PP reported that at the conceptual stage, out of the total lease area (i.e. 147.940 ha), mined out area will be 133.94 ha, out of which, 97.51 ha area will be covered under backfilling followed by plantation. About 36.43 ha area will be converted into water reservoir. 2.0 ha area will be covered under infrastructure. An area of 4.0 ha will remain undisturbed. Total 105.51 ha area (97.51 ha on backfilled area and 8.0 ha area by 7.5 meter barrier zone) will be covered under Green belt and Plantation. The plantation will be done @2500 saplings per ha of land.

The primary baseline data for site specific micro meteorology data, ambient air quality, water quality, noise level, soil and flora & fauna was

collected during Post Monsoon Season (October to December, 2017).The baseline monitoring results of ambient air, soil, ambient noise level and ground water have been reported and the same were compared with respective prescribed standards viz. NAAQS-2009 (for air monitoring), IS:10500-2012 (for surface water & ground water) and ambient noise limits prescribed by CPCB. Concentrations of PM10 and PM2.5 for all the 8 AAQM stations were found between 60.8 to 83.4 µg/m3 and 25.9 to 50.7 µg/m3 respectively. The concentrations of SO2 and NO2 were found to be in range of 6.2 to 13.5 µg/m3 and 11.3 to 21.6 µg/m3, respectively. Noise levels vary from 49.3 to 60.4 Leq dB (A) during day time and from 41.2 to 48.3 Leq dB (A) during night time and are within the respective ambient noise limits. The analysis result for soil shows that soil is neutral to slightly alkaline in nature and soil texture is silty clay loam. The impact prediction carried through modeling indicated maximum incremental concentrations w.r.t. PM10 is 1.02 µg/m3, PM2.5 is 0.31 µg/m3, SO2 is 2.13 µg/m3 & No2 is 0.10 µg/m3 .

Public hearing was conducted on 01.09.2018 at 11.30 AM at Government Primary School at Village-Sonara, Tehsil- Huzur, Districr-Rewa. The proceeding was chaired by Mr. B.K. Pandey- Additional Collector, Representative of Collector and Mr. Sanjeev Kumar Mehra, Regional Officer, Madhya Pradesh State Pollution Control Board, Rewa. Main issues /concern raised during public hearing has not been submitted by PP includes Company has been earmarked Rs. 50 lac under Corporate Environment Responsibility (CER) in compliance of MoEFCC OM dated 01.05.2018 for issues raised during public hearing like Education, Health, Infrastructure, Skill Development and others. Total cost of the Project is Rs. 20 Crores/-. Capital Cost for Environmental Protection Measures is Rs. 45 Lakh/- & Recurring cost is Rs. 25 Lakh per annum. PP informed that no litigation is pending against this project.

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

1. The details of the activities and budget earmarked for Corporate Environmental Responsibility (CER) shall be resubmitted in accordance with the Ministry's O.M No 22- 65/2017-IA. II (M) dated 01.05.2018. The Committee suggested that the CER may be taken w.r.t. three years.
2. The detailed land breaks up involved in the mine lease area.
3. PP is required to submit the revised project cost including with the land cost.
4. Total water management and water budget study need to submit.
5. Certificate clearly stating that there is no forest land involved in the mine lease area duly authenticated by the APPCF.
6. PP should submit an undertaking by way of affidavit as required as per Ministry's O.M No 3-50/2017 -IA. II(M) dated 30.05.2018 to comply with

all the statutory requirements and judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors

7. The PP should submit the water budget incorporating the quantity of surface and ground water to be used for this project. The complete water balance cycle need to be submitted. In addition to this PP should submit a detailed plan for rain water harvesting measures to be taken. The PP should submit the year wise target for reduction in consumption of ground water by developing alternative source of water through rain water harvesting measures. The capital and recurring expenditure to be incurred in this needs to be submitted. to be used for this project. The complete water balance cycle need to be submitted. In addition to this PP should submit a detailed plan for rain water harvesting measures to be taken. The PP should submit the year wise target for reduction in consumption of ground water by developing alternative source of water through rain water harvesting measures. The capital and recurring expenditure to be incurred in this needs to be submitted.
8. Certificate clearly stating that there is no forest land involved in the mine lease area duly authenticated by the APPCF.
9. Updated list of Schedule-I species and the map of clearly demarcating the mine lease area and the distance of National Park, Wild Life Sanctuary, Biosphere Reserve, Tiger Reserve and Wildlife Corridor etc from the mine lease area duly authenticated by the CWLW.
10. PP reported that the Limestone will be crushed in the crusher installed at Plant Site of the company with the capacity of 4 MTPA situated at 1.4 km from the mine lease area. After primary crushing, mineral will be used for captive purpose in the company's Bela cement plant. Transportation of limestone from working face to crusher hopper will be carried out by dumpers. Accordingly, PP need to submit an NOC from the adjacent mine for using their facility without compromising of existing EC conditions.
11. Cumulative impact study of nearby mine and cement plan
12. PP need to submit an undertaking in form affidavit stating that the mined material will not be stored in another mine lease area, if so all applicable statutory clearances have been obtained.
13. Transport route of the mineral and protection and mitigative measure to be adopted while transportation of the mineral. The impact from the center line of the road on either side should be clearly brought supported with the line source modeling and isopleths.
14. Letter from the Department of Mines and Geology, Govt of Madhya Pradesh stating that the above mine lease area is valid up to 29.03.2061 as per section 8 (A) (3) of Mines and Minerals (Development & Regulation) Amendment Act, 2015.
15. PP has not submitted the adequate details of total excavation w.r.t. mineral, OB, Inter-burden, Waste etc. The details as per conceptual plan in uniform unit of expression shall be submitted.

2.12. Proposed Captive Limestone Mine of M/s. Shree Cement Limited (Karhi-Chandi Limestone Deposit) with Limestone Production Capacity of 1.5 Million TPA, 0.45 Million TPA Inter-Burden (Total Excavation: 1.95 Million TPA) with installation of Crusher of 1200 TPH in the mine lease area of 242.127 ha located at Villages- Karhi, Chandi and Khapradih, Tehsil –Simga, District- Balodabazar-Bhatapara, Chhattisgarh [File No: J-11015/64/2017-IA-II(M); Proposal No: IA/CG/MIN/65291/2017; Consultant: J. M. EnviroNet Pvt. Ltd]-Re-Consideration of EC.

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

The proposal of TOR was earlier considered by the EAC in its meeting held during July 24, 2017 and the TOR was issued by the Ministry vide letter no: J-11015/64/2017-IA.II(M) dated 5 September 2017 and amended letter dated 03 January 2018 for production capacity of 1.95 MTPA (ROM) (1.5 MTPA Limestone and 0.45 MTPA Inter-burden).

The PP submitted that the total mine lease area is 242.127 ha which falls near village Karhi, Chandi and Khapradih. Out of total area of 242.127 ha, Government land is 20.331 ha, 119.428 ha is private land and 102.368 ha is owned by Shree Cement Limited. PP reported that a part of Chandi Village habitation falls in ML area which will not be disturbed.

Letter of Intent (LOI) has been issued for KarhiChandi Limestone Deposit in favor of M/s Shree Cement Limited over an area of 242.127 ha vide letter no. F 3-03/16/12 dated 28 March 2016 and amended vide letter no. F3-03/16/12 dated 16 September 2016. The LOI is valid up to 27.03.2019. PP further submitted that the validity of LOI was extended to 27.03.2020 by the Mineral Resource Department, Government of Chhattisgarh vide letter no. F 3-03/16/12 dated 27.03.2019. The Mining Plan & Progressive Mine Closure Plan has been approved by IBM vide letter no. Baloda bazar/ Chup/MP-53/2016 –Raipur/238 dated 8 June 2017.

The proposal was placed in the 2nd EAC meeting held during February 20-21, 2019 wherein the Committee deferred the proposal and asked certain requisite information for further consideration. PP submitted the requisite information, accordingly, the proposal is placed in this EAC

meeting. PP reported that it has submitted the soft copy of the information and reports to the members and also made presentation before the committee. Based on the information submitted and presentation made by PP and the discussion and deliberation held, the Committee **recommended to defer the proposal** and asked PP to submit following information further consideration.

(i). PP should perform the cumulative effect of mine lease area and cement plant and submit the separate report for the same. The reference of the emission factor used shall be mentioned in the report.

(ii). PP requires to submit water budget for entire project which includes water harvesting, utilization and use demand by the nearby village, conservation plan and seepage management system.

(iii). PP needs to submit the details of compensation for Chandi village people (89 families having houses) with quantitative values, such as the details of percentage of money going to spend different budget heads such as one time partial payment, fixed deposit and annuity and their timeline and how the affected person/families will receive it and get access to it throughout their lifetime. In addition, the Committee is of the view that PP should submit the details of family (number of people, cattle and others), budgetary provisions for family members (if family have girl child separate budget need to be allotted), other necessary facilities and their timeline in such manner that the efforts is easy to be quantifiably monitored.

(iv). PP needs to submit the budgetary provisions for compensation for land loser (for example PP needs to provide the compensation with respect to the minerals excavate from the affected families land till the life of mine).

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2.13 Expansion of Captive "Nawabpet-Talamanchipatnam Limestone Mine" by Expanding its limestone Production Capacity from 3.819 Million TPA to 8.77 Million TPA, Soil ~1.6 Million TPA and OB/Screen Reject ~2.82 Million TPA (Total Excavation of 13.19 Million TPA) (ML Area 407.05 ha) and installation of an additional Crusher of 2000 TPH Capacity with Wobbler at Villages: Nawabpet & Talmanchipatnam, Taluka: Mylavaram (M) District: YSR Kadapa, Andhra Pradesh by M/s. Dalmia Cement (Bharat) Limited [File No.: J-11015/64/2008 IA.II (M); Proposal No: IA/AP/MIN/109558/2019; Consultant : J.M. EnviroNet Pvt. Ltd]- ToR Regarding

The Proposal of M/s. Dalmia Cement (Bharat) Limited is for expansion of limestone production capacity from 3.819 Million TPA to 8.77 Million TPA with total excavation of 13.19 Million TPA which includes [Limestone (ROM) 8.77 MTPA; Soil ~1.6 Million TPA and OB/Screen Reject ~2.82 Million TPA]

and installation of an additional Crusher of 2000 TPH Capacity with Wobbler in "Nawabpet-Talamanchipatnam Limestone Mine located at Villages: Nawabpet & Talmanchipatnam, Taluka: Mylavaram (M) District: YSR Kadapa, Andhra Pradesh. The Mining Lease area falls under SOI Toposheet No. Core zone-D44G5 Study area- D44G1, D44G5, D44A4 & D44A8 and lies between Latitude: 140 56'18.3" N to 140 57'1.6" N Longitude: 780 18'53.9" E to 780 21'27.2" E.

As per EIA Notification dated 14th September, 2006 as amended from time to time, the project falls under Category "A", Project or Activity 1(a) as the Mining lease area is more than 100 Ha. The PP applied online vide proposal No. IA/AP/MIN/109558/2019 dated 30.06.2019 in Schedule 1(a) for mining of mineral and 2(b) for beneficiation. The PP submitted the Form-1, Pre-feasibility Report. The proposal is now placed in EAC meeting held during 30-31 July, 2019.The PP vide its letter dated 31.07.2019 requested Ministry to consider the proposal in next EAC meeting as they are not able to attend this meeting due to some un-avoidable circumstance. The Committee therefore **deferred** the proposal and is of the view that proposal may be placed in next EAC meeting.

2.14 Mining of Quartz (10000 MTPA), Feldspar (50000 MTPA) Associated Minor Mineral (Quartzite & stone) 29,40,000 MTPA from Mining lease area of 79.32 Ha located at Village -Musnota, Tehsil – Narnaul, District-Mahendragarh, Haryana by Mr. Satish Kumar Garg S/o Shri Ajudhya Prasad [Agenda No 2.14; File No: IA-J-11015/21/2019-IA-II(M); Proposal No. IA/HR/MIN/91088/2019]-ToR Regarding

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

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

3. The proposal was previously considered in EAC meeting held on 20-21 February, 2019 wherein the Member Secretary informed the Committee that PP vide letter dated 19.02.2019 informed that he is unable to attend the meeting due to some un-avoidable circumstances. The Committee therefore deferred the proposal and is of the view that proposal may be consider only after PP submits the requisite information. The PP vide letter dated 16.04.2019 submitted the requisite information and the proposal is now placed in EAC meeting held on 30-31 July, 2019. The PP vide its email dated requested Ministry to confirm whether he has to attend the meeting or not. The Ministry informed the PP to attend the meeting. The Committee observed that as reported by PP the Hon'ble Punjab and Haryana High Court vide order dated 8.4.2019 in the matter of Satish Kumar Garg vs State of Haryana (CWP no. 4450 of 2019) has directed Ministry of Environment and Forest to consider the grant of environment clearance to the petitioner and decide the matter at hand, as expeditiously as possible preferably within a period of six weeks from the date of receipt of certified copy of the order. The Committee observed that in order to comply with the direction of Hon'ble High Court the Ministry has already placed the proposal in the EAC meeting but PP did not attend the meeting. The Committee therefore **deferred** the proposal and is of the view that proposal may be placed in the next EAC meeting after receiving the request from the PP.

2.15 Amendment in ToR granted for Limestone Mines of M/s My Home Industries Private Limited with production capacity of 1.0 MTPA (ROM) of Limestone, located at Villages: Mellacheruvu & Yepalamadhavaram, Mandal. Mellacheruvu, District: Suryapet, Telangana (MLA: 252.407 ha) for inclusion of total Excavation, 1.036 MTPA (Limestone: 1.0 MTPA & Top Soil: 0.036 MTPA)-[J-11015/21/2017-IA.II (M); IA/TG/MIN/106308/2019; Consultant B.S. Envi-Tech Pvt Ltd]-ToR Amendment

The proposal of **M/s My Home Industries Private Limited** is for amendment in ToR granted vide letter No. J-11015/21/2017-IA. II (M) dated 22.03.2019 for 1.0 MTPA (ROM) of Limestone, located at Villages: Mellacheruvu & Yepalamadhavaram, Mandal. Mellacheruvu, District: Suryapet, Telangana (MLA: 252.407 ha). The PP in this application requested for amendment in ToR for inclusion of Total Excavation Quantity as 1.036 MTPA (Limestone: 1.0 MTPA & Top Soil: 0.036 MTPA).

PP submitted before the Committee that the TOP Soil approximately 0.036 MTPA was not incorporated in existing TOR. The total excavation as proposed include TOP Soil also and therefore, PP is requested to amendment of TOR for incorporation of top soil i.e. 0.036 MTPA.

The Committee observed that PP should prepare EIA to address the impact due to total excavation (including Top Soil) and based on discussion held and document submitted, EAC r**ecommended** the proposal for amendment in ToR for including Total Excavation Quantity as 1.036 MTPA (Limestone: 1.0 MTPA (RoM)& Top Soil: 0.036 MTPA).

2.16. Amendment in TOR J-11015/106/2018-IA.II(M) dated 19th November, 2018 w.r.t. Change of mine lease area from 19.257ha to 19.259ha for the proposal of Bhilapur Manganese Mine of M/s Smt. Shubhangi Amol Nagpure for proposed production capacity of 15,000TPA located at village Bhilapar, Tehsil Sausar, District-Chindwara, Madhya Pradesh, Proposal no IA/MP/MIN/77234/2018, File No: J-11015/106/2018-IA.II(M), Consultant: Perfact Enviro Solutions Pvt Ltd–amendment regarding.

The proposal of M/s Smt. Shubhangi Amol Nagpure is for proposed production capacity of 15,000 TPA in the mine lease area of 19.257ha located at Khasra No.68,69,70,71,72/1,72/2,74/14,75,76,80,82,86 Village-Bhilapar, Tehsil Sausar, District- Chindwara, Madhya Pradesh. The latitudes 21°35'30.41"N to 21°35'43.30"N, and longitude 78°56'11.63"E to 78°56'44.78"E. The area falls in the Survey of India Topo sheet no.55K/14 (OSM no. F 44M14), 55O/2(OSMno.F44MN2), 55K/15 (OSM no. F44 M15) & 55O/3 (OSMno.F44 N3). The lease area falls adjacent to the Maharashtra and Madhya Pradesh state boundary falling in south direction. Hence general condition is applicable on this proposal. Therefore, the project is considered as Category- A proposal as per the provisions of the EIA Notification, 2006.

The Ministry has accorded Terms of references (TOR) vide letter no J-11015/106/2018-IA.II(M) dated 19th November, 2018 to M/s Smt. Shubhangi Amol Nagpure for proposed production of manganese Ore with the capacity of 15,000 TPA in the mine lease area of 19.257ha located at Khasra No.68,69,70,71,72/1,72/2,74/14,75,76,80,82,86 Village-Bhilapar, Tehsil Sausar, District- Chindwara, Madhya Pradesh

PP reported that the Letter of Intent (LoI) to the M/s Smt. Shubhangi Amol Nagpure was granted by Mineral Resources Department, Bhopal, M.P. vide Letter no. F-3/38/2004/12/2 dated 12.06.2007 in an area of 21.935ha and the lease was not executed then due to local issues and land falling within 250m perimeter of the forest boundary. Subsequently compartments no. 77 and 81 were reduced from the mine lease area by State Government and consequently lease deed for an area of 19.257Ha was executed on 11.01.2017 by the Office of the Collector(Mnes), Chindwara district, Madhya Pradesh vide letter no क्रमांक /958 / खनिजशाखा /2017 dated 31.06.2017. PP

also reported that at the time of grant of LoI in the mine lease area, there were two old existing pit and two OB dumps of low grade Manganese Ore.

PP reported that the said Terms of references (TOR) vide letter no J-11015/106/2018-IA.II(M) dated 19th November, 2018 to M/s Smt. Shubhangi Amol Nagpure for the mine lease area of 19.257ha instead of 19.259ha. insupport of this PP had submitted the copy of letter no Sl.No/958/mining office/2017 Chinddwara dated 13.05.2017 from the Disst Mine Officer, Office of the Collector(Mines Division), District Chinddwara, Madhya Pradesh. Stating that earlier Mineral Resources Government of M.P., Bhopal vide order No. F3-38/2004/12/2 Bhopal, dated 09.06.2008 had sanctioned mining lease of mineral manganese in various khasaras, in an area of 21.935 ha for a period of 30 years in village Bhilapar. In accordance with that order you had submitted approved mining plan but due to some small Jhars falling in some Khasras, the execution of lease deed could not be done. As per the recommendations made in the meeting convened by Divisional Commissioner on 11.01.2017 for considering sanction of mining lease falling within 250m from the forest boundry, government issued amended order dated 11.01.2017 for sanctioning mining lease in an area of 19.259 ha and directed execution and submission of an affidavit along with all necessary documents. Also directed to submit the copy of the registered lease deed e.t.c.

After detailed deliberations the Committee **recommended the amendment in TOR J-11015/106/2018-IA.II(M) dated 19th November, 2018 w.r.t. Change of mine lease area from 19.257ha to 19.259ha for the proposal of Bhilapur Manganese Mine of M/s Smt. Shubhangi Amol Nagpure for proposed production capacity of 15,000TPA located at village Bhilapar, Tehsil Sausar, District-Chindwara, Madhya Pradesh.**

2.17 Extension of validity of ToR for Sambhariya Limestone Mine with proposed production capacity of 3,70,142 TPA (ROM) of Limestone by Lessee Shri Narendra Agarwal, located at Near village-Sambhariya, Tehsil- Bilara, Dist Jodhpur, Rajasthan (MLA 103.0ha) [File No.: J-11015/58/2016-IA. II(M); Proposal No.: IA/RJ/MIN/104612/2019]-ToR Extension Regarding

The proposal of **Shri Narendra Agarwal** is for Sambhariya Limestone Mine with proposed production capacity of 3, 70,142 TPA (ROM) of Limestone. The mine is located at village- Sambhariya, Tehsil- Bilara, District- Jodhpur, Rajasthan in the mine lease area 103 ha. The mine lease area lies between 26°19’53.29’’N to 26°19’05.61’’ N, and 73°45’26.08’’E to 73°46’22.42’’ E.

The PP submitted that ToR for the above mentioned was granted vide Lr no J-11015/58/2016-IA.II (M) dated 15.03.2016 which was valid till 14.03.2019. The PP submitted that due to some unavoidable Circumstances they are not able to prepare EIA/EMP Report and therefore applied Form-5 on 7.05.2019 vide proposal no IA/RJ/MIN/104612/2019 for extension of ToR for one more year i.e. from 15.03.2019 to 14.03.2020. PP also mentioned there is no amendment is required in the previous ToR.

The above proposal was placed in EAC meeting held on 30-31 July, 2019 wherein the Committee **deferred** the proposal as PP did not attend the meeting. The Committee is of the view that proposal may be placed in EAC meeting after receiving the request from the PP.

The meeting ended with thanks

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Annexure-I

Standard Terms of Reference (TOR) for Mining Project

1) The TOR will not be operational till such time the Project Proponent complies with all the statutory requirements and judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors.
2) Department of Mining & Geology, State Government shall ensure that mining operation shall not commence till the entire compensation levied, for illegal mining paid by the Project Proponent through their respective Department of Mining & Geology in strict compliance of judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors.
3) Year-wise production details since 1993-94 should be given, clearly stating the highest production achieved in any one year prior to 1993-94. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to1994. The production details need to submit since inception of mine duly authenticated by Department of Mines & Geology, State Government.
4) A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.
5) All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee.
6) All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/toposheet, topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).
7) Information should be provided in Survey of India Toposheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.
8) Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority.
9) It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental

issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the proposed safeguard measures in each case should also be provided.

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

Corridors, Ramsar site Tiger/Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.

20) A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan along with budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.

21) Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Dept. Should be secured and furnished to the effect that the proposed mining activities could be considered.

22) Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL. HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).

23) R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report.

24) One season (non-monsoon) [i.e. March - May (Summer Season); October - December (post monsoon season); December - February (winter season)] primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected.

The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM_{10}, particularly for free silica, should be given.

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

planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.

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

Report.

45) Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.

46) The activities and budget earmarked for Corporate Environmental Responsibility (CER) shall be as per Ministry's O.M No 22-65/2017-IA. II (M) dated 01.05.2018 and the action plan on the activities proposed under CER shall be submitted at the time of appraisal of the project included in the EIA/EMP Report.

47) The Action Plan on the compliance of the recommendations of the CAG as per Ministry's Circular No. J-11013/71/2016-IA.I (M), dated 25.10.2017 needs to be submitted at the time of appraisal of the project and included in the EIA/EMP Report.

48) Compliance of the Ministry's Office Memorandum No. F: 3-50/2017-IA.III (Pt.), dated 30.05.2018 on the judgment of Hon'ble Supreme Court, dated the 2nd August, 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India needs to be submitted and included in the EIA/EMP Report.

49) Besides the above, the below mentioned general points are also to be followed: -

a) All documents to be properly referenced with index and continuous page numbering.
b) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.
c) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project.
d) Where the documents provided are in a language other than English, an English translation should be provided.
e) The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.
f) While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF vide O.M. No. J-11013/41/2006-IA.II (I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed.
g) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF&CC with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation.

h) As per the circular no. J-11011/618/2010-IA. II (I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.

i) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and(iii) Sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.

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Annexure-II

Standard TOR for Beneficiation Projects

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

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

within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.

28) A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan along with budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.
29) Proximity to Areas declared as 'Critically Polluted' shall also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB/CPCB shall be secured and furnished to the effect that the proposed activities could be considered.
30) Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL. HTL, CRZ area, location of the unit w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).
31) R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation& Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects, should be discussed in the report.
32) One season (non-monsoon) [i.e. March-May (Summer Season); October-December (post monsoon season); December-February (winter season)] primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the unit in the pre-dominant downwind

direction. The mineralogical composition of PM10, particularly for free silica, should be given.

33) Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modeling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.
34) The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.
35) Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be secured and copy furnished.
36) Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.
37) Impact of the project on the water quality, both surface and groundwater should be assessed and necessary safeguard measures, if any required, should be provided.
38) Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.
39) A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the project. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to the pollution.
40) Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered.
41) Details of the onsite shelter and facilities to be provided to the workers should be included in the EIA report.
42) Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health

mitigation measures with required facilities proposed in the mining area should be detailed.

43) Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.
44) Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.
45) Public hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.
46) Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the project should be given.
47) The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.
48) A brief background of the Project, its financial position, Group Companies and legal issues etc should be provided with past and current important litigations if any.
49) Benefits of the Project, if the project is implemented should be outlined. The benefits of the projects shall clearly indicate environmental, social, economic, employment potential, etc.

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Annexure-III

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

1) Department of Steel & Mines, Govt. of Odisha should prepare 5 years regional plan for annual iron ore requirement from the state, which in turn shall be met from different mines/zones (e.g. Joda, Koira.) in the state. Accordingly, sustainable annual production (SAP) for each zone/mine may be followed adopting necessary environmental protection measures.

2) The expansion or opening of new manganese ore mines may be considered only when the actual production of about 80% is achieved. Further, the mines that have not produced Mn ore for last two years and have no commitment in the current year as well; EC capacity in such cases may be reviewed. The Department of Steel & Mines, Govt. of Odisha shall submit the Annual Report on this issue to the MoEF&CC for further necessary action.

3) Analysis of baseline environmental quality data for the year 2014 and 2016 indicates that existing mining activities appear to have little / no potential impact on environmental quality, except on air environment, which was mainly due to re-suspension of road dust. Therefore, all the working mines can continue to operate with strict compliance to monitoring of environmental quality parameters as per EC and CTE/CTO conditions of the respective mine, and implementation of suggested measures for control of road dust and air pollution. Odisha State Pollution Control Board has to ensure the compliance of CTE/CTO. Regional office of the MoEF&CC, Bhubaneswar shall monitor the compliance of the EC conditions. Regional office of the Indian Bureau of Mines (IBM) shall monitor the compliance of mining plan and progressive mine closure plan. Any violation by mine lease holder may invite actions per the provisions of applicable acts.

4) Considering the existing environmental quality, EC capacity, production rate, iron ore resources availability and transport infrastructure availability, the share of Joda and Koira sector works out to be 70% and 30% respectively for the existing scenario for the year 2015-16. However, for additional EC capacity, it can be 50:50 subject to commensurate infrastructure improvement (viz. SOTM, pollution free road transport, enhancement of rail network etc.) in the respective regions.

5) Continuous monitoring of different environmental quality parameters as per EC and CTE/CTO conditions with respect to air, noise, water (surface & ground water) and soil quality in each region shall be done. The environmental quality parameters should not indicate any adverse impact on the environment. Monitoring within the mines should be done by individual mine lease holders, whereas outside the mine lease area, monitoring should be done by the Govt. of Odisha through various concerned departments/ authorized agencies. Various monitoring/ studies should be conducted through national reputed institutes, NABET/ MoEF&CC accredited laboratories/organizations. The reports submitted by individual mine lease holders and study reports prepared by other concerned departments/agency for each of the regions should be evaluated and examined by SPCB/ MoEF&CC.

6) Construction of cement concrete road from mine entrance and exit to the main road with proper drainage system and green belt development along the roads and also construction of road minimum 300 m inside the mine should be done. This should be done within one year for existing mines and new mine should have since beginning. The concerned departments should extend full support; wherever the land does not belong to the respective mine lease holders. The Department of Steel & Mines, Govt. of Odisha should ensure the compliance and should not issue the Mining Permits, if mine lease holder has not constructed proper cement concrete road as suggested above.

7) In view of high dust pollution and noise generation due to road transport, it is proposed to regulate/guide the movement of iron and manganese ore material based on the EC capacity of the mines. Accordingly, ore transport mode has been suggested, as given below in Table.

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

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

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

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

However, the State Govt. of Odisha shall ensure dust free roads in mining areas wherever the road transportation of mineral is involved. The road shoulders shall be paved with fence besides compliance with IRC guidelines. All the roads should have proper drainage system and apart from paving of entire carriage width the remaining right of way should have native plantation (dust capturing species). Further, regular maintenance should also be ensured by the Govt. of Odisha.

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

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

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

8) Development of parking plazas for trucks with proper basic amenities/ facilities should be done inside mine. This should be done within one year for existing mines and new mines should have since beginning. Small capacity mines (in terms of lease area or production) not having enough space within the mine lease areas should develop parking plaza at a common place within the region with requisite facilities. Responsibility: Individual Mine Lease Holders; Time Period: 1 Year

9) Construction of NH 215 as minimum 4 lane road with proper drainage system and plantation

and subsequent regular maintenance of the road as per IRC guidelines. Construction of other mineral carrying roads with proper width and drainage system along with road side plantation to be carried out. Responsibility: Department of Steel & Mines with PWD / NHAI Time Period: 2 Years.

10) Regular vacuum cleaning of all mineral carrying roads aiming at "Zero Dust Re- suspension" may be considered. Responsibility: PWD / NHAI/ Mine Lease Holders; Time Period: 3 months for existing roads.

11) Expansion of existing mines and new mines should be considered after conducting recent EIA Study (as per the provisions of EIA Notification 2006, as amended time to time) with proper justification on demand scenario for iron ore requirement and availability of pollution free transport network in the region. Responsibility: IBM, Department of Steel & Mines and MoEF&CC, New Delhi.

12) **Mine-wise Allocation of Annual Production:** In case the total requirement of iron ore exceeds the suggested limit for that year, permission for annual production by an individual mine may be decided depending on approved EC capacity (for total actual dispatch) and actual production rate of individual mine during last year or any other criteria set by the State Govt., i.e. Dept. of Steel & Mines. Department of Steel and Mines in consultation with Indian Bureau of Mines-RO should prepare in advance mine-wise annual production scenario as suggested in Table, so that demand for iron ore can be anticipated, and actual production/dispatch does not exceed the suggested annual production.

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

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

13) **Expansion of Existing Mines having Validity up to 2020:** In view of implementation of MMDR Act 2015, wherein many non-captive mines are expected to be closed by March 2020, total iron ore production scenario has been. It is expected that the non-captive mines having validity till 2020 shall try to maximize their production (limited to EC capacity) in the remaining period. Further, depending upon availability of iron ore resources, these mines may also seek expansion of EC capacity. It may be noted here that total EC capacity of existing 25 working mines having validity upto 2020 is about 85 MTPA, whereas actual production from these mines has been only 44.677 MT (52.6%) during 2015-16 and 57.07 MT (67.1%) during 2016-17. Also, it is expected that these mines would not even be able to achieve ore production as per existing EC capacity till March 2020. Therefore, these existing mines should go for production to the fullest extent to meet the requisite demand from the State. However, where EC limit is exhausted, application for expansion may be considered. Further, the EC process (i.e. Grant of TOR, Baseline data collection, Mining plan/ scheme approval, Public hearing, preparation of EIA/EMP Report. Appraisal by the EAC and grant of EC) takes about one year time. Under such circumstances, it is suggested that further applications for grant of TOR or grant of EC for expansion of production capacity of the mine should be considered for those existing mines, which have exhausted their capacity subject to consideration of all environmental aspects. Responsibility: Department of Steel

& Mines and MoEF&CC, New Delhi.

14) **Sustained Iron Ore Production beyond 2020:** Considering the implementation of MMDR Act 2015, total production of iron ore in Odisha State is anticipated to be about 111 MT during 2016-17 (actual production was – 102.663 MT), 136 MT during 2017-18, 146 MT during 2018-19 and 146 MT during 2019-20. Then there will be substantial drop in total production (to the tune of 73 MT during 2020-21 onwards) due to closure of mines, which are valid up to 2020. Therefore, in order to maintain operation/sustained growth of downstream industries, iron ore mining in the region needs to be continued at a sustainable rate. The State Govt. through Department of Steel and Mines should initiate appropriate action to ensure continued availability of iron ore from the region, as per suggested sustainable annual production

15) **Reserves Estimation**–Mining Plan and Exploration: Appropriate actions (geo-technical investigation for qualitative and quantitative resource estimation & other preparations for auction of mines), may be initiated taken into account the existing working mines, and the mines which were operational at some point of time (but closed presently due to various reasons). The total iron ore reserves/ resources available within the total lease area of each mine should be estimated by State Govt./NMET/ GSI (or any other approved agency) with respect to: (i) Total lease area of mine (surface), (ii) Maximum depth to which resources could be available, (iii) Resources below the ground water table (if intersected), (iv) Reserves are to be estimated as per UNFC code with respect to quantity and quality (% Fe content), (v) Maximum mining rate and area for auction (after 2020) will be calculated based on total resources available and proposed life of mine leading to closure of mine in a stipulated time period.

Responsibility: Department of Steel & Mines, IBM and GSI; Time frame: 1 year for the mines to be auctioned for next 2 years. The above mentioned organizations shall ensure the compliance with respect to timelines for implementations.

16) Depending upon availability of extractable iron ore resources within a mine, mining below the ground water table may be permitted after conducting necessary geological and hydro-geological study by GSI and requisite approval from the CGWB/CGWA (Central Ground Water Board/Authority). This can be explored at least in few mines on trial/pilot basis. Further, within a mine, it will be desirable to operate one pit at a time, and next pit should be opened after extracting maximum possible resources from the first pit, so that the exhausted pit can be used for back filling/ storing of low grade iron ore. However, depending upon the quantity and/or quality of iron/ manganese ore, other mine pits in the same mine lease may also be opened for sustainable scientific mining, as per approved mining plan/scheme of mining by IBM. The Department of Steel & Mines, Govt. of Odisha should initiate the pilot project so that minerals are fully utilized.

17) **Commercial Utilization of Low Grade Ore:** R&D studies towards utilization of low-grade iron ore should be conducted through research/academic institutes like IMMT, Bhubaneswar, NML, Jamshedpur, and concerned metallurgical departments in IITs, NITs etc., targeting full utilization of low-grade iron ore (Fe content upto 45% by 2020 and upto 40% by 2025). In fact, life cycle assessment of whole process including environmental considerations should be done for techno-economic and environmental viability. R&D studies on utilization of mine wastewater having high concentration of Fe content for different commercial applications in industries such as cosmetics, pharmaceutical, paint industry should also be explored. Responsibility: IBM, Dept. of Steel & Mines, Individual Mine Lease Holders

18) The mining activity in Joda-Koira sector is expected to continue for another 100 years, therefore, it will be desirable to develop proper rail network in the region. Rail transport shall not only be pollution free mode but also will be much economical option for iron ore transport. The rail network and/or conveyor belt system upto public railway siding needs to be created. The total length of the conveyor belt system/ rail network to be developed from mines to nearest railway sidings by 11 mines in Joda region is estimated to be about 64 km. Similarly, in Koira region, total length of rail network/ conveyor system for 8 mines (under SOTM 1 & 2) is estimated to be around 95 km. Further, it is suggested to develop a rail network connecting Banspani

(Joda region) and Roxy railway sidings in Koira region. Responsibility: Dept. of Steel & Mines, Govt. of Odisha and Concerned Mines along with Indian Railways. Time Period: Maximum 7 years (by 2025). The Department of Steel & Mines, Govt. of Odisha should follow-up with the concerned Departments and railways so that proposed proper rail network is in place by 2025.

19) State Govt. of Odisha shall make all efforts to ensure exhausting all the iron & manganese ore resources in the existing working mines and from disturbed mining leases/zones in Joda and Koira region. The criteria suggested shall be applicable while suggesting appropriate lease area and sustainable mining rate. Responsibility: Dept. of Steel & Mines, Govt. of Odisha.

20) Large and medium mine leases contribute to better implementation of reclamation and rehabilitation plans to sustain the ecology for scientific and sustainable mining. The small leases do not possess scientific capability of environmentally sustainable mining. Therefore, new mine leases having more than 50 ha area should be encouraged, as far as possible. This will ensure inter-generational resource availability to some extent. Responsibility: Dept. of Steel & Mines, Govt. of Odisha.

21) **Mining Operations/Process Related:** (i) Appropriate mining process and machinery (viz. right capacity, fuel efficient) should be selected to carry out various mining operations that generate minimal dust/air pollution, noise, wastewater and solid waste. e.g. drills should either be operated with dust extractors or equipped with water injection system. (ii) After commencement of mining operation, a study should be conducted to assess and quantify emission load generation (in terms of air pollution, noise, waste water and solid waste) from each of the mining activity (including transportation) on annual basis. Efforts should be made to further eliminate/ minimize generation of air pollution/dust, noise, wastewater, solid waste generation in successive years through use of better technology. This shall be ensured by the respective mine lease holders. (iii) Various machineries/equipment selected (viz. dumpers, excavators, crushers, screen plants etc.) and transport means should have optimum fuel/power consumption, and their fuel/power consumption should be recorded on monthly basis. Further, inspection and maintenance of all the machineries/ equipment/ transport vehicles should be followed as per manufacturer's instructions/ recommended time schedule and record should be maintained by the respective mine lease holders. (iv) Digital processing of the entire lease area using remote sensing technique should be carried out regularly once in 3 years for monitoring land use pattern and mining activity taken place. Further, the extent of pit area excavated should also be demarcated based on remote sensing analysis. This should be done by ORSAC (Odisha Space Applications Centre, Bhubaneswar) or an agency of national repute or if done by a private agency, the report shall be vetted/ authenticated by ORSAC, Bhubaneswar. Expenses towards the same shall be borne by the respective mine lease holders. Responsibility: Individual Mine Lease Holders.

22) **Air Environment Related:** (i) Fugitive dust emissions from all the sources should be controlled regularly on daily basis. Water spraying arrangement on haul roads, loading and unloading and at other transfer points should be provided and properly maintained. Further, it will be desirable to use water fogging system to minimize water consumption. It should be ensured that the ambient air quality parameters conform to the norms prescribed by the CPCB in this regard. (ii) The core zone of mining activity should be monitored on daily basis. Minimum four ambient air quality monitoring stations should be established in the core zone for SPM, PM_{10}, $PM_{2.5}$, SO_2, 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, PM_{10}, $PM_{2.5}$, SO_2, NO_X and CO) shall be regularly monitored at locations of nearest human habitation including schools and other public amenities located nearest to source of the dust generation as applicable. Further, 11 continuous air quality monitoring systems may be installed in Joida and Koira regions and one in Baripada/

Rairangpur region. (iv) Emissions from vehicles as well as heavy machinery should be kept under control and regularly monitored. Measures should be taken for regular maintenance of vehicles used in mining operations and in transportation of mineral. (v) The vehicles shall be covered with a tarpaulin and should not be overloaded. Further, possibility of 3 using closed container trucks should be explored for direct to destination movement of iron ore. Air quality monitoring at one location should also be carried out along the transport route within the mine (periodically, near truck entry and exit gate). Responsibility: Individual Mine Lease Holders and SPCB.

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

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

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

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

26) **Ecology/Biodiversity (Flora-Fauna) Related:** (i) As per the Red List of IUCN (International Union for Conservation of Nature), six floral species and 21 faunal species have been reported to be under threatened, vulnerable & endangered category. Protection of these floral and faunal species should be taken by the State Forest & Wildlife Department on priority, particularly in the mining zones, if any. (ii) The mines falling within 5-10 km of the Karo-Karampada Elephant corridor buffer need to take precautionary measures during mining activities. The forest and existing elephant corridor routes are to be protected and conserved. Improvement of habitat by providing food, water and space for the elephants is required to be ensured to avoid Man-Elephant conflicts. Though as per the records of State Forest Department, movement of elephants in the Karo-Karampada elephant corridor within 10 km distance from the mines in Joda and Koira is not observed, the Forest Department shall further record and ensure that elephant's movement is not affected due to mining activities. (iii) All precautionary

measures should be taken during mining operation for conservation and protection of endangered fauna namely elephant, sloth bear etc. spotted in the study area. Action plan for conservation of flora and fauna should be prepared and implemented in consultation with the State Forest and Wildlife Department within the mine lease area, whereas outside the mine lease area, the same should be maintained by State Forest Department. (iv) Afforestation is to be done by using local and mixed species saplings within and outside the mining lease area. The reclamation and afforestation is to be done in such a manner like exploring the growth of fruit bearing trees which will attract the fauna and thus maintaining the biodiversity of the area. As afforestation done so far is very less, forest department needs to identify adequate land and do afforestation by involving local people in a time bound manner. (v) Green belt development carried out by mines should be monitored regularly in every season and parameters like area under vegetation/plantation, type of plantation, type of tree species /grass species/scrubs etc., distance between the plants and survival rate should be recorded. (vi) Green belt is an important sink of air pollutants including noise. Development of green cover in mining area will not only help reducing air and noise pollution but also will improve the ecological conditions and prevent soil erosion to a greater extent. Further, selection of tree species for green belt should constitute dust removal/dust capturing plants since plants can act as efficient biological filters removing significant amounts of particulate pollution. Thus, the identified native trees in the mine area may be encouraged for plantation. Tree species having small leaf area, dense hair on leaf surface (rough surface), deep channels on leaves should be included for plantation. (vii) Vetiver plantation on inactive dumps may be encouraged as the grass species has high strength of anchoring besides medicinal value. (viii) Details of compensatory afforestation done should be recorded and documented by respective forest divisions, and State Forest Department should present mine-wise annual status, along with expenditure details. (ix) Similarly, Wildlife Department is also required to record and document annual status of wildlife in the region and should identify the need for wildlife management on regional level. (x) Maintenance of the ecology of the region is prime responsibility of the State Forest and Wildlife Department. They need to periodically review the status and identify the need for further improvement in the region. The required expenditure may be met from the funds already collected in the form of compensatory afforestation and wildlife management. Further, additional fund, if required can be sought from DMF. Responsibility: Individual Mine Lease Holders and State Forest & Wildlife Department.

27) **Socio-Economic Related:** (i) Public interaction should be done on regular basis and social welfare activities should be done to meet the requirements of the local communities. Further, basic amenities and infrastructure facilities like education, medical, roads, safe drinking water, sanitation, employment, skill development, training institute etc. should be developed to alleviate the quality of life of the people of the region. (ii) Land outees and land losers/affected people, if any, should be compensated and rehabilitated as per the national/state policy on Resettlement and Rehabilitation. (iii) The socio-economic development in the region should be focused and aligned with the guidelines/initiatives of Govt. of India/ NITI Aayog / Hon'ble Prime Minister's Vision centring around prosperity, equality, justice, cleanliness, transparency, employment, respect to women, hope etc. This can be achieved by providing adequate and quality facilities for education, medical and developing skills in the people of the region. District administration in association with mine lease holders should plan for *"Samagra Vikas"* of these blocks well as other blocks of the district. While planning for different schemes in the region, the activities should be prioritized as per Pradhan Mantri Khanij Kshetra Kalyan Yojna (PMKKKY), notified by Ministry of Mines, Govt. of India, vide letter no. 16/7/2017-M.VI (Part), dated September 16, 2015. Responsibility: District Administration and Individual Mine Lease Holders.

28) **Road Transport Related:** (i) All the mine lease holders should follow the suggested ore transport mode (SOTM), based on its EC capacity within next 5 years. (ii) The mine lease holders should ensure construction of cement road of appropriate width from and to the entry and exit gate of the mine, as suggested in Chapter 10. Further, maintenance of all the roads should be carried out as per the requirement to ensure dust free road transport. (iii) Transportation of ore should be

done by covering the trucks with tarpaulin or other suitable mechanism so that no spillage of ore/dust takes place. Further, air quality in terms of dust, PM_{10} should be monitored near the roads towards entry & exit gate on regular basis, and be maintained within the acceptable limits. Responsibility: Individual Mine Lease Holders and Dept. of Steel & Mines

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

30) **Reporting of Environmental Sustainability Achievement:** All the mines should prepare annual environmental sustainability report (ESR), highlighting the efforts made towards environmental protection with respect to different environmental components vis-à-vis production performance of the mine on monthly basis. The data collected as per EC and CTE/CTO conditions should be utilized to prepare the annual sustainability report. The mines performing high with effective environmental safeguards may be suitably recognized/rewarded. "Star Rating Format" formulated by the Ministry of Mines along with environmental sustainability report may be used.

31) **Environmental Monitoring Requirements at Regional Level:** Apart from strict compliance and monitoring by individual mine lease holder, there is a need for simultaneous monitoring in each of the regions by competent expert agencies under the guidance/ supervision of concerned regulatory agency. Details of the studies required to be done on regular basis (continuously for 5 years) through responsible agency (organization of national/state repute) and time frame are suggested in Table.

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

Sr. No.	Study Component/ Action Plan	Responsibility	Monitoring and Reporting Time Frame (Approx.)
1.	Environmental Quality Monitoring with respect to Air, Water, Noise and Soil Quality in each region (Joda, Koira and Baripada/Rairangpur) as per specified frequency shall be done by a third party (preferably Govt.) and/or laboratory approved/ recognized by NABET/ CPCB/ SPCB/ MoEF&CC. All the water bodies (rivers, nallas, ponds etc.) shall be monitored. National/State level research/ academic institutes may be involved initially for couple of years to streamline the activity. The report shall be brought out annually by June each year. The study shall be conducted in consultation with MoEF&CC-	SPCB	Continuous Annually

	RO.		
	Installation of online ambient air quality monitor for PM_{10}, $PM_{2.5}$, SOx and NOx within the mine having more than 3 MTPA EC Capacity	Respective Mine Lease Holders	Continuous Annually
	Installation of online ambient air quality monitor for PM_{10}, $PM_{2.5}$, SOx and NOx in the Joda and Koira Region (total 11 locations.	SPCB	Continuous Annually
2.	Status of flora and fauna in each of the regions shall be assessed on annual basis. Changes, if any, taking place in the region shall be brought out clearly. The study shall be conducted in consultation with State Forest and Wildlife Department.	State Forest & Wildlife Dept.	Annually in mining zone and once in 3 years in the region
3.	Socio-economic study incorporating developments taking place in each of the region, CSR initiatives made by the mining companies shall be conducted on annual basis. Further, micro level developmental needs shall be clearly brought out in the report for each region. The study shall be conducted in consultation with district administration.	Respective District Administratio n	Annually
4.	A detailed hydro-geological study in each of the regions shall be conducted in an integrated manner in consultation with Regional Director, Central Ground Water Board. Accordingly, all project proponents shall implement suitable conservation measures to augment ground water resources in the area.	SPCB	Once in 2 years
5.	The State Govt. shall ensure construction and maintenance of dust free common roads/ appropriate rail network for transport of ore from mines to the consumer end.	Dept. of Steel & Mines	12 months for road network and 5-7 years for rail network
6.	Construction and maintenance of dust free roads from respective mine to the main road	Respective Mine Lease Holders	Continuous 6 months
7.	Traffic/road inspection study addressing the condition of traffic/roads leading to different mines and connecting to different railway sidings shall be undertaken on annual basis. Further, detailed traffic study shall be undertaken on every 5 yearly basis to ensure adequacy of road/rail infrastructure in each of the regions. The study can be undertaken through national/ state level research/ academic institute (such as CSIR-CRRI, New Delhi).	Dept. of Steel & Mines	Continuous 6 months
8.	Assessment of land use/ land cover changes in each of the regions, with particular focus on mining areas, afforestation activities, variation in flow path of various water bodies etc. using	ORSAC	Annually

	remote sensing data		
9.	R&D Studies for utilization of low-grade iron ore	Dept. of Steel & Mines through R&D / Academic Institutes	Upto 45% by 2020 and upto 40% by 2025

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

32) Institutional Mechanism for Implementation of Environmentally Sustainable Mining: The present study is not a one-time study, but a process to ensure environmentally sustainable mining activities in the region on long term basis. Looking into the large-scale mining activities and long term perspective for mining vis-à-vis environmentally sustainable mining and upliftment of people of the region, there is a need to create an agency, who will integrate all the aspects relating to sustainable mining in the region on long term basis. It could be a SPV of Govt. of Odisha or a cell within the overall control and supervision of Dept. of Steel & Mines, with members from IBM, GSI, OSPCB, MoEF&CC-RO and other concerned Departments and Mine Owners (EZMA), District Administration. It is found that the strong database available for the region needs to be taken into account to map and establish environmental quality of the region on daily, monthly, seasonal and annual basis. Further, the efforts and initiatives of the mines towards environmental protection as well as upliftment of the people of the region are required to be integrated, and a systematic plan at the block/regional level needs to be framed for the overall benefit of the local society, region, district, state and the country as a whole. It will be desirable to have proper environmental quality data management and analysis by NEERI or any other agency for next 5 years (six monthly compliance reports followed by field verification) ensuring sustainable mining practices in the region leading to an overall development of the region. District Mineral Funds should be utilized appropriately for various developmental activities/needs of the region. Further, an environmental sustainability report incorporating environmental status of region coupled with social upliftment may be brought out by SPCB or any other authorized agency on annual basis. This report can be used for supporting the regional EIA study, and also need for environmental quality monitoring by individual mine seeking environmental clearance for new mine/ expansion of mine, including public hearing. Since, outcome of the above study reports shall be in the overall interest of all the stakeholders (including local population) of the region, further planning for the region shall warrant cooperation and assistance of all the stakeholders (mine operators, industries, transporters, State & Central Government Offices, MoEF&CC, CPCB, SPCB, Dept. of Steel & Mines, IBM, IMD, NGOs and local people) in sharing the relevant data/information/ reports/documents etc. to continuously improve upon the environmentally sustainable development plan for economic growth in mining sector as well as for improvement in quality of life of the people of the region.

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Annexure-IV

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.

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List of Expert Appraisal Committee (Non Coal Mining)

Sl. No	Name and Address	Designation	Signature 30.07.2019	Signature 31.07.2019
1	**Dr. S.R. Wate,** 148/149, Nagar Vikas Society, Narendra Nagar, Nagpur440015, Maharashtra	Chairman		
2	**Dr. Ajay Deshpande,** Flat A-101, Pristine Privilege Apartments, Opposite Prism, Near RohanNilay, Behind Spicer College, Aundh, Pune-410007, Maharashtra	Member		
3	**Shri G.P. Kundargi,** Plot No. 32, MOIL Vatika, Chicholi Road, Fetri, Nagpur 441501, Maharashtra	Member		
4	**Dr. A.K. Malhotra,** C-6, SubhavnaNiketan, Road No. 41, Pitampura, Delhi-110034	Member		
5	**Dr. Gurdeep Singh,** Department of Environmental Science &Engg. Indian Institute of Technology (Indian School of Mines), Dhanbad-826004	Member		
6	**Shri B Ramesh Kumar,** H.No. 6-1-134/6, Balram Compound, Padmarao Nagar, Secunderabad-500025, Andhra Pradesh	Member		
7	**Dr. AshaRajvanshi,** WII, P.B# 18, chandrabani, Dehradun-248001, Uttarakhand	Member		
8	**Prof. S. Ramakrishna Rao,** D.No. 50-120-9/1, North Ext., Seethammadhara, Visakhapatnam-530013, Andhra Pradesh	Member		
9	**ShriSantosh Gupta,** Flat No. 405, Gaur Green Vista, NyayKhand-I, Indrapuram, Ghaziabad, UP-201014	Member		
10	**Dr. Parimal Chandra Bhattacharjee,** A/3 Asiyana Housing Complex Maligaon, Guwahati-781011, Assam	Member		
11	**Prof. MukeshKhare,** Department of Civil Engineering, IIT, Delhi	Member		
12	Representative of DGMS Head Office, Sardar Patel Nagar, Dhanbad, Jharkhand 826001 dg@dgms.gov.in	Member		
13	**ShriMantuBiswas,** Controller of Mines, IBM Block D, Second Floor, Indira Bhavan, Civil Lines, Nagpur - 440001	Member		
14	**Shri V.K. Soni,** Scientist 'E', IMD, New Delhi – 110 003	Member		
15	**Shri. Sundeep,** Director IA-Division (Non-coal Mining sector) Agni-A106, Indira Paryavaran Bhawan, Ministry of Environment, Forest &Climate Change, Jorbagh Road, New Delhi-110003	Member Secretary		
16	Nagamadhu, CPCB (Coopted with Mr. Gaurav Gehlot)			