

**PROCEEDINGS OF THE MEETING OF STATE LEVEL EXPERT APPRAISAL  
COMMITTEE, ODISHA HELD ON 03<sup>rd</sup> AUGUST, 2021**

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The SEAC met on 03<sup>rd</sup> August, 2021 at 03:00 PM through video conferencing in Google Meet under the Chairmanship of Sri. B.P. Singh. The following members were present in the meeting.

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|------------------------------|---|------------------------|
| 1. Sri. B. P. Singh          | - | Chairman (through VC)  |
| 2. Dr. K. Murugesan          | - | Secretary (through VC) |
| 3. Dr. D. Swain              | - | Member (through VC)    |
| 4. Prof. (Dr.) P.K. Mohanty  | - | Member (through VC)    |
| 5. Prof. (Dr.) H.B. Sahu     | - | Member (through VC)    |
| 6. Sri. J. K. Mahapatra      | - | Member (through VC)    |
| 7. Sri. K. R. Acharya        | - | Member (through VC)    |
| 8. Prof. (Dr.) B.K. Satpathy | - | Member (through VC)    |
| 9. Dr. Sailabala Padhi       | - | Member (through VC)    |

**CONSIDERATION OF OLD PROPOSALS (COMPLIANCE RECEIVED):**

The compliances furnished by the proponents were verified by the members through e-mail and also proceedings of the meeting were confirmed by the members through e-mail. The decision of the committee on case-to-case basis as follows:

**ITEM NO. 01**

**PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR CLUSTER-1 MINES CONSTITUTED OF ANJIRA & MAKUNDPUR HILLOCKS OVER AN AREA OF 137.86 ACRES OR 55.79 HECTARES LOCATED IN VILLAGES ANJIRA & MAKUNDPUR OF TAHASIL DHARMASALA, DISTRICT JAJPUR, ODISHA OF TAHASILDAR DHARMASALA - EC**

1. This is a proposal for Environmental Clearance of Cluster-1 Mines which is constituted of 15 nos of quarry leases of Anjira and Makundapur hillocks over an total area of 55.79 Ha./ 137.86 Ac. in village - Anjira & Makundpur, Tahasil – Dharmasala, District – Jajpur, Odisha of Tahasildar Dharmasala.
2. The project falls under Category “B1”, as per Notification of MOEF & CC vide S.O. No. 3977(E), Appendix- XI, dated the 14th August, 2018.
3. ToR for this project has been granted by SEIAA vide letter No. 8327/SEIAA dated 03.06.2020. The public hearing for the said project was conducted on 28.08.2020 at 10.30 AM at Kalyani Mandap, Marjitapur, Jajpur and the issues raised by the public has been address and an amount of Rs.21,00,000/- has been earmarked for peripheral developmental activities as per the public demand.
4. The total area is Govt. land comprising of 15 nos. quarry leases covering a total mineralised area of 55.79 Hectares or 137.86 Acres The cluster 1 mines has been sub divided into Cluster- 1A (Anjira) comprising mineralised area of Anjira hillock over 53.77 Ha, Cluster-1B (Anjira) comprising mineralised area of Anjira hillock over 1.21 Ha and Cluster-1C (Makundapur) comprising mineralised area of Makundapur hillock over 0.81 Ha.. The project site is located in survey of India toposheet no. 73L/1 and bounded between 20°50'13.50"N to 20°50'45.07"N and longitudes 86°01'46.89"E to 86°02'48.44"E. Whereas, Cluster-1A (Anjira) is bounded between the latitudes 20°50'22.48"N to 20°50'45.07"N and longitudes

86°01'46.89"E to 86°02'47.69"E, Cluster-IB (Anjira) is bounded between latitudes 20°50'13.50"N to 20°50'17.94"N and longitudes 86°02'02.49"E to 86°02'08.53"E and Cluster-IC (Makundapur) is bounded between latitudes 20°50'35.61"N to 20°50'38.25"N and longitudes 86°02'44.53"E to 86°02'48.44"E as per survey.

5. **Connectivity** - The cluster is well accessible through NH 200 which is located at a distance of about 200m, W & NH 5 at a distance of 11Km, E from the cluster. The area is at a distance of 2.5 km from Jenapur town. The nearest railway siding is at Jenapur railway station located at a distance of about 1.6 km from the cluster area. Nearest Airport is Biju Patnaik International Airport is at a distance of approx. 60 km from the project site. Kapilash wildlife sanctuary is located at a distance of 15Km from the cluster area. Nearest river is Brahmani River- 3.4 Km. Nearest Reserve forest is Nischinta RF - 5 Km. No state or national boundary exists within 10 Km radius of the project. Nearest habitation is Anjira village is 1 km.
6. Mining plan approved by Directorate of Geology, Govt. of Odisha vide letter no. 320 on dated 19.02.2020. The individual quarry lease of the cluster have either been auctioned or to be auctioned for long term quarry lease of 10 years for building stone/ Road metal by Tahasildar Dharmasala.
7. The geological reserve (Probable & Possible) for building stone/road metal has been estimated as 1,59,27,083 cum over the cluster-1A (Anjira), 2,81,145cum, over the cluster-1B (Anjira) & 1,64,745cum over the cluster-1C (Makundapur). Hence, the total geological reserve over Cluster-1 mineralised area has been estimated as 1, 63, 72,973cum. The mineable reserve (Probable) for building stone/road metal worked out to be 59,52,310 cum over the cluster-1A (Anjira) & 1701cum over the cluster-1B(Anjira) & cluster -1C (Makundapur) which comes under the 200 meters safety zone from existing revenue habitations. Hence, the total mineable reserve over Cluster-1 mineralized area has been estimated as 59, 54,011cum.
8. The Mine proposed to produce total 50, 00,000 cum of building stone/road metal during plan Period (Ten Years).
9. A total of 570 people include skilled workers - 100, Semi-skilled workers - 155 and unskilled workers - 300 nos will be employed during mining operation.
10. In the cluster-1 area, mining of rock mass will be worked out by opencast method of mining. Handling of rock mass will be done both manually and by excavators. Handpicks, spade, chisel, hammer will be used by manual labors for sorting and sizing. The loosening of rock mass will be done by drilling and blasting. Drilling will be done either by wagon drill or jack hammer taking in to consideration the bench height varying from 3 meter to 6m.
11. For blasting tentatively 2083kg/month of explosive will be required assuming powder factor 2m<sup>3</sup> /kg.
12. Mine road will be maintained between benches with Suitable gradient of haul road will be maintained in between 1 in 16 to 1 in 20.
13. Ultimate depth of Mining of Cluster 1A and 1B would be 35m & 21m respectively. Ultimate extent of the quarry is 25.688 hectares in Cluster-1A (Anjira) & 0.046 hectares in Cluster-1B (Anjira).
14. Life of Mines: 12 Years

15. Water Requirement - 40 KLD of water will be required from which 15 KLD of water will be required for drinking & domestic purpose. 20 KLD of water is suggested to be utilized for dust suppression and 5 KLD for plantation purpose. Water will be sourced from ground water and rain water harvesting from the existing quarry.
16. The Cluster-1 area is partly covered with soil mixed rock boulders/pebbles followed by granite gneiss/charnockite/migmatite deposit. The soil to be generated will be stacked in the earmarked temporary soil stack and will be utilised for the plantation purpose to be undertaken around the respective hill/patch and adjacent to haul roads of the same in Cluster-1.
17. A total of 228065 cu.m top-soil mixed with boulders and pebbles are envisaged to be generated during the plan period in course of mining. It is proposed to store this top-soil in the earmarked site and will be utilized for nearby avenue plantation purpose after separated out from the mixed rock boulders and pebbles. These are the portions of total excavation which are not suitable for construction purpose due to weathering and softness. It will not be possible to separate the total waste from the suitable building stone/road metal at the quarry head. It is assumed that around 20% of the waste will be transported to the crusher site along with valuable building stone/road metal where these will be sorted out. The remaining 10% of the total waste will be separated at the quarry head and will be stacked in the temporary waste dump of respective quarry lease and will be utilized by the lessee for making of mine road and allied infrastructures.
18. In the process, 35440 nos. of saplings will be used for plantation in the quarried out areas of 29.534Ha. within total cluster, avenue plantation along approaching roads will be 5000nos. of saplings in 2.0 Ha. respectively.
19. Baseline data collection was during the period of 1st March to 22nd March 2020 and 1st April to 7th June 2020.
20. During the study period the concentration of PM10 varies from 46.41-78 $\mu$ g/m<sup>3</sup> and PM2.5 varies from 21.09-48  $\mu$ g / m<sup>3</sup>. The concentration of SO<sub>2</sub> varies from 6.42-11.2  $\mu$ g / m<sup>3</sup> and NO<sub>x</sub> concentrations vary from 12.38-20.36  $\mu$ g / m<sup>3</sup>. From the ambient air quality monitoring carried out for three months (March-May 2020) of the study period shows that the critical pollutants like PM10, SO<sub>x</sub> and NO<sub>x</sub> are well within the permissible limits.
21. The surface water quality results it can be inferred that all the parameters analyzed are under the prescribed limit as per IS 2296:1982; class C and the water does not contain any pollutant which would be hazardous for human, animal or crop health.
22. Analysis of ground water reveals that the pH level of the ground water sample ranges from 6.7-7.7. This indicates that the pH of the ground water in the study area is neutral and as per the drinking water standard, Total hardness ranges from 144-712 mg/l, and total dissolved solid ranges from 270 to 1450mg/l, Alkalinity ranges from 90-469 mg/l.
23. The noise level as measured in the core zone is 55.4 dB (A) in day time and 43.2 dB (A) in the night time. In the buffer zone the noise level ranges from 41.6 to 56.4 dBA during day time and 31.6 to 41.6 dBA during night time. The noise level is below the standard as per the Noise Rule, 2000 for rural area. The lease area and all the sampling points are comes under rural area.

24. The total estimated cost of the project is approximately INR `400 lakhs. and recurring cost (per annum) for the environmental facilities for the proposed mining project works out to be Rs. 40 lakhs and ` 20 lakh / year respectively.
25. The Environment consultant **M/s Kalyani Laboratories (Pvt) Ltd. Pahala, Bhubaneswar** along with the proponent has made a detailed presentation on EIA/EMP report.
26. The SEAC in its meeting held on Dt: 06.04.2021, recommended that the proponent should incorporate the following information / documents in the EIA/EMP report in cluster approach and submit the final EIA/EMP report (cluster approach) for approval. The project proponent has furnished the compliance and the SEAC verified the same as follows:

SI. No.	Information Sought by SEAC	Compliance furnished by the proponent
(i)	Kisam of land and certificate from concerned DFO/Tahasildar that there is no involvement of DLC/forest land in the lease area.	The land schedule and Certificate to the effect that there is no involvement of DLC forest in the area of Cluster is annexed. Annexure- XII
(ii)	Details of 15 quarry leases in cluster.	Attached as Annexure XIII
(iii)	Status of complaints/court cases/legal action regarding to leases in cluster along with a detailed write up indicating case no., purpose of the case etc.	No complaint / court case / legal action pending against the individual leases in the cluster. Details attached as <b>Annexure XIV</b> in the reply.
(iv)	Inversion study to be undertaken for atmospheric topography on fugitive emissions and dusts.	Attached as Annexure I
(v)	Three tier plantation detailed layout plan.	Attached as Annexure II
(vi)	Year wise production of the cluster in past.	Attached as Annexure XV
(vii)	Detailed layout plan showing storage of overburden, plantation, internal roads, common haulage road for 15 leases including OB/mineral waste management with intermediate dynamic inventory holding (Maximum and minimum stock).	Attached as Annexure XVI
viii)	Details of explosives to be used and its storage area and its management including license/permission/authorization or storage and use of explosives and to confirm no use of wagon drilling blasting.	Attached As Annexure XVII
(ix)	Air quality Predictive simulation model study for PM <sub>2.5</sub> and PM <sub>10</sub> for next 5, 10, 12 years when cluster will start to operate.	The EIA/EMP study which requires short term data only for 3 months and the modeling is being carried out based on the 3 months non monsoon data only.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		<p>The AERMOD – Air pollution modeling software has been predesigned for carry out prediction model based on the three months data.</p> <p>Carrying out the modeling for 5, 10 and 12 years require long term meteorological and ambient air quality data which is beyond the scope of EIA study.</p> <p>This may be carried out by the district administration under the post EC monitoring plan.</p>
(x)	Details of silt management, water logging management and Waste Water Management, besides discharge / disposal management with SOP / mechanism of water accumulated during rainy season in mines pit including silt management/removal ingress to agricultural lands.	Attached As Annexure XVIII
(xi)	Study report on ground water of that area and mitigation measures taken for non-contamination of ground water due to mining.	Ground water study report has already been incorporated in EIA report. The said report along with mitigation measures has further incorporated as Annexure-III.
(xii)	Details of Zero discharge proposal.	As it is a mining activity no water is involved in the process. So there will be no waste water generated due to mining activity. The domestic effluents generation will be approximately 1KLD only which will be discharged to soak pits through septic tank. So no waste water will be discharged to outside. Runoff water from mine head will be stored in the abandon pit (Rain water harvesting) and utilized for dust suppression, plantation and other activities.
xiii)	Details of waste management i.e. composition and nature of waste generated, tabulated form showing year wise waste generation, usage and storage i.e. complete waste / dump / OB management.	Attached as Annexure IV
xiv)	Total Plantation should be carried out within 2-3 years and maintenance to be continued in remaining years. Trees present in	The plantation proposed will be carried out within a stipulated period of 2 years followed by maintenance of green belt. Detail plan attached

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	mining area should be uprooted & transplanted in safety zone. Monitoring of plantation to be undertaken twice a year.	Annexure-II. The monitoring for survival and growth of the saplings will be carried out twice in a year. There are no trees found within the working zone. So uprooting of trees not required.
(xv)	Sludge disposal from ETP and settling tanks, rain water harvesting and usage /recharge / recycling of it to reduce the use of ground water.	As there is no waste water generation from the mining, there is no proposal for establishment of ETP in the mining lease. Further the details of settling tank and rain water harvesting pit has been given in Annexure V.
(xvi)	Detailed proposal for Rain water Harvesting and water balance (both monsoon and non-monsoon)	Attached as Annexure V.
(xvii)	Copy of modified mining plan incorporating progressive mine closure plan.	The approved mining plan contains the Mine Closure Plan i.e. Chapter 10 as per Form O of OMMCR 2016. The measures to be adopted towards Progressive Mine Closure have been covered under this chapter. As this is a road metal resource and the depth continuity of the resource is unknown at present, final closure proposals of the cluster cannot be planned now and proposals of this chapter pertains to both for lease period i.e. progressive closure and for conceptual period i.e. final closure. Hence, modification of mining plan is not required. Annexure XX
(xviii)	Occupational Health Study report, including identification of occupational health hazards for employees as well as neighboring habitation, remedial measures for it and periodical health checkups, at least once in six months by occupational health expert.	The occupational health study will be carried out after the mining cluster will be in operation. The plan for occupational health checkup for the mines worker and nearby population attached as Annexure VI.
(xix)	Detailed surface runoff management plan.	Attached as Annexure VII.
(xx)	Proceedings of public hearing to be submitted and actions proposed to be taken in physical terms for the environmental issues raised.	Attached as Annexure VIII.
(xxi)	An undertaking that they will not touch the ground water table in	Attached As Annexure XIX

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	next 10 years. In case of intersection with ground water, details of dewatering plan and disaster management to be submitted.	
xii)	Mining activity will affect the bio-diversity of the area. How bio-diversity of the area will be managed during mining activity. Study to be carried out about damage to bio-diversity during mining activity.	Attached as Annexure IX
xiii)	Details of the CSR activity along with socioeconomic study to be undertaken.	Attached as Annexure X
xiv)	Traffic density study to be undertaken at exit and entry point of mines, intersecting points of haulage road with NH/SH/Public Road and at crusher points.	Attached as Annexure XI
xv)	NOC from CGWA and permission from WR department, Govt. Of Odisha for use of ground water.	As there is no proposal for ground water withdrawal so NOC is not required for the proposed project. The water required for domestic purpose will be transported to mines area through tanker by lessee. Depth of quarry is 40m so there will no ground water intersection due to mining. So NOC from CGWA is not required.
xvi)	Mining closure plan including fencing/retaining walls alongside the boundary of the mines-details to be submitted.	During the lease period, it is proposed to undertake barbed wire fencing along with retaining walls all along the boundaries of the individual leases (PI refer the layout plan). The height and width of the retaining wall would be 2m and 1m respectively. Mining closure plan is already been submitted with the mining plan (Chapter 10). Copy attached.

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s Kalyani Laboratories (Pvt) Ltd. Pahala, Bhubaneswar on behalf of the proponent, the SEAC approved the EIA/EMP report in cluster approach and recommended the following:**

- a) The SEIAA, Odisha may consider to grant Environmental Clearance to individual lease (for **15 nos.** quarry leases) in cluster with specific conditions as per **Annexure-A** after receipt of individual applications from the lessee in cluster along with following documents.
  - i) Filled in form-I of individual lease
  - ii) Prefeasibility report of individual lease
  - iii) EMP of individual lease.

- iv) Approved Mining Plan of individual lease
- v) DLC status of the lease area from concerned DFO as certified by the concerned Tahasildar.
- vi) An Undertaking by the lessee not to use wagon drilling blasting to be submitted. Accordingly, specific condition to be stipulated in EC of individual lease.
- vii) No storage and usage of blasting materials/explosives inside the lease area without license/permission/authorization from competent Authority as per Indian Explosives Rules, 1983 shall be ensured by the lessee. An undertaking to this effect shall be submitted by the lessee. Accordingly, specific condition to be stipulated in EC of individual lease.
- viii) Traffic Density study at Crusher points is found to be not undertaken and so also silt management to arrest or removal of in-grassed silts to surrounding agricultural fields if any. Thus, an undertaking needs to be obtained from individual lessee.

## **ITEM NO. 02**

### **PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR CLUSTER-2 MINES CONSTITUTED OF ARUHA HILLOCKS OVER AN AREA OF 148.00 ACRES OR 59.89 HECTARES LOCATED IN VILLAGE – ARUHA, TAHASIL – DHARMASALA, DISTRICT- JAJPUR, ODISHA OF TAHASILDAR DHARMASALA - EC**

1. This is a proposal for Environmental Clearance of Cluster-2 Mines which is constituted of 5 nos of quarry leases of Aruha hillocks, over an area of 148.00 Acres or 59.89 Hectares located in village - Aruha of Tahasil Dharmasala, District Jajpur, Odisha of Tahasildar Dharmasala.
2. The project falls under Category “B1”, as per Notification of MOEF & CC vide S.O. No. 3977(E), Appendix- XI, dated the 14th August, 2018.
3. ToR for this project has been granted by SEIAA vide letter No. 8344/SEIAA dated 03.06.2020. The public hearing for the said project was conducted on 26.08.2020 at 10.30 AM at Dharmasala Bhawan, Chandikhole, Jajpur and the issues raised by the public has been address and an amount of Rs.21,00,000/- has been earmarked for peripheral developmental activities as per the public demand.
4. The total area is Govt. land comprising of 5 nos. quarry leases covering a total mineralized area of 59.89Ha or 148.00 Acres located in village/Mouza - Aruha of Dharmasala Tahasil of Jajpur District, Odisha. The project site is located in survey of India toposheet no. 73L/1 and bounded between the latitudes 20°44'32.54"N to 20°44'12.94"N and Longitudes 86°05'53.25"E to 86°06'43.76"E as per survey.
5. **Connectivity** - The cluster is well accessible through NH 200 which is located at a distance of about 0.5km and NH-5 is about 3.5km from the cluster. The area is at a distance of 4 km from Chandikhole town. The nearest railway siding is at Haridashpur railway station located at a distance of about 2km from the cluster area. Nearest Airport is Biju Patnaik International Airport is at a distance of approx. 60 km from the project site. Kapilash wildlife sanctuary is located at a distance of 15Km from the cluster area. Nearest river is Brahmani River- 4 Km. Nearest Reserve forest is Mahabinayak RF - 4 Km. No state or national boundary exists within 10 Km radius of the project. Nearest habitation is Aruha village.
6. Mining plan approved by Directorate of Geology, Govt. of Odisha vide letter no. 320 on dated 19.02.2020. The individual quarry lease of the cluster have either been auctioned or



to be auctioned for long term quarry lease of 10 years for building stone/ Road metal by Tahasildar Dharmasala.

7. The geological reserve (Probable & Possible) for building stone/road metal has been estimated as 2,99,02,694 Cum. the mineable reserve (Probable) for building stone/road metal is worked out to be 2,08, 61,702cum over the Cluster-2.
8. The Mine proposed to produce total 20, 00,000 cum of building stone/road metal during plan Period (Ten Years).
9. A total of 807 people include Skilled workers 100, Semi-skilled workers 200 and Unskilled workers 50nos will be employed during mining operation.
10. Mining of rock mass will be worked out by opencast method of mining. Handling of rock mass will be done both manually and by excavators. Handpicks, spade, chisel, hammer will be used by manual labors for sorting and sizing.
11. The loosening of rock mass will be done by drilling and blasting. Drilling will be done either by wagon drill or jack hammer taking in to consideration the bench height varying from 3 meter to 6m.
12. Assuming 20,00,000 m<sup>3</sup>(max) productions per annum of Cluster-2, the monthly production target will be around 1, 66,666m<sup>3</sup>.
13. To produce 1,66,666m<sup>3</sup> of rock mass, tentatively 83,333 kg/month of explosive will be required assuming powder factor 2m<sup>3</sup> /kg. The excavated rock mass will be loaded in to 10T/20T capacity tippers/trucks by excavators. As the loading, drilling and transportation will be partly achieved through use of machineries, the mines come under semi-mechanised category.
14. The bench heights will be 3 m to 6m (max). The width of the benches will be kept either equal or more than the height. The slope of the individual bench will be maintained at around 80<sup>0</sup> to 85<sup>0</sup> with ultimate pit slope of less than 45<sup>0</sup>.
15. Mine road will be maintained between benches with Suitable gradient of haul road will be maintained in between 1 in 16 to 1 in 20.
16. Ultimate depth of Mining Cluster 2 mines is 23mRL respectively. Ultimate extent of the quarry is 59.89Ha.
17. Life of Mines: 12 Years
18. A total of 828960 cum of top-soil mixed with boulders and pebbles are envisaged to be generated during the plan period in course of mining. It is proposed to store this top-soil in the earmarked site and will be utilized for nearby avenue plantation purpose after separated out from the mixed rock boulders and pebbles. Construction of retaining wall and plantation around proposed dump will be carried out.
19. Water Requirement - 40 KLD of water will be required from which 15 KLD of water will be required for drinking & domestic purpose. 20 KLD of water is suggested to be utilized for dust suppression and 5 KLD for plantation purpose. Water will be sourced from ground water and rain water harvesting from the existing quarry.
20. A total of 228065 cu.m top-soil mixed with boulders and pebbles are envisaged to be generated during the plan period in course of mining. It is proposed to store this top-soil in the earmarked site and will be utilized for nearby avenue plantation purpose after separated

out from the mixed rock boulders and pebbles. These are the portions of total excavation which are not suitable for construction purpose due to weathering and softness. It will not be possible to separate the total waste from the suitable building stone/road metal at the quarry head. It is assumed that around 20% of the waste will be transported to the crusher site along with valuable building stone/road metal where these will be sorted out. The remaining 10% of the total waste will be separated at the quarry head and will be stacked in the temporary waste dump of respective quarry lease and will be utilized by the lessee for making of mine road and allied infrastructures.

21. In the process, 15290 nos. of saplings will be used for plantation in the quarried out areas of 12.74Ha. in the Cluster-2 and 56580 nos. of saplings will be planted in 47.15Ha. at the end of conceptual period respectively.
22. Baseline data collection was during the period of 1st March to 22nd March 2020 and 1st April to 7th June 2020.
23. During the study period the concentration of PM10 varies from 35.24-72.04µg/m<sup>3</sup> and PM2.5 varies from 21.09-42.37 µg / m<sup>3</sup>. The concentration of SO<sub>2</sub> varies from 4-9.39 µg / m<sup>3</sup> and NO<sub>x</sub> concentrations vary from 9.06-18.45 µg / m<sup>3</sup>. From the ambient air quality monitoring carried out for three months (March-May 2020) of the study period shows that the critical pollutants like PM10, SO<sub>x</sub> and NO<sub>x</sub> are well within the permissible limits.
24. The surface water quality results it can be inferred that all the parameters analyzed are under the prescribed limit as per IS 2296:1982; class C and the water does not contain any pollutant which would be hazardous for human, animal or crop health.
25. Analysis of ground water reveals that the pH level of the ground water sample ranges from 6.7-7.7. This indicates that the pH of the ground water in the study area is neutral and as per the drinking water standard, Total hardness ranges from 144-712 mg/l, and total dissolved solid ranges from 270 to 1450mg/l, Alkalinity ranges from 90-469 mg/l.
26. The noise level as measured in the core zone is 55.6 dB (A) in day time and 39.4 dB (A) in the night time. In the buffer zone the noise level ranges from 42.3 to 52.3 dBA during day time and 38.2 41.9 dBA during night time. The noise level is below the standard as per the Noise Rule, 2000 for rural area. The lease area and all the sampling points are comes under rural area.
27. The total estimated cost of the project is approximately INR `400 lakhs. and recurring cost (per annum) for the environmental facilities for the proposed mining project works out to be Rs. 40 lakhs and ` 20 lakh / year respectively.
28. The Environment consultant **M/s Kalyani Laboratories (Pvt) Ltd. Pahala, Bhubaneswar** along with the proponent has made a detailed presentation on EIA/EMP report.
29. The SEAC in its meeting held on Dt: 06.04.2021, recommended that the proponent should incorporate the following information / documents in the EIA/EMP report in cluster approach and submit the final EIA/EMP report (cluster approach) for approval. The project proponent has furnished the compliance and the SEAC verified the same as follows:

SI. No.	Information Sought by SEAC	Compliance furnished by the proponent
(i)	Kisam of land and certificate from concerned DFO/Tahasildar that there no involvement of forest land in the lease area.	The land schedule and Certificate to the effect that there is no involvement of DLC forest in the area of Cluster is annexed. Annexure- XII.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
(ii)	Details of 05 quarry leases in cluster.	Attached as Annexure XIII
(iii)	Status of complaints/ court cases/legal action regarding to leases in cluster along with a detailed write up indicating case no., purpose of the case etc	A court case WPC No. 19948/2016 is pending against Aruha Black Stone Quarry no. 2. The purpose of the case is to cancellation of auction as the lease period is less than 5 years. No complaint / court case / legal action are pending against other four leases in cluster. Details attached as <b>Annexure XIV</b> in reply.
(iv)	Inversion study to be undertaken for atmospheric topography on fugitive emissions and dusts.	Attached As Annexure I
(v)	Three tier plantation detailed layout plan.	Attached As Annexure II
(vi)	Year wise production of the cluster in past.	Attached As Annexure XV
(vii)	Safety measures to be undertaken for nearby by sensitive places.	The nearby village, Anganwadi and school is located at a distance of 500m from the lease cluster boundary. The safety zone of 200m has been measured during the allocation of the individual lease as well as the cluster. Further following safety measures will be adopted. <ol style="list-style-type: none"> <li>1. Muffle blasting will be carried out in day time only to reduce fly rock</li> <li>2. Wagon drilling will not be used</li> <li>3. Three tier plantation will be carried out in the safety zone to arrest pollution load within the cluster area.</li> </ol>
(viii)	Detailed layout plan showing storage of overburden, plantation, internal roads, common haulage road for 15 leases including OB/mineral waste management with intermediate dynamic inventory holding ( Maximum and minimum stock).	Attached As Annexure XVI
(ix)	Details of explosives to be used and its storage area and its management including license/permission/authorization or storage and use of explosives and to confirm no use of wagon drilling blasting.	Attached As Annexure XVII
(x)	Air quality Predictive simulation model study for PM 2.5 and PM	The EIA/EMP study which requires short term data only for 3 months and the

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	10 for next 5, 10, 12 years when cluster will start to operate.	<p>modeling is being carried out based on the 3 months non monsoon data only. The AERMOD – Air pollution modeling software has been predesigned for carry out prediction model based on the three months data.</p> <p>Carrying out the modeling for 5, 10 and 12 years require long term meteorological and ambient air quality data which is beyond the scope of EIA study.</p> <p>The long term impact assessment may be taken up by district administration as a part of post EC monitoring plan.</p>
(xi)	Details of silt management, water logging management and Waste Water Management, besides discharge / disposal management with SOP / mechanism of water accumulated during rainy season in mines pit including silt management/removal ingress to agricultural lands.	Attached As Annexure XVIII
(xii)	Study report on ground water of that area and mitigation measures taken for non-contamination of ground water due to mining.	Ground water study report has already been incorporated in EIA report. The said report along with mitigation measures has further incorporated as Annexure-III.
(xiii)	Details of Zero discharge proposal.	As it is a mining activity no water is involved in the process. So there will be no waste water generated due to mining activity. The domestic effluents generation will be approximately 1KLD only which will be discharged to soak pits through septic tank. So no waste water will be discharged to outside. Runoff water from mine head will be stored in the abandon pit (Rain water harvesting) and utilized for dust suppression, plantation and other activities.
(xiv)	Report on ground water table if intersected due to mining, contamination and results and mitigation measures.	However, after 10 years (plan period) of mining the tentative bottom RLs of Cluster 2 would be 26.2mRL. This is above the ground water table as the RL of ground water table is around 12 m. Therefore such depth of working would not affect the ground water table.
(xv)	Design and cross-section of check dams.	Check dams shall be constructed at strategic points in order to restrict the flowing speed of surface runoff within the garland drain and to settle down the

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		suspended particles during monsoon. The dimension of the check dams will be length 1m., base width 0.6m., top width 0.4m. and height 0.5m. The check dams will be trapezoid shaped and the section has been submitted as Annexure- XVIII.
(xvi)	Separation of topsoil and subsoil to be done.	A total of 828960m <sup>3</sup> of top-soil mixed with boulders and pebbles are envisaged to be generated during the plan period in course of mining. It is proposed to store this top-soil in the earmarked site and will be utilized for nearby avenue plantation purpose after separated out from the mixed rock boulders and pebbles. If required, the portion of soil unsuitable for plantation will be sold out to intending users for construction purpose after obtaining permission from concerned authority and payment of advance Royalty.
(xvii)	Agreement copies.	Attached
(xviii)	Details of waste management i.e. composition and nature of waste generated, tabulated form showing year wise waste generation, usage and storage i.e. complete waste / dump / OB management.	Attached as Annexure IV
(xix)	Total Plantation should be carried out within 2-3 years and maintenance to be continued in remaining years. Trees present in mining area should be uprooted & transplanted in safety zone. Monitoring of plantation to be undertaken twice a year.	The proposed green belt plan has been given in Annexure II. The plantation activities will be carried out within 2 years of the plan period followed by maintenance. The monitoring of survival rate of saplings and the replacement of Saplings will be carried out once in 6 months.
(xx)	Sludge disposal from ETP and settling tanks, rain water harvesting and usage /recharge / recycling of it to reduce the use of ground water.	As there is no waste water generation from the mining, there is no proposal for establishment of ETP in the mining lease. Further the details of settling tank and rain water harvesting pit has been given in Annexure V.
(xxi)	Detailed proposal for Rain water Harvesting and water balance (both monsoon and non-monsoon)	Attached as Annexure V
(xxii)	Copy of modified mining plan incorporating progressive mine closure plan.	The approved mining plan contains the Mine Closure Plan i.e. Chapter 10 as per Form O of OMMCR 2016. The measures to be adopted towards Progressive Mine Closure have been covered under this chapter. As this is a

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		road metal resource and the depth continuity of the resource is unknown at present, final closure proposals of the cluster cannot be planned now and proposals of this chapter pertains to both for lease period i.e. progressive closure and for conceptual period i.e. final closure. Hence, modification of mining plan is not required. Copy of the mine closure plan attached.
(xxiii)	Occupational Health Study report, including identification of occupational health hazards for employees as well as neighboring habitation, remedial measures for it and periodical health checkups, at least once in six months by occupational health expert.	The occupational health study will be carried out after the mining cluster will be in operation. The plan for occupational health checkup for the mines worker and nearby population attached as Annexure VI.
(xxiv)	Detailed surface runoff management plan.	Attached as Annexure VII.
(xxv)	Proceedings of public hearing to be submitted and actions proposed to be taken in physical terms for the environmental issues raised.	Attached as Annexure VIII.
(xxvi)	An undertaking that they will not touch the ground water table in next 10 years. In case of intersection with ground water, details of dewatering plan and disaster management to be submitted.	Attached as Annexure XIX
xxvii)	Mining activity will affect the bio-diversity of the area. How bio-diversity of the area will be managed during mining activity. Study to be carried out about damage to bio-diversity during mining activity.	Attached as Annexure IX
xxviii)	Details of the CSR activity along with socioeconomic study to be undertaken.	Attached as Annexure X
(xxix)	Traffic density study to be undertaken at exit and entry point of mines, intersecting points of haulage road with NH/SH/Public road and at crusher points.	Attached as Annexure XI
(xxx)	NOC from CGWA and permission from WR department, Govt. Of Odisha for	As there is no proposal for ground water Withdrawal so NOC is not required for the proposed project.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	use of ground water.	The water required for domestic purpose will be transported to mines area through tanker by lessee. Depth of quarry is 40m so there will no ground water intersection due to mining. So NOC from CGWA is not required.
(xxxii)	Mining closure plan including fencing/retaining walls alongside the boundary of the mines- details to be submitted.	During the lease period, it is proposed to undertake barbed wire fencing along with retaining walls all along the boundaries of the individual leases (PI refer the layout plan). The height and width of the retaining wall would be 2m and 1m respectively.

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s Kalyani Laboratories (Pvt) Ltd. Pahala, Bhubaneswar on behalf of the proponent, the SEAC approved the EIA/EMP report in cluster approach and recommended the following:**

- a) The SEIAA, Odisha may consider to grant Environmental Clearance to individual lease (for **05 nos.** quarry leases) in cluster with specific conditions as per **Annexure-A** after receipt of individual applications from the lessee in cluster along with following documents.
  - i) Filled in form-I of individual lease
  - ii) Prefeasibility report of individual lease
  - iii) EMP of individual lease.
  - iv) Approved Mining Plan of individual lease
  - v) DLC status of the lease area from concerned DFO as certified by the concerned Tahasildar.
  - vi) An Undertaking by the lessee not to use wagon drilling blasting to be submitted. Accordingly, specific condition to be stipulated in EC of individual lease.
  - vii) No storage and usage of blasting materials/explosives inside the lease area without license/permission/authorization from competent Authority as per Indian Explosives Rules, 1983 shall be ensured by the lessee. An undertaking to this effect shall be submitted by the lessee. Accordingly, specific condition to be stipulated in EC of individual lease.
  - viii) Traffic Density study at Crusher points is found to be not undertaken and so also silt management to arrest or removal of in-grassed silts to surrounding agricultural fields if any. Thus, an undertaking needs to be obtained from individual lessee.

### **ITEM NO. 03**

#### **PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR CLUSTER-3 MINES CONSTITUTED OF BAJABATI HILLOCKS OVER AN AREA OF 35.66 ACRES OR 14.43 HECTARES LOCATED IN VILLAGES- BAJABATI, TAHASIL- DHARMASALA, DISTRICT- JAJPUR, ODISHA OF TAHASILDAR DHARMASALA - EC**

1. This is a proposal for Environmental Clearance of Cluster-3 mines which is constituted of 6 nos of quarry leases of Bajabati hillocks over an area of 35.66 Acres or 14.43 Hectares

located in villages- Bajabati of Tahasil Dharmasala, District Jajpur, Odisha of Tahasildar Dharmasala.

2. The project falls under Category "B1", as per Notification of MOEF & CC vide S.O. No. 3977(E), Appendix- XI, dated the 14th August, 2018.
3. ToR for this project has been granted by SEIAA vide letter No. 8318/SEIAA dated 03.06.2020. The public hearing for the said project was conducted on 26.08.2020 at 02.30 PM at Dharmasala Bhawan, Chandikhole, Jajpur and the issues raised by the public has been address and an amount of Rs.7,00,000/- has been earmarked for peripheral developmental activities as per the public demand.
4. The total area is Govt. land consisting of 6 nos of quarry leases of Bajabati hillocks covering a total mineralized area of 35.66Acres or 14.43Hectares located in village/Mouza - Bajabati of Dharmasala Tahasil of Jajpur District, Odisha. The cluster 3 mines has been further sub divided to three sub-clusters, viz., Cluster- 3A comprising mineralised area over 9.18 Ha, Cluster-3B comprising mineralised area over 4.04 Ha and Cluster-3C comprising mineralised area over 1.21 Ha. The project site is located in survey of India toposheet no. 73 L/2 and bounded between the latitudes from 20°45'46.74"N to 20°46'08.96"N and Longitudes 86°06'04.77"E to 86°06'37.98"E. Whereas, Cluster-3A is bounded between the latitudes 20°45'46.74"N to 20°45'59.49"N and longitudes 86°06'25.03"E to 86°06'37.98"E, Cluster-3B is bounded between latitudes 20°46'02.09"N to 20°46'08.96"N and longitudes 86°06'24.29"E to 86°06'36.77"E and Cluster-3C is bounded between latitudes 20°45'56.62"N to 20°46'00.72"N and longitudes 86°06'04.77"E to 86°06'09.42"E as per survey.
5. **Connectivity** - The cluster is well accessible through NH 200 which is located at a distance of about 2Km, SW & NH 5 at a distance of 5Km, E from the cluster. The area is at a distance of 3 km from Jenapur town. The nearest railway siding is at Haridashpur railway station located at a distance of about 4.5 km, SSE from the cluster area. Nearest Airport is Biju Patnaik International Airport is at a distance of approx. 60 km from the project site. Kapilash wildlife sanctuary is located at a distance of 15Km from the cluster area. Nearest river is Brahmani River- 2.5Km. Nearest Reserve forest is Mahabinayak RF - 6 Km. No state or national boundary exists within 10 Km radius of the project. Nearest habitation is Bajabati village – 1km.
6. The mining plan for Cluster-3 constituted of Bajabati building stone quarry has been approved by the Deputy Director Mines Jajpur Road Circle, Jajpur Road Odisha vide letter no. 314 on dated 19.02.2020. The individual quarry lease of the cluster have either been auctioned or to be auctioned for long term quarry lease of 10 years for building stone/ Road metal by Tahasildar Dharmasala.
7. The geological reserve (Probable & Possible) for building stone/road metal has been estimated as 22,63,388 cum over the cluster-3A (Bajabati), 5,65,740cum over the cluster-3B (Bajabati) & 1,26,932cum over the cluster-3C (Bajabati). Hence, the total geological reserve over Cluster-3 mineralised area has been estimated as 29,56,060 cum. The mineable reserve (Probable) for building stone/road metal worked out to be 15,22,433 cum over the cluster-3A (Bajabati), 3,53,415cum over the cluster-3B (Bajabati) & 36,519cum over the cluster-3C (Bajabati). Hence, the total mineable reserve over Cluster-3 mineralised area has been estimated as 19,12,367cum.



8. The Mine proposed to produce total 18, 00,000 cum of building stone/road metal during Plan Period (Ten Years).
9. A total of 130 people include skilled workers 15, Semi-skilled workers 35 and unskilled workers 75 nos. will be employed during mining operation.
10. Mining of rock mass will be worked out by opencast method of mining. Handling of rock mass will be done both manually and by excavators. Handpicks, spade, chisel, hammer will be used by manual labors for sorting and sizing.
11. The loosening of rock mass will be done by drilling and blasting. Drilling will be done either by wagon drill or jack hammer taking in to consideration the bench height varying from 3 meter to 6m.
12. For blasting tentatively 7500kg/month of explosive will be required assuming powder factor 2m<sup>3</sup> /kg. The excavated rock mass will be loaded in to 10T/20T capacity tippers/trucks by excavators. As the loading, drilling and transportation will be partly achieved through use of machineries, the mines come under semi-mechanised category.
13. The bench heights will be 3 m to 6m (max). The width of the benches will be kept either equal or more than the height. The slope of the individual bench will be maintained at around 80<sup>0</sup> to 85<sup>0</sup> with ultimate pit slope of less than 45<sup>0</sup>.
14. Mine road will be maintained between benches with Suitable gradient of haul road will be maintained in between 1 in 16 to 1 in 20.
15. Ultimate depth of Mining Cluster 3A, 3B and 3C will not be more than 10mRL. Ultimate extent of the quarry will be confined to the area of 7.33 hectares in Cluster-3A (Bajabati), 3.37 hectares in Cluster-3B (Bajabati) & 0.98 hectares in Cluster-3C (Bajabati).
16. Life of Mines: 12 Years
17. Water Requirement - 15 KLD of potable water will be required from which 7.5 KLD of water will be required for drinking & domestic purpose. 5 KLD of water is suggested to be utilized for dust suppression and 2.5 KLD for plantation purpose. Water will be sourced from ground water and rain water harvesting from the existing quarry.
18. A total of 51,158m<sup>3</sup> (43632m<sup>3</sup> in Cluster3A + 7526m<sup>3</sup> in Cluster3B) top-soil mixed with boulders and pebbles are envisaged to be generated during the plan period in course of mining. It is proposed to store this top-soil in the earmarked site and will be utilized for nearby avenue plantation purpose after separated out from the mixed rock boulders and pebbles. These are the portions of total excavation which are not suitable for construction purpose due to weathering and softness. It will not be possible to separate the total waste from the suitable building stone/road metal at the quarry head. It is assumed that around 20% of the waste will be transported to the crusher site along with valuable building stone/road metal where these will be sorted out. The remaining 10% of the total waste will be separated at the quarry head and will be stacked in the temporary waste dump of respective quarry lease and will be utilized by the lessee for making of mine road and allied infrastructures.
19. In the process, 1067 nos. of saplings will be used for plantation in the quarried out areas of 1.6481Ha. in the Cluster-3 and 14016 nos. of saplings will be planted in 11.68Ha. at the end of conceptual period respectively.

20. During the conceptual period the abandoned quarry will converted to water reservoir and plantation will developed along the boundary.
21. Baseline data collection was during the period of 1st March to 22nd March 2020 and 1st April to 7th June 2020.
22. During the study period the concentration of PM10 varies from 35.02-80.0µg/m<sup>3</sup> and PM2.5 varies from 21.01-43.5µg /m<sup>3</sup>. The concentration of SO<sub>2</sub> varies from 4-10.4µg /m<sup>3</sup> and NO<sub>x</sub> concentrations vary from 9.1-20.4µg /m<sup>3</sup>. From the ambient air quality monitoring carried out for three months (March-May 2020) of the study period shows that the critical pollutants like PM10, Sox and NO<sub>x</sub> are well within the permissible limits.
23. The surface water quality results it can be inferred that all the parameters analyzed are under the prescribed limit as per IS 2296:1982; class C and the water does not contain any pollutant which would be hazardous for human, animal or crop health.
24. Analysis of ground water reveals that the pH level of the ground water sample ranges from 6.7-7.7. This indicates that the pH of the ground water in the study area is neutral and as per the drinking water standard, Total hardness ranges from 144-712 mg/l, and total dissolved solid ranges from 270 to 1450mg/l, Alkalinity ranges from 90-469 mg/l.
25. The noise level as measured in the core zone is 56.8 dB (A) in day time and 46.2 dB (A) in the night time. In the buffer zone the noise level ranges from 42.3 to 56.4 dBA during day time and 31.2 to 40.2 dBA during night time. The noise level is below the standard as per the Noise Rule, 2000 for rural area. The lease area and all the sampling points are comes under rural area.
26. The total cost of the project is Rs. 200 Lakhs and the updated capital cost and recurring cost (per annum) for the environmental facilities for the proposed mining project works out to be Rs. 20 lakhs and Rs. 10 lakh / year respectively.
27. The Environment consultant **M/s Kalyani Laboratories (Pvt) Ltd. Pahala, Bhubaneswar** along with the proponent has made a detailed presentation on EIA/EMP report.
28. The SEAC in its meeting held on Dt: 06.04.2021, recommended that the proponent should incorporate the following information / documents in the EIA/EMP report in cluster approach and submit the final EIA/EMP report (cluster approach) for approval. The project proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
(i)	Kisam of land and certificate from concerned DFO/Tahasildar that there is no involvement of DLC/forest land in the lease area.	The land schedule and Certificate to the effect that there is no involvement of DLC forest in the area of Cluster is annexed. Annexure-XII.
(ii)	Details of 06 quarry leases in cluster.	Attached as Annexure XIII
(iii)	Status of complaints/ court cases/legal action regarding to leases in cluster along with a detailed write up indicating case no., purpose of the case etc.	No complaint / court case / legal action pending against the individual leases in the cluster. Details attached as <b>Annexure XIV</b> in the reply.
(iv)	Inversion study to be	Attached As Annexure I

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	undertaken for atmospheric topography on fugitive emissions and dusts.	
(v)	Three tier plantation detailed layout plan.	Attached As Annexure II
(vi)	Details of mitigation measures to be undertaken during mining, so that water ponds and ground water will not be contaminated or intersected.	The mine discharge water will not flow outside the lease area. So no contamination of pond will be there. Further the working will not intersect the ground water table. So there will be no contamination of ground water. Detail management plan attached in Annexure III
(vii)	Chemical analysis of waste.	Attached as Annexure XXI
(viii)	Distance between one lease to other.	Cluster 3 is divided into 3 sub-clusters namely Cluster 3A, 3B and 3C. 3A consists of three individual leases and adjoins each other. Similarly, 3B consists of two leases which share common boundary. 3C consists of only one individual lease. The separating distance between 3A, 3B and 3C is less than 500m.
(ix)	Safety measures to be undertaken for nearby by sensitive places.	There is no sensitive area located near to the mining lease area within 500m radius. However during demarcation of lease care has been taken for safety zone demarcation and a safety zone of 200m has been maintained from all the sensitive locations and habitations.
(x)	Detailed layout plan showing storage of overburden, plantation, internal roads, common haulage road for 15 leases including OB/mineral waste management with intermediate dynamic inventory holding ( Maximum and minimum stock).	Attached As Annexure XVI
(xi)	Details of explosives to be used and its storage area and its management including license/permission/authorization or storage and use of	Attached As Annexure XVII

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	explosives and to confirm no use of wagon drilling blasting.	
(xii)	Air quality Predictive simulation model study for PM 2.5 and PM 10 for next 5, 10, 12 years when cluster will start to operate.	<p>The EIA/EMP study which requires short term data only for 3 months and the modeling is being carried out based on the 3 months non monsoon data only.</p> <p>The AERMOD – Air pollution modeling software has been predesigned for carry out prediction model based on the three months data. Carrying out the modeling for 5,10 and 12 years require long term meteorological and ambient air quality data which is beyond the scope of EIA study.</p> <p>As the predictive simulation model require long term data this may be carried out by district administration as a part of post EC monitoring plan.</p>
(xiii)	Details of silt management, water logging management and Waste Water Management, besides discharge / disposal management with SOP / mechanism of water accumulated during rainy season in mines pit including silt management/removal ingress to agricultural lands.	Attached As Annexure XVIII
(xiv)	Study report on ground water of that area and mitigation measures taken for non-contamination of ground water due to mining.	Ground water study report has already been incorporated in EIA report. The said report along with mitigation measures has further incorporated as Annexure-III.
(xv)	Details of Zero discharge proposal.	As it is a mining activity no water is involved in the process. So there will be no waste water generated due to mining activity. The domestic effluents generation will be approximately 1KLD only which will be discharged to soak pits through septic tank. So no waste water will be discharged

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		to outside. Runoff water from mine head will be stored in the abandon pit (Rain water harvesting) and utilized for dust suppression, plantation and other activities.
(xvi)	Report on ground water table if intersected due to mining, contamination and results and mitigation measures.	Attached as Annexure XIX.
(xvii)	Design and cross-section of check dams.	Check dams shall be constructed at strategic points in order to restrict the flowing speed of surface runoff within the garland drain and to settle down the suspended particles during monsoon. The dimension of the check dams will be length 1m., base width 0.6m., top width 0.4m. and height 0.5m. The check dams will be trapezoid shaped and the section has been submitted as annexure-VIII.
(xviii)	Separation of topsoil and subsoil to be done.	A total of 51,158m <sup>3</sup> (43632m <sup>3</sup> in Cluster3A + 7526m <sup>3</sup> in Cluster3B) of top-soil mixed with boulders and pebbles are envisaged to be generated during the plan period in course of mining. It is proposed to store this top-soil in the earmarked site and will be utilized for nearby avenue plantation purpose after separated out from the mixed rock boulders and pebbles. If required, the portion of soil unsuitable for plantation will be sold out to intending users for construction purpose after obtaining permission from concerned authority and payment of advance Royalty. However, the process as above will be followed as per the respective approved mining plan of the quarry lease of Cluster-3 and as such no soil stack will be

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		there in the cluster-3 area at the end of plan period of ten (10) years.
(xix)	Agreement copies.	Copy attached
(xx)	Details of waste management i.e. composition and nature of waste generated, tabulated form showing year wise waste generation, usage and storage i.e. complete waste / dump / OB management.	Attached as Annexure IV
(xxi)	Total Plantation should be carried out within 2-3 years and maintenance to be continued in remaining years. Trees present in mining area should be uprooted & transplanted in safety zone. Monitoring of plantation to be undertaken twice a year.	An Environment management committee will be formed. Detailed management plan has been attached as Annexure-II.
(xxii)	Sludge disposal from ETP and settling tanks, rain water harvesting and usage /recharge / recycling of it to reduce the use of ground water.	As there is no waste water generation from the mining, there is no proposal for establishment of ETP in the mining lease. Further the details of settling tank and rain water harvesting pit has been given in Annexure V.
(xxiii)	Detailed proposal for Rain water Harvesting and water balance (both monsoon and non-monsoon)	Attached as Annexure V
(xxiv)	Copy of modified mining plan incorporating progressive mine closure plan.	The approved mining plan contains the Mine Closure Plan i.e. Chapter 10 as per Form O of OMMCR 2016. The measures to be adopted towards Progressive Mine Closure have been covered under this chapter. As this is a road metal resource and the depth continuity of the resource is unknown at present, final closure proposals of the cluster cannot be planned now and proposals of this chapter pertains to both for lease period i.e. progressive closure and for conceptual period i.e. final closure. Hence, modification of mining plan is not required.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
(xxv)	Occupational Health Study report, including identification of occupational health hazards for employees as well as neighboring habitation, remedial measures for it and periodical health checkups, at least once in six months by occupational health expert.	The occupational health study will be carried out after the mining cluster will be in operation. The plan for occupational health checkup for the mines worker and nearby population attached as Annexure VI.
(xxvi)	Detailed surface runoff management plan.	Attached as Annexure VII.
(xxvii)	Proceedings of public hearing to be submitted and actions proposed to be taken in physical terms for the environmental issues raised.	Attached as Annexure VIII.
(xxviii)	An undertaking that they will not touch the ground water table in next 10 years. In case of intersection with ground water, details of dewatering plan and disaster management to be submitted.	Attached as Annexure XIX.
(xxix)	Mining activity will affect the bio-diversity of the area. How bio-diversity of the area will be managed during mining activity. Study to be carried out about damage to bio-diversity during mining activity.	Attached as Annexure IX
(xxx)	Details of the CSR activity along with socioeconomic study to be undertaken.	Attached as Annexure X
(xxxii)	Traffic density study to be undertaken at exit and entry point of mines, intersecting points of haulage road with NH/SH/Public Road and at crusher points.	Attached as Annexure XI
(xxxii)	NOC from CGWA and permission from WR department, Govt. Of Odisha for use of ground water.	As there is no proposal for ground water Withdrawal so NOC is not required for the proposed project. The water required for domestic purpose will be transported to mines area through tanker by lessee. Depth of quarry is 40m so there will no ground water intersection due to mining. So NOC from CGWA is not required.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
(xxxiii)	Mining closure plan including fencing/retaining walls alongside the boundary of the mines-details to be submitted.	During the lease period, it is proposed to undertake barbed wire fencing along with retaining walls all along the boundaries of the individual leases (PI refer the layout plan). The height and width of the retaining wall would be 2m and 1m respectively.

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s Kalyani Laboratories (Pvt) Ltd. Pahala, Bhubaneswar on behalf of the proponent, the SEAC approved the EIA/EMP report in cluster approach and recommended the following:**

- a) The SEIAA, Odisha may consider to grant Environmental Clearance to individual lease (for **06 nos.** quarry leases) in cluster with specific conditions as per **Annexure-A** after receipt of individual applications from the lessee in cluster along with following documents.
  - i) Filled in form-I of individual lease
  - ii) Prefeasibility report of individual lease
  - iii) EMP of individual lease.
  - iv) Approved Mining Plan of individual lease
  - v) DLC status of the lease area from concerned DFO as certified by the concerned Tahasildar.
  - vi) An Undertaking by the lessee not to use wagon drilling blasting to be submitted. Accordingly, specific condition to be stipulated in EC of individual lease.
  - vii) No storage and usage of blasting materials/explosives inside the lease area without license/permission/authorization from competent Authority as per Indian Explosives Rules, 1983 shall be ensured by the lessee. An undertaking to this effect shall be submitted by the lessee. Accordingly, specific condition to be stipulated in EC of individual lease.
  - viii) Traffic Density study at Crusher points is found to be not undertaken and so also silt management to arrest or removal of in-grassed silts to surrounding agricultural fields if any. Thus, an undertaking needs to be obtained from individual lessee

#### **ITEM NO. 04**

#### **PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR CLUSTER- 4 MINES CONSTITUTED OF BICHHAKHANDI HILLOCKS OVER AN AREA OF 36.65 HECTARES OR 90.562 ACRES LOCATED IN VILLAGE – BICHHAKHANDI, TAHASIL- DHARMASALA, DISTRICT- JAJPUR, ODISHA OF TAHASILDAR DHARMASALA – EC**

1. This is a proposal for Environmental Clearance of Cluster-4 mines which is constituted of 16 nos of quarry leases of Bichhakhandi hillocks over an area of 36.65 Hectares or 90.562 Acres located in village- Bichhakhandi, Tahasil- Dharmasala, District Jajpur, Odisha of Tahasildar Dharmasala.
2. The project falls under Category “B1”, as per Notification of MOEF & CC vide S.O. No. 3977(E), Appendix- XI, dated the 14th August, 2018.

Proceedings of the SEAC meeting held on 03.08.2021

Environmental Scientist, SEAC



3. ToR for this project has been granted by SEIAA vide letter No. 8321/SEIAA dated 03.06.2020. The public hearing for the said project was conducted on 26.08.2020 at 02.30 PM at Kalyani Mandap, Marjitapur, Jajpur and the issues raised by the public has been address and an amount of Rs.12,00,000/- has been earmarked for peripheral developmental activities as per the public demand.
4. The total area is Govt. land consisting of 16 nos of quarry leases of Bichakhandi hillock covering a total mineralised area of 90.562 Acres or 36.65 Hectares located in village/Mouza Bichakhandi of Dharmasala Tahasil of Jajpur District, Odisha. The Cluster-4 has been further sub divided to five sub-clusters, viz., Cluster- 4A comprising mineralised area of Bichhakhandi hillock over 8.08 Ha, Cluster-4B comprising mineralised area of Bichhakhandi hillock over 10.52 Ha, Cluster-4C comprising mineralized area of over 6.47 Ha, Cluster-4D comprising mineralised area of over 6.29 Ha and Cluster-4E comprising mineralised area of over 5.06 Ha. The project site is located in survey of India Toposheet No. 73H/13 and bounded between the latitudes 20°50'20.43"N to 20°50'57.12"N and Longitudes 85°58'33.60"E to 85°59'29.23"E as per survey.
5. **Connectivity** - The cluster is well accessible through NH 200 which is located at a distance of about 3Km, E & NH 5 at a distance of 16 Km, SE from the cluster 4. The area is at a distance of 3.5km from Jenapur town. The nearest railway siding is at Jenapur railway station located at a distance of about 4 km, E from the cluster 4 area. Nearest Airport is Biju Patnaik International Airport is at a distance of approx. 60 km from the project site. Kapilash wildlife sanctuary is located at a distance of 12Km from the cluster area. Nearest river is Brahmani River- 2Km. Nearest Reserve forest is Mahabinayak RF - 6 Km. No state or national boundary exists within 10 Km radius of the project. Nearest habitation is Bichakhandi village – 1km.
6. The mining plan for Cluster-4 constituted of Bichhakhandi building stone quarry has been approved by the Deputy Director Mines Jajpur Road Circle, Jajpur Road Odisha vide letter no.312 on dated 19.02.2020. The individual quarry lease of the cluster have either been auctioned or to be auctioned for long term quarry lease of 10 years for building stone/ Road metal by Tahasildar Dharmasala.
7. The geological reserve (Probable & Possible) for building stone/road metal has been estimated as 1588521Cum over the Cluster-4A, 1361415Cum over the Cluster-4B ,1303428Cum over the Cluster-4C,1443765Cum over the Cluster-4D, & 1052167 cum over the Cluster-4E. Hence, the total geological reserve over Cluster-4 mineralized area has been estimated as 6749196 Cum & the mineable reserve (Probable) for building stone/road metal worked out to be estimated as 1115704.8 cum over the Cluster-4A, 991645.2 Cum over the Cluster-4B , 888207.6 Cum over the Cluster-4C 1115310 Cum, over the Cluster-4D & 766920 cum over the Cluster-4E. Hence, the total mineable reserve over Cluster-4 mineralized area has been estimated as 4877787.6 cum.
8. The Mine proposed to produce total 47,50, 000 cum of building stone/road metal during Plan Period (Ten Years).
9. A total of 325 workers (Skilled-80nos, Semi-skilled-100nos. and Un-skilled-130nos & Mines Manager/Mine Permit Manager-15nos) will be employed during mining operation.
10. Mining of rock mass will be worked out by opencast method of mining. Handling of rock mass will be done both manually and by excavators. Handpicks, spade, chisel, hammer will be used by manual labors for sorting and sizing.

11. The loosening of rock mass will be done by drilling and blasting. Drilling will be done either by wagon drill or jack hammer taking in to consideration the bench height varying from 3 meter to 6m.
12. For blasting tentatively 2083 kg/month of explosive will be required assuming powder factor 2m<sup>3</sup> /kg. The excavated rock mass will be loaded in to 10T/20T capacity tippers/trucks by excavators. As the loading, drilling and transportation will be partly achieved through use of machineries, the mines come under semi-mechanised category.
13. The bench heights will be 3 m to 6m (max). The width of the benches will be kept either equal or more than the height. The slope of the individual bench will be maintained at around 80<sup>0</sup> to 85<sup>0</sup> with ultimate pit slope of less than 45<sup>0</sup>.
14. Mine road will be maintained between benches with Suitable gradient of haul road will be maintained in between 1 in 16 to 1 in 20.
15. Ultimate depth of Mining Cluster 4 would be 20.5m and 20 m. at the end of the conceptual period. This is above the ground water table as the RL of ground water table is around 10 m. Ultimate extent of the quarry:31.97Ha.(Cluster-4A, 4B, 4C, 4D & 4E would be 7.08ha, 9.34ha, 5.865ha, 5.40 ha, and 4.29 ha respectively).
16. Life of Mines: 12 Years
17. Water Requirement - 15 KLD of potable water will be required from which 12 KLD of water will be required for drinking & domestic purpose. 1.5 KLD of water is suggested to be utilized for dust suppression and 1.5 KLD for plantation purpose. Water will be sourced from ground water and rain water harvesting from the existing quarry.
18. A total of 252942m<sup>3</sup> (63585m<sup>3</sup> in Cluster4A + 91962m<sup>3</sup> in Cluster4B + 24846m<sup>3</sup> in Cluster4C+ 55554m<sup>3</sup> in Cluster4D + 16995m<sup>3</sup> in Cluster 4E ) top-soil mixed with boulders and pebbles are envisaged to be generated during the plan period in course of mining. It is proposed to store this top-soil in the earmarked site and will be utilized for nearby avenue plantation purpose after separated out from the mixed rock boulders and pebbles. It is proposed to store this top-soil in the earmarked site and will be utilized for nearby avenue plantation purpose after separated out from the mixed rock boulders and pebbles.
19. If required, the portion of soil unsuitable for plantation will be sold out to intending users for construction purpose after obtaining permission from concerned authority and payment of advance Royalty.
20. However, the process as above will be followed as per the respective approved mining plan of the quarry lease of Cluster-4 and as such no soil stack will be there in the Cluster-4 area at the end of plan period of ten (10) years.
21. In the process, 38364 nos. of saplings will be used for plantation in the quarried out areas of 31.97 Ha.in total Cluster respectively.
22. During the conceptual period the abandoned quarry will converted to water reservoir and plantation will developed along the boundary.
23. Baseline data collection was during the period of 1st March to 22nd March 2020 and 1st April to 7th June 2020.
24. During the study period the concentration of PM<sub>10</sub> varies from 21.1-48.0µg/m<sup>3</sup>. The concentration of SO<sub>2</sub> varies from 5.03-10.3µg/m<sup>3</sup> and NO<sub>x</sub> concentrations vary from 12.4-20.4µg/m<sup>3</sup>. From the ambient air quality monitoring carried out for three months (March-

May 2020) of the study period shows that the critical pollutants like PM<sub>10</sub>, SO<sub>x</sub> and NO<sub>x</sub> are well within the permissible limits.

25. The surface water quality results it can be inferred that all the parameters analyzed are under the prescribed limit as per IS 2296:1982; class C and the water does not contain any pollutant which would be hazardous for human, animal or crop health.
26. Analysis of ground water reveals that the pH level of the ground water sample ranges from 6.7-7.7. This indicates that the pH of the ground water in the study area is neutral and as per the drinking water standard, Total hardness ranges from 144-712 mg/l, and total dissolved solid ranges from 27.0 to 1450mg/l, Alkalinity ranges from 90-469 mg/l.
27. The noise level as measured in the core zone is 58.43 dB (A) in day time and 48.3dB (A) in the night time. In the buffer zone the noise level ranges from 48.3 to 56.4 dBA during day time and 36.6 to 41.9 dBA during night time. The noise level is below the standard as per the Noise Rule, 2000 for rural area.
28. The total cost of the project is Rs. 400 Lakhs and the updated capital cost and recurring cost (per annum) for the environmental facilities for the proposed mining project works out to be Rs. 40 Lakhs and Rs. 14 Lakh / year respectively.
29. The Environment consultant **M/s Kalyani Laboratories (Pvt) Ltd. Pahala, Bhubaneswar** along with the proponent has made a detailed presentation on EIA/EMP report.
30. The SEAC in its meeting held on Dt: 06.04.2021, recommended that the proponent should incorporate the following information / documents in the EIA/EMP report in cluster approach and submit the final EIA/EMP report (cluster approach) for approval. The project proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
(i)	Kisam of land and certificate from concerned DFO/Tahasildar that there is no involvement of DLC/forest land in the lease area.	The land schedule and Certificate to the effect that there is no involvement of DLC forest in the area of Cluster is annexed. Annexure- XII
(ii)	Details of 16 quarry leases in cluster.	Attached as Annexure XIII
(iii)	Status of complaints/ court cases/legal action regarding to leases in cluster along with a detailed write up indicating case no., purpose of the case etc.	A court case WPC No. 8378/2021 is pending against Bichhakhundi Black Stone Quarry no. 1, 2, 4, 5, 17, 18, 19, 22 and 24. The adjacent land owners in and around Bichhakhundi Hill filed this case with regards to continuous and persistent illegal stone mining through wagon drill blasting. No complaint / court case / legal action are pending against other seven leases in cluster. Details attached as <b>Annexure XIV</b> in reply.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
(iv)	Inversion study to be undertaken for atmospheric topography on fugitive emissions and dusts.	Attached As Annexure I
(v)	Three tier plantation detailed layout plan.	Attached As Annexure II
(vi)	Detailed layout of safety belt around individual lease and whole cluster.	A safety zone of 200m is being maintained from all sensitive locations near the lease area. Further a safety zone of 7.5 m will be maintained along the individual lease as well as the cluster.
(vii)	Percentage of chromium and <i>E coli</i> in water.	The Chromium and E.Coli concentration was measured both in surface and ground water. The result has been enumerated in the EIA report along with the test report. The range is given as below: In surface Water- Chromium- <0.01mg/l E.Coli- 60-170 MPN/100 ml In ground water- Chromium- <0.02 mg/l E. Coli- <2.0 MPN/100 ml
(viii)	Distance between one lease to other.	Cluster 4 is divided into 5 sub-clusters namely Cluster 4A, 4B, 4C, 4D, 4E. 4A consists of four individual leases and adjoins each other. Similarly, 4B consists of four individual leases and adjoins each other. 4C consists of three individual leases and the separating distance between these quarries varies from 12m to 19m. 4D consists of two individual leases and adjoins each other. 4E consists of two individual leases and adjoins each other. The separating distance between 4A, 4B, 4C, 4D and 4E is less than 500m.
(ix)	Safety measures to be undertaken for nearby by	There is no sensitive area located near to the mining

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	sensitive places.	lease area within 500m radius. However during demarcation of lease care has been taken for safety zone demarcation and a safety zone of 200m has been maintained from all the sensitive locations and habitations.
(x)	Detailed layout plan showing storage of overburden, plantation, internal roads, common haulage road for 15 leases including OB/mineral waste management with intermediate dynamic inventory holding (Maximum and minimum stock).	Attached As Annexure XVI
(xi)	Details of explosives to be used and its storage area and its management including license/permission/authorization or storage and use of explosives and to confirm no use of wagon drilling blasting.	There will be no storage of explosives within the cluster area and the blasting will be carried out by authorized vendor. No wagon drilling will be carried out in the lease area. Attached As Annexure XVII
(xii)	Air quality Predictive simulation model study for PM 2.5 and PM 10 for next 5, 10, 12 years when cluster will start to operate.	The EIA/EMP study which requires short term data only for 3 months and the modeling is being carried out based on the 3 months non monsoon data only. The AERMOD – Air pollution modeling software has been predesigned for carry out prediction model based on the three months data. Carrying out the modeling for 5, 10 and 12 years require long term meteorological and ambient air quality data which is beyond the scope of EIA study. Air quality Predictive simulation model study is a long term process and may be carried out by district Administration as a part of post EC monitoring.
(xiii)	Details of silt management, water logging management and Waste Water Management, besides discharge / disposal	Attached As Annexure XVIII

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	management with SOP / mechanism of water accumulated during rainy season in mines pit including silt management/removal ingress to agricultural lands.	
(xiv)	Study report on ground water of that area and mitigation measures taken for non-contamination of ground water due to mining.	Ground water study report has already been incorporated in EIA report. The said report along with mitigation measures has further incorporated as Annexure-III
(xv)	Details of Zero discharge proposal.	As it is a mining activity no water is involved in the process. So there will be no waste water generated due to mining activity. The domestic effluents generation will be approximately 1KLD only which will be discharged to soak pits through septic tank. So no waste water will be discharged to outside. Runoff water from mine head will be stored in the abandon pit (Rain water harvesting) and utilized for dust suppression, plantation and other activities.
(xvi)	Report on ground water table if intersected due to mining, contamination and results and mitigation measures.	Check dams shall be constructed at strategic points in order to restrict the flowing speed of surface runoff within the garland drain and to settle down the suspended particles during monsoon. The dimension of the check dams will be length 1m., base width 0.6m., top width 0.4m. and height 0.5m. The check dams will be trapezoid shaped and the section has been submitted as Annexure- XVIII
(xvii)	Design and cross-section of check dams.	Check dams shall be constructed at strategic points in order to restrict the flowing speed of surface runoff within the garland drain and to settle down the

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		suspended particles during monsoon. The dimension of the check dams will be length 1m., base width 0.6m., top width 0.4m and height 0.5m. The check dams will be trapezoid shaped and the section has been submitted as Annexure- XVIII.
(xviii)	Separation of topsoil and subsoil to be done.	A total of 252942m <sup>3</sup> (63585m <sup>3</sup> in Cluster4A + 91962m <sup>3</sup> in Cluster4B + 24846m <sup>3</sup> in Cluster4c + 55554m <sup>3</sup> in Cluster4D + 16995m <sup>3</sup> in Cluster4E ) of top-soil mixed with boulders and pebbles are envisaged to be generated during the plan period in course of mining. It is proposed to store this topsoil in the earmarked site and will be utilized for nearby avenue plantation purpose after separated out from the mixed rock boulders and pebbles. If required, the portion of soil unsuitable for plantation will be sold out to intending users for construction purpose after obtaining permission from concerned authority and payment of advance Royalty.
(xix)	Agreement copies.	Attached
(xx)	Details of waste management i.e. composition and nature of waste generated, tabulated form showing year wise waste generation, usage and storage i.e. complete waste / dump / OB management.	Attached as Annexure IV
(xxi)	Total Plantation should be carried out within 2-3 years and maintenance to be continued in remaining years. Trees present in mining area should be uprooted & transplanted in safety zone. Monitoring of plantation to be undertaken twice a year.	An Environment management committee will be formed. Detailed management plan has been attached as Annexure-II
(xxii)	Sludge disposal from ETP and	As there is no waste water

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	settling tanks, rain water harvesting and usage /recharge / recycling of it to reduce the use of ground water.	generation from the mining, there is no proposal for establishment of ETP in the mining lease. Further the details of settling tank and rain water harvesting pit has been given in Annexure V
(xxiii)	Detailed proposal for Rain water Harvesting and water balance (both monsoon and non-monsoon)	Attached as Annexure V
(xxiv)	Copy of modified mining plan incorporating progressive mine closure plan.	The approved mining plan contains the Mine Closure Plan i.e. Chapter 10 as per Form O of OMMCR 2016. The measures to be adopted towards Progressive Mine Closure have been covered under this chapter. As this is a road metal resource and the depth continuity of the resource is unknown at present, final closure proposals of the cluster cannot be planned now and proposals of this chapter pertains to both for lease period i.e. progressive closure and for conceptual period i.e. final closure. Hence, modification of mining plan is not required. Copy of Chapter 10 of Mining plan attached for reference.
(xxv)	Occupational Health Study report, including identification of occupational health hazards for employees as well as neighboring habitation, remedial measures for it and periodical health checkups, at least once in six months by occupational health expert.	The occupational health study will be carried out after the mining cluster will be in operation. The plan for occupational health checkup for the mines worker and nearby population attached as Annexure VI.
(xxvi)	Detailed surface runoff management plan.	Attached as Annexure VII.
(xxvii)	Proceedings of public hearing to be submitted and actions proposed to be taken in physical terms for the environmental issues raised.	Attached as Annexure VIII.
(xxviii)	An undertaking that they will not touch the ground water table in next 10 years. In case of	Attached As Annexure XIX After 10 years (lease period) of mining the tentative



Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	intersection with ground water, details of dewatering plan and disaster management to be submitted.	bottom RL of Cluster 4 would be 20.5m and 20 m. at the end of the conceptual period. This is above the ground water table as the RL of ground water table is around 10 m. Therefore such depth of working would not affect the ground water table.
(xxix)	Mining activity will affect the bio-diversity of the area. How bio-diversity of the area will be managed during mining activity. Study to be carried out about damage to bio-diversity during mining activity.	Attached as Annexure IX
(xxx)	Details of the CSR activity along with socioeconomic study to be undertaken.	Attached as Annexure X
(xxxii)	Traffic density study to be undertaken at exit and entry point of mines, intersecting points of haulage road with NH/SH/Public Road and at crusher points.	Attached as Annexure XI
(xxxiii)	NOC from CGWA and permission from WR department, Govt. Of Odisha for use of ground water.	As there is no proposal for ground water Withdrawal so NOC is not required for the proposed project. The water required for domestic purpose will be transported to mines area through tanker by lessee. Depth of quarry is 20 m so there will no ground water intersection due to mining. So NOC from CGWA is not required
(xxxiiii)	Mining closure plan including fencing/retaining walls alongside the boundary of the mines-details to be submitted.	During the lease period, it is proposed to undertake barbed wire fencing along with retaining walls all along the boundaries of the individual leases (PI refer the layout plan). The height and width of the retaining wall would be 2m and 1m respectively.

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s Kalyani Laboratories (Pvt) Ltd. Pahala, Bhubaneswar on behalf of the proponent, the SEAC approved the EIA/EMP report in cluster approach and**

**recommended the following:**

- a) The SEIAA, Odisha may consider to grant Environmental Clearance to individual lease (for **16 nos.** quarry leases) in cluster with specific conditions as per **Annexure-A** after receipt of individual applications from the lessee in cluster along with following documents.
  - i) Filled in form-I of individual lease
  - ii) Prefeasibility report of individual lease
  - iii) EMP of individual lease.
  - iv) Approved Mining Plan of individual lease
  - v) DLC status of the lease area from concerned DFO as certified by the concerned Tahasildar.
  - vi) An Undertaking by the lessee not to use wagon drilling blasting to be submitted. Accordingly, specific condition to be stipulated in EC of individual lease.
  - vii) No storage and usage of blasting materials/explosives inside the lease area without license/permission/authorization from competent Authority as per Indian Explosives Rules, 1983 shall be ensured by the lessee. An undertaking to this effect shall be submitted by the lessee. Accordingly, specific condition to be stipulated in EC of individual lease.
  - viii) Traffic Density study at Crusher points is found to be not undertaken and so also silt management to arrest or removal of in-grassed silts to surrounding agricultural fields if any. Thus, an undertaking needs to be obtained from individual lessee

**ITEM NO. 05**

**PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR CLUSTER-5 MINES CONSTITUTED OF DANKARI, BARADA & BARAMAN HILLOCKS OVER AN AREA OF 243.19 ACRES OR 98.42 HECTARES LOCATED IN VILLAGES/MOUZA - DANKARI, BARADA & BARAMAN UNDER DHARMASALA TAHASIL OF DISTRICT JAJPUR OF DHARMASALA TAHASIL OF TAHASILDAR DHARMASALA – EC**

1. This is a proposal for Environmental Clearance of Cluster-5 mines which is constituted of 24 nos of quarry leases of Dankari, Barada & Baraman hillocks over an area of 243.19 Acres or 98.42 Hectares located in villages/Mouza - Dankari, Barada & Baraman under Dharmasala Tahasil of District Jajpur of Tahasildar Dharmasala.
2. The project falls under Category “B1”, as per Notification of MOEF & CC vide S.O. No. 3977(E), Appendix- XI, dated the 14th August, 2018.
3. ToR for this project has been granted by SEIAA vide letter No. 8338/SEIAA dated 03.06.2020. The public hearing for the said project was conducted on 25.08.2020 at 02.30 PM at G.P. Office, Mahisara G.P., Jajpur and the issues raised by the public has been address and an amount of Rs.12,00,000/- has been earmarked for peripheral developmental activities as per the public demand.
4. The total area is Govt. land consisting of 24 nos of quarry leases of Dankari, Barada & Baraman hillock) covering a total mineralized area of 243.19 Acres or 98.42 Hectares located in village/Mouza-Dankari, Barada & Baraman of Dharmasala Tahasil of Jajpur District, Odisha. The Cluster-5 has been further sub divided to six sub-clusters, viz., Cluster-5A (Dankari) comprising mineralized area of Dankari hillock over 32.36 Ha, Cluster-5B (Dankari) comprising mineralized area of Dankari hillock over 20.39 Ha and Cluster-5C (Dankari) comprising mineralized area of Dankari hillock over 19.84 Ha, Cluster-5D

(Dankari) comprising mineralized area of Dankari hillock over 12.97 Ha, Cluster-5E (Barada) comprising mineralized area of Barada hillock over 9.91 Ha and Cluster-5F (Baraman) comprising mineralized area of Baraman hillock over 2.95 Ha. The project site is located in survey of India Toposheet No.73 L/1, 73 L/2, 73 L/13 & 73 L/14 and bounded between the latitudes 20°46'20.37"N to 20°47'22.92"N and longitudes 86°01'35.07"E to 86°03'06.51"E as per survey.

5. **Connectivity** - The cluster is well accessible through NH 200 which is located at a distance of 1 Km from the project site. Madhupur garh road is located at a distance of 0.8 Km from the lease cluster and an all weather road connect to lease area from Madhupur garh road. The area is at a distance of 31km from Jajpur town. The nearest railway siding is at Jenapur railway station located at a distance of about 1.6 km, from the cluster 5 area. Nearest Airport is Biju Patnaik International Airport is at a distance of approx. 61 km from the project site. Kapilash wildlife sanctuary is located at a distance of 15Km from the cluster area. Nearest river is Brahmani River- 2.5Km. Nearest Reserve forest is Nischinta RF within the project site. No state or national boundary exists within 10 Km radius of the project.
6. The mining plan for Cluster-5 constituted of Dankari building stone quarry has been approved by the Deputy Director Mines Jajpur Road Circle, Jajpur Road Odisha vide letter no. 409 on dated 07.03.2020. The individual quarry lease of the cluster have either been auctioned or to be auctioned for long term quarry lease of 10 years for building stone/ Road metal by Tahasildar Dharmasala.
7. The geological reserve (Probable & Possible) for building stone/road metal has been estimated as 8751710 Cum over the Cluster-5A (Dankari), 5940535 cum over the Cluster-5B (Dankari), 8163887 Cum over the Cluster-5C (Dankari), 2927411 cum over the Cluster-5D (Dankari), 1964446 Cum over the Cluster-5E (Barada) & 270852 cum over the Cluster-5F (Baraman). Hence, the total geological reserve over Cluster-5 mineralized area has been estimated as 280, 18,841 Cum.
8. The Mine proposed to produce total 1,43,35, 000 cum of building stone/road metal during Plan Period (Ten Years).
9. A total of 1624 people include skilled workers 200, Semi-skilled workers 600 and unskilled workers 800 no will be employed during mining operation.
10. Mining of rock mass will be worked out by opencast method of mining. Handling of rock mass will be done both manually and by excavators. Handpicks, spade, chisel, hammer will be used by manual labors for sorting and sizing.
11. The loosening of rock mass will be done by drilling and blasting. Drilling will be done either by wagon drill or jack hammer taking in to consideration the bench height varying from 3 meter to 6m.
12. For blasting tentatively 59730 kg/month of explosive will be required assuming powder factor 2m<sup>3</sup> /kg. The excavated rock mass will be loaded in to 10T/20T capacity tippers/trucks by excavators. As the loading, drilling and transportation will be partly achieved through use of machineries, the mines come under semi-mechanised category.
13. The bench heights will be 3 m to 6m (max). The width of the benches will be kept either equal or more than the height. The slope of the individual bench will be maintained at around 80° to 85° with ultimate pit slope of less than 45°.

14. Mine road will be maintained between benches with Suitable gradient of haul road will be maintained in between 1 in 16 to 1 in 20.
15. Ultimate depth of Mining Cluster: 69mRL- Cluster-5A, 45mRL -Cluster-5B, 48mRL-Cluster-5C, 66mRL-Cluster-5D, 30mRL-Cluster-5E & 46mRL-Cluster-5F. Ultimate extent of the quarry: 31.21 ha over Cluster5A, 18.730 ha over the Cluster-5B, 17.280 over the Cluster-5C, 11.520 over the Cluster-5D, 8.470 hectares over the Cluster-5E & 2.55 hectares over the Cluster-5F.
16. Life of Mines: 12 Years
17. Water Requirement - 45 KLD of potable water will be required from which 20 KLD of water will be required for drinking & domestic purpose. 20 KLD of water is suggested to be utilized for dust suppression and 5 KLD for plantation purpose. Water will be sourced from ground water and rain water harvesting from the existing quarry.
18. A total of 444330m<sup>3</sup> (45900m<sup>3</sup> in Cluster5A + 153258m<sup>3</sup> in Cluster5B + 111612m<sup>3</sup> in Cluster5C + 61512m<sup>3</sup> in Cluster5D + 57792m<sup>3</sup> in Cluster5E + 14256m<sup>3</sup> in Cluster5F) top-soil mixed with boulders and pebbles are envisaged to be generated during the plan period in course of mining. It is proposed to store this top-soil in the earmarked site and will be utilized for nearby avenue plantation purpose after separated out from the mixed rock boulders and pebbles. It is proposed to store this top-soil in the earmarked site and will be utilized for nearby avenue plantation purpose after separated out from the mixed rock boulders and pebbles.
19. If required, the portion of soil unsuitable for plantation will be sold out to intending users for construction purpose after obtaining permission from concerned authority and payment of advance Royalty.
20. However, the process as above will be followed as per the respective approved mining plan of the quarry lease of Cluster-5 and as such no soil stack will be there in the Cluster-5 area at the end of plan period of ten (10) years.
21. In the process, 6594 nos. of saplings will be used for plantation in the quarried out areas of 5.496 Ha.in total Cluster and 107712 nos. of saplings will be planted in 89.76Ha. at the end of conceptual period respectively.
22. During the conceptual period the abandoned quarry will converted to water reservoir and plantation will developed along the boundary.
23. Baseline data collection was during the period of 1st March to 22nd March 2020 and 1st April to 7th June 2020.
24. During the study period the concentration of PM<sub>10</sub> varies from 35.2-67.2µg/m<sup>3</sup>. The concentration of SO<sub>2</sub> varies from 6.04-10.3µg /m<sup>3</sup> and NO<sub>x</sub> concentrations vary from 9.1-22.2µg /m<sup>3</sup>. From the ambient air quality monitoring carried out for three months (1st March 2020 to 7th June 2020) of the study period shows that the critical pollutants like PM<sub>10</sub>, SO<sub>x</sub> and NO<sub>x</sub> are well within the permissible limits.
25. The surface water quality results it can be inferred that all the parameters analyzed are under the prescribed limit as per IS 2296:1982; class C and the water does not contain any pollutant which would be hazardous for human, animal or crop health.
26. Analysis of ground water reveals that the pH level of the ground water sample ranges from 6.7-7.7. This indicates that the pH of the ground water in the study area is neutral and as per

the drinking water standard, Total hardness ranges from 144-712 mg/l, and total dissolved solid ranges from 27.0 to 1450mg/l, Alkalinity ranges from 90-469 mg/l.

27. The noise level as measured in the core zone is 51.3 dB (A) in day time and 41.1dB (A) in the night time. In the buffer zone the noise level ranges from 49.3 to 56.4 dBA during day time and 36.6 to 41.9 dBA during night time. The noise level is below the standard as per the Noise Rule, 2000 for rural area. The lease area and all the sampling points are comes under rural area.
28. The total cost of the project is Rs. 1000 Lakhs and the updated capital cost and recurring cost (per annum) for the environmental facilities for the proposed mining project works out to be Rs. 50 lakhs and Rs. 20 lakhs / year respectively.
29. The Environment consultant **M/s Kalyani Laboratories (Pvt) Ltd. Pahala, Bhubaneswar** along with the proponent has made a detailed presentation on EIA/EMP report.
30. The SEAC in its meeting held on Dt: 06.04.2021, recommended that the proponent should incorporate the following information / documents in the EIA/EMP report in cluster approach and submit the final EIA/EMP report (cluster approach) for approval. The project proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
(i)	Kisam of land and certificate from concerned DFO/Tahasildar that there is no involvement of DLC/forest land in the lease area.	The land schedule and Certificate to the effect that there is no involvement of DLC forest in the area of Cluster is annexed. Annexure- XII
(ii)	Details of 24 quarry leases in cluster.	Attached as Annexure XIII
(iii)	Status of complaints/ court cases/legal action regarding to leases in cluster along with a detailed write up indicating case no., purpose of the case etc.	(i) A civil appeal no. 10113/2018, Sri Sribash Jena Vrs. Sarbeswar Behura and Ors. is pending in the Hon'ble Supreme Court w.r.t Dankari Black Stone Quarry no. 1.  (ii) WPC No. 9885/2016 filed w.r.t Dankari Black Stone Quarry No. 1. The purpose of the case is to quash the demand notice issued by the Tahasildar, Dharmasala against the lessee on dated 28.05.2016.
(iv)	Plantation should be undertaken on both sides of haulage road.	The total length of haulage road is 8150m. Plantation will be done along both side of the road at a distance of 4m. Approximate 4000 nos of saplings will be planted in this haulage road.
(v)	Exact distance of cluster from Nishinta RF as topomap shows its within the reserve forest.	Nishinta RF is confined to Dhenkanal district and no portion of this RF comes within Jajpur district.
(vi)	Inversion study to be undertaken for atmospheric topography on fugitive emissions and dusts.	Attached As Annexure I
(vii)	Three tier plantation detailed layout	Attached As Annexure II

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	plan.	
(viii)	Detailed layout of safety belt around individual lease and whole cluster.	A safety zone of 7.5m has been demarcated in the lease cluster as well as in the individual mines.
(ix)	Percentage of chromium and <i>E coli</i> in water.	The concentration of chromium and E.Coli has been analyzed both in surface water as well as ground water. The analysis report has been submitted along with the final EIA EMP report. Further the range is as below: <b>In surface Water-</b> Chromium- <0.01mg/l E.Coli- 06-220 MPN/100 ml <b>In ground water-</b> Chromium-<0.02 mg/l E. Coli- <2.0 MPN/100 ml
(x)	Distance between one lease to other.	Cluster 5 is divided into 6 sub-clusters namely Cluster 5A, 5B, 5C, 5D, 5E and 5F. 5A consists of four individual leases the separating distance between these quarries varies from 20m to 244m. Similarly, 5B consists of five individual leases the separating distance between these quarries varies from 0m to 36m. 5C consists of six individual leases and the separating distance between these quarries varies from 0m to 59m. 5D consists of three individual leases and the separating distance between these quarries varies from 0m to 10m. 5E consists of five individual leases and adjoins each other.5F consist of only one lease. The separating distance between 5A, 5B, 5C, 5D, 5E and 5Fis less than 500m.
(xi)	Safety measures to be undertaken for nearby by sensitive places.	There is no sensitive area, habitation, school located within 500m radius of the cluster. Further during the demarcation of the lease survey has been carried out and as per rule 200m distance has been demarcated for the nearby sensitive areas.
(xii)	Detailed layout plan showing storage of overburden, plantation, internal roads, common haulage road for 15 leases including OB/mineral waste management with intermediate dynamic inventory holding (Maximum and minimum stock).	Attached As Annexure XVI

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
(xiii)	Details of explosives to be used and its storage area and its management including license/permission/authorization or storage and use of explosives and to confirm no use of wagon drilling blasting.	Attached As Annexure XVII
(xiv)	Air quality Predictive simulation model study for PM 2.5 and PM 10 for next 5, 10, 12 years when cluster will start to operate.	<p>The EIA/EMP study which requires short term data only for 3 months and the modeling is being carried out based on the 3 months non monsoon data only.</p> <p>The AERMOD – Air pollution modeling software has been predesigned for carry out prediction model based on the three months data.</p> <p>Carrying out the modeling for 5, 10 and 12 years require long term meteorological and ambient air quality data which is beyond the scope of EIA study.</p> <p>As this is a long term process the study may be included as a part of post EC implementation plan.</p>
(xv)	Details of silt management, water logging management and Waste Water Management, besides discharge / disposal management with SOP / mechanism of water accumulated during rainy season in mines pit including silt management/removal ingress to agricultural lands.	Attached As Annexure XVIII
(xvi)	Study report on ground water of that area and mitigation measures taken for non-contamination of ground water due to mining.	Ground water study report has already been incorporated in EIA report. The said report along with mitigation measures has further incorporated as Annexure-III
(xvii)	Details of Zero discharge proposal.	<p>As it is a mining activity no water is involved in the process. So there will be no waste water generated due to mining activity. The domestic effluents generation will be approximately 1KLD only which will be discharged to soak pits through septic tank. So no waste water will be discharged to outside.</p> <p>Runoff water from mine head will be</p>

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		stored in the abandon pit (Rain water harvesting) and utilized for dust suppression, plantation and other activities.
(xviii)	Report on ground water table if intersected due to mining, contamination and results and mitigation measures.	Ground water table will not intersect due to mining activities. (Annexure XIX)
(xix)	Design and cross-section of check dams.	Check dams shall be constructed at strategic points in order to restrict the flowing speed of surface runoff within the garland drain and to settle down the suspended particles during monsoon. The dimension of the check dams will be length 1m., base width 0.6m., top width 0.4m. and height 0.5m. The check dams will be trapezoid shaped and the section has been submitted as annexure- XVIII
(xx)	Separation of topsoil and subsoil to be done.	A total of 444330m <sup>3</sup> (45900m <sup>3</sup> in Cluster5A + 153258m <sup>3</sup> in Cluster5B + 111612m <sup>3</sup> in Cluster5C + 61512m <sup>3</sup> in Cluster5D + 57792m <sup>3</sup> in Cluster5E + 14256m <sup>3</sup> in Cluster5F) of top-soil mixed with boulders and pebbles are envisaged to be generated during the plan period in course of mining. It is proposed to store this top-soil in the earmarked site and will be utilized for nearby avenue plantation purpose after separated out from the mixed rock boulders and pebbles. If required, the portion of soil unsuitable for plantation will be sold out to intending users for construction purpose after obtaining permission from concerned authority and payment of advance Royalty. However, the process as above will be followed as per the respective approved mining plan of the quarry lease of Cluster-5 and as such no soil stack will be there in the Cluster-5 area at the end of plan period of ten (10) years.
(xxi)	Agreement copies.	Attached in reply.
(xxii)	Details of waste management i.e. composition and nature of waste generated, tabulated form showing year wise waste generation, usage and storage i.e. complete waste /	Attached as Annexure IV



Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	dump / OB management.	
(xxiii)	Total Plantation should be carried out within 2-3 years and maintenance to be continued in remaining years. Trees present in mining area should be uprooted & transplanted in safety zone. Monitoring of plantation to be undertaken twice a year.	An Environment management committee will be formed. Detailed management plan has been attached as Annexure-II
(xxiv)	Sludge disposal from ETP and settling tanks, rain water harvesting and usage /recharge / recycling of it to reduce the use of ground water.	As there is no waste water generation from the mining, there is no proposal for establishment of ETP in the mining lease. Further the details of settling tank and rain water harvesting pit has been given in Annexure V
(xxv)	Detailed proposal for Rain water Harvesting and water balance (both monsoon and non-monsoon)	Attached as Annexure V
(xxvi)	Copy of modified mining plan incorporating progressive mine closure plan.	The approved mining plan contains the Mine Closure Plan i.e. Chapter 10 as per Form O of OMMCR 2016. The measures to be adopted towards Progressive Mine Closure have been covered under this chapter. As this is a road metal resource and the depth continuity of the resource is unknown at present, final closure proposals of the cluster cannot be planned now and proposals of this chapter pertains to both for lease period i.e. progressive closure and for conceptual period i.e. final closure. Hence, modification of mining plan is not required.
(xxvii)	Occupational Health Study report, including identification of occupational health hazards for employees as well as neighboring habitation, remedial measures for it and periodical health checkups, at least once in six months by occupational health expert.	The occupational health study will be carried out after the mining cluster will be in operation. The plan for occupational health checkup for the mines worker and nearby population attached as Annexure VI.
(xxviii)	Detailed surface runoff management plan.	Attached as Annexure VII.
(xxix)	Proceedings of public hearing to be submitted and actions proposed to be taken in physical terms for the environmental issues raised.	Attached as Annexure VIII.
(xxx)	An undertaking that they will not touch the ground water table in next 10 years. In case of intersection with ground water, details of dewatering plan and disaster management to be	Attached as Annexure XIX.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	submitted.	
(xxxii)	Mining activity will affect the bio-diversity of the area. How bio-diversity of the area will be managed during mining activity. Study to be carried out about damage to bio-diversity during mining activity.	Attached as Annexure IX
(xxxiii)	Details of the CSR activity along with socioeconomic study to be undertaken.	Attached as Annexure X
(xxxiv)	Traffic density study to be undertaken at exit and entry point of mines, intersecting points of haulage road with NH/SH/Public Road and at crusher points.	Attached as Annexure XI
(xxxv)	NOC from CGWA and permission from WR department, Govt. Of Odisha for use of ground water.	As there is no proposal for ground water Withdrawal so NOC is not required for the proposed project. The water required for domestic purpose will be transported to mines area through tanker by lessee. Depth of quarry is 40m so there will no ground water intersection due to mining. So NOC from CGWA is not required.
(xxxvi)	Mining closure plan including fencing/retaining walls alongside the boundary of the mines-details to be submitted.	During the lease period, it is proposed to undertake barbed wire fencing along with retaining walls all along the boundaries of the individual leases (PI refer the layout plan). The height and width of the retaining wall would be 2m and 1m respectively.

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s Kalyani Laboratories (Pvt) Ltd. Pahala, Bhubaneswar on behalf of the proponent, the SEAC approved the EIA/EMP report in cluster approach and recommended the following:**

- a) The SEIAA, Odisha may consider to grant Environmental Clearance to individual lease (for **24 nos.** quarry leases) in cluster with specific conditions as per **Annexure-A** after receipt of individual applications from the lessee in cluster along with following documents.
  - i) Filled in form-I of individual lease
  - ii) Prefeasibility report of individual lease
  - iii) EMP of individual lease.
  - iv) Approved Mining Plan of individual lease
  - v) DLC status of the lease area from concerned DFO as certified by the concerned Tahasildar.
  - vi) An Undertaking by the lessee not to use wagon drilling blasting to be submitted. Accordingly, specific condition to be stipulated in EC of individual lease.

- vii) No storage and usage of blasting materials/explosives inside the lease area without license/permission/authorization from competent Authority as per Indian Explosives Rules, 1983 shall be ensured by the lessee. An undertaking to this effect shall be submitted by the lessee. Accordingly, specific condition to be stipulated in EC of individual lease.
- viii) Traffic Density study at Crusher points is found to be not undertaken and so also silt management to arrest or removal of in-grassed silts to surrounding agricultural fields if any. Thus, an undertaking needs to be obtained from individual lessee.

#### **ITEM NO. 06**

#### **PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR CLUSTER-6 MINES CONSTITUTED OF LUNIBAR HILLOCKS OVER AN AREA OF 55.00 ACRES OR 22.26 HECTARES LOCATED IN VILLAGES LUNIBAR OF TAHASIL DHARMASALA & DISTRICT JAJPUR, ODISHA OF TAHASILDAR DHARMASALA – EC**

1. This is a proposal for Environmental Clearance of Cluster-6 mines which is constituted of 5 nos of quarry leases of Lunibar hillocks over an area of 55.00 Acres or 22.26 Hectares located in village- Lunibar of Tahasil Dharmasala & District Jajpur, Odisha of Tahasildar Dharmasala.
2. The project falls under Category “B1”, as per Notification of MOEF & CC vide S.O. No. 3977(E), Appendix- XI, dated the 14th August, 2018.
3. ToR for this project has been granted by SEIAA vide letter No. 8335/SEIAA dated 03.06.2020. The public hearing for the said project was conducted on 27.08.2020 at 02.30 PM at G.P Office, Purunabaulamal G.P, Jajpur and the issues raised by the public has been address and an amount of Rs.5,00,000/- has been earmarked for peripheral developmental activities as per the public demand.
4. The total area is Govt. land consisting of 5 nos of quarry leases of Lunibar hillock covering a total mineralised area of 50 Acres or 22.26 Hectares located in village/Mouza - Lunibar of Dharmasala Tahasil of Jajpur District, Odisha. The project site is located in survey of India toposheet no. 73 L/1 and bounded between the latitudes 20°47'55.16"N to 20°48'15.06"N and longitudes 86°02'59.48"E to 86°03'18.90"E as per survey.
5. **Connectivity** - The cluster is well accessible through NH 200 which is only 100m, E from the boundary of the cluster area. NH-5 is located at a distance of 5.9 Km, E from the cluster. Haridashpur railway station is located at a distance of 4.5 Km, E from the cluster. Nearest Airport is Biju Patnaik International Airport is at a distance of approx. 61 km from the project site. Kapilash wildlife sanctuary is located at a distance of 17Km from the cluster area. Nearest river is Brahmani River- 3Km. Nearest Reserve forest is Mahabinayak RF - 6 Km. No state or national boundary exists within 10 Km radius of the project. Nearest habitation is Lunibar village – 0.5km.
6. The mining plan for Cluster-6 constituted of Lunibar building stone quarry has been approved by the Deputy Director Mines Jajpur Road Circle, Jajpur Road Odisha vide letter no.318 on dated 19.02.2020. The individual quarry lease of the cluster have either been auctioned or to be auctioned for long term quarry lease of 10 years for building stone/ Road metal by Tahasildar Dharmasala.

7. The geological reserve (Probable & Possible) for building stone/road metal has been estimated as 5584824Cum. The mineable reserve (Probable) for building stone/road metal is worked out to be 4349654cum over the cluster-6.
8. The Mine proposed to produce total 43,40,000 cum of building stone/road metal during Plan Period (Ten Years).
9. A total of 289 workers (Skilled-27nos, Semi-skilled-70nos. and Un-skilled-180nos & Mines Manager/Mine Permit Manager-5nos) will be employed during mining operation.
10. Mining of rock mass will be worked out by opencast method of mining. Handling of rock mass will be done both manually and by excavators. Handpicks, spade, chisel, hammer will be used by manual labors for sorting and sizing.
11. The loosening of rock mass will be done by drilling and blasting. Drilling will be done either by wagon drill or jack hammer taking in to consideration the bench height varying from 3 meter to 6m.
12. For blasting tentatively 72334 kg/month of explosive will be required assuming powder factor 2m<sup>3</sup> /kg. The excavated rock mass will be loaded in to 10T/20T capacity tippers/trucks by excavators. As the loading, drilling and transportation will be partly achieved through use of machineries, the mines come under semi-mechanised category.
13. The bench heights will be 3 m to 6m (max). The width of the benches will be kept either equal or more than the height. The slope of the individual bench will be maintained at around 80<sup>0</sup> to 85<sup>0</sup> with ultimate pit slope of less than 45<sup>0</sup>.
14. Mine road will be maintained between benches with Suitable gradient of haul road will be maintained in between 1 in 16 to 1 in 20.
15. Ultimate depth of Mining Cluster 6 would be 10mRL Ultimate extent of the quarry: 19.345 Ha. in Cluster-6 respectively.
16. Life of Mines: 12 Years
17. Water Requirement - 20KLD of potable water will be required from which 7.5 KLD of water will be required for drinking & domestic purpose. 12.5 KLD of water is suggested to be utilized for dust suppression and plantation purpose. Water will be sourced from ground water and rain water harvesting from the existing quarry.
18. A total of 116376 m<sup>3</sup> top-soil mixed with boulders and pebbles are envisaged to be generated during the plan period in course of mining. It is proposed to store this top-soil in the earmarked site and will be utilized for nearby avenue plantation purpose after separated out from the mixed rock boulders and pebbles. It is proposed to store this top-soil in the earmarked site and will be utilized for nearby avenue plantation purpose after separated out from the mixed rock boulders and pebbles.
19. If required, the portion of soil unsuitable for plantation will be sold out to intending users for construction purpose after obtaining permission from concerned authority and payment of advance Royalty.
20. However, the process as above will be followed as per the respective approved mining plan of the quarry lease of Cluster-4 and as such no soil stack will be there in the Cluster-4 area at the end of plan period of ten (10) years.

21. In the process, 3500 nos. of saplings will be used for plantation in the quarried out areas of 2.914 Ha.in total Cluster and 23237 nos. of saplings will be planted in 19.346 Ha. at the end of conceptual period respectively.
22. During the conceptual period the abandoned quarry will converted to water reservoir and plantation will developed along the boundary.
23. Baseline data collection was during the period of 1st March to 22nd March 2020 and 1st April to 7th June 2020.
24. During the study period the concentration of PM10 varies from 35.2-70.0µg/m<sup>3</sup>. The concentration of SO<sub>2</sub> varies from 4.7-12.2µg /m<sup>3</sup> and NO<sub>x</sub> concentrations vary from 9.1-21.5µg /m<sup>3</sup>. From the ambient air quality monitoring carried out for three months (1st March 2020 to 7th June 2020) of the study period shows that the critical pollutants like PM10, SO<sub>x</sub> and NO<sub>x</sub> are well within the permissible limits.
25. The surface water quality results it can be inferred that all the parameters analyzed are under the prescribed limit as per IS 2296:1982; class C and the water does not contain any pollutant which would be hazardous for human, animal or crop health.
26. Analysis of ground water reveals that the pH level of the ground water sample ranges from 6.7-7.7. This indicates that the pH of the ground water in the study area is neutral and as per the drinking water standard, Total hardness ranges from 144-712 mg/l, and total dissolved solid ranges from 270 to 1450mg/l, Alkalinity ranges from 90-469 mg/l.
27. The noise level as measured in the core zone is 55.8 dB (A) in day time and 44.3dB (A) in the night time. In the buffer zone the noise level ranges from 49.3 to 56.4 dBA during day time and 31.2 to 41.6 dBA during night time. The noise level is below the standard as per the Noise Rule, 2000 for rural area. The lease area and all the sampling points are comes under rural area.
28. The total cost of the project is Rs. 200 Lakhs and the updated capital cost and recurring cost (per annum) for the environmental facilities for the proposed mining project works out to be Rs. 20 lakhs and Rs. 10 lakh / year respectively.
29. The Environment consultant **M/s Kalyani Laboratories (Pvt) Ltd. Pahala, Bhubaneswar** along with the proponent has made a detailed presentation on EIA/EMP report.
30. The SEAC in its meeting held on Dt: 06.04.2021, recommended that the proponent should incorporate the following information / documents in the EIA/EMP report in cluster approach and submit the final EIA/EMP report (cluster approach) for approval. The project proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
(i)	Kisam of land and certificate from concerned DFO/Tahasildar that there is no involvement of DLC/forest land in the lease area.	The land schedule and Certificate to the Effect that there is no involvement of DLC forest in the area of Cluster is annexed. (PI refer Annexure- XII
(ii)	Details of 05 quarry leases in cluster.	Attached as Annexure XIII
(iii)	Status of complaints/ court cases/legal action regarding to	No complaint / court case / legal action pending against

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	leases in cluster along with a detailed write up indicating case no., purpose of the case etc.	the individual leases in the cluster. Details attached as <b>Annexure XIV</b> in the reply.
(iv)	Soil testing report to be submitted from agricultural lands nearby.	Attached as annexure XX
(v)	Inversion study to be undertaken for atmospheric topography on fugitive emissions and dusts.	Attached As Annexure I
(vi)	Three tier plantation detailed layout plan.	Attached As Annexure II
(vii)	Detailed layout of safety belt around individual lease and whole cluster.	Safety zone of 7.5m all along the peripheral hillock/ patch boundary has been proposed/ considered for the respective hillock/patch of the Cluster-6 area. Except the peripheral quarry lease areas of the respective hillock/patch, other safety zones of inner individual quarry lease areas are proposed to be excavated after obtaining permission from DGMS.
(viii)	Percentage of chromium and <i>E coli</i> in water.	Surface and ground water has been analysed as per the standard procedure and requirement and incorporated in the EIA EMP report. Chromium and E.Coli concentration has also been measured in the report. The details is as below: In surface Water- Chromium- <0.01mg/l E.Coli- 60-220 MPN/100 ml In ground water- Chromium-<0.02 mg/l E. Coli- <2.0 MPN/100 ml
(ix)	Distance between one lease to other.	Cluster 6 consists of five individual leases and adjoins each other.
(x)	Safety measures to be undertaken for nearby by sensitive places.	During the demarcation of cluster area by the district administration and mining department a safety zone of 200m has been left from the nearby habitation, school and other sensitive area. Further following safety measures

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		<p>will be undertaken:            No wagon drill will be used for mining operation.            Deep hole blasting will not there and only muffle blasting will be carried out for excavation of stone.            Three tier plantation will be carried out along the safety zone for attenuation of air pollution and noise</p>
(xi)	<p>Detailed layout plan showing storage of overburden, plantation, internal roads, common haulage road for 15 leases including OB/mineral waste management with intermediate dynamic inventory holding (Maximum and minimum stock).</p>	<p>Attached As Annexure XVI</p>
(xii)	<p>Details of explosives to be used and its storage area and its management including license/permission/authorization or storage and use of explosives and to confirm no use of wagon drilling blasting.</p>	<p>Attached As Annexure XVII            There will be no storage of explosive Within the cluster area. Authorized vendors will be used for carrying out blasting's.</p>
(xiii)	<p>Air quality Predictive simulation model study for PM 2.5 and PM 10 for next 5, 10, 12 years when cluster will start to operate.</p>	<p>The EIA/EMP study which require short term data only for 3 months and the modeling is being carried out based on the 3 months non monsoon data only.            The AERMOD – Air pollution modeling software has been predesigned for carry out prediction model based on the three month's data.            Carrying out the modeling for 5, 10 and 12 years require long term meteorological and ambient air quality data which is beyond the scope of EIA study.            The simulation modeling is a long term process and may be carried out by district administration as a part of post EC EMP</p>

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		implementation plan.
(xiv)	Details of silt management, water logging management and Waste Water Management, besides discharge / disposal management with SOP / mechanism of water accumulated during rainy season in mines pit including silt management/removal ingress to agricultural lands.	Attached As Annexure XVIII
(xv)	Study report on ground water of that area and mitigation measures taken for non-contamination of ground water due to mining.	Ground water study report has already been incorporated in EIA report. The said report along with mitigation measures has further incorporated as Annexure-III
(xvi)	Details of Zero discharge proposal.	As it is a mining activity no water is involved in the process. So there will be no waste water generated due to mining activity. The domestic effluents generation will be approximately 1KLD only which will be discharged to soak pits through septic tank. So no waste water will be discharged to outside.  Runoff water from mine head will be stored in the abandon pit (Rain water harvesting) and utilized for dust suppression, plantation and other activities.
(xvii)	Report on ground water table if intersected due to mining, contamination and results and mitigation measures.	Ground water table will not intersect due to mining activities. (Annexure- III)
(xviii)	Design and cross-section of check dams.	Check dams shall be constructed at strategic points in order to restrict the flowing speed of surface runoff within the garland drain and to settle down the suspended particles during monsoon. The dimension of the check dams will be length 1m., base width 0.6m., top width 0.4m. and height 0.5m. The check dams will be trapezoid



Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		shaped and the section has been submitted as annexure-XVIII
(xix)	Separation of topsoil and subsoil to be done.	A total of 116376m <sup>3</sup> of topsoil mixed with boulders and pebbles are envisaged to be generated during the plan period in course of mining. It is proposed to store this topsoil in the earmarked site and will be utilized for nearby avenue plantation purpose after separated out from the mixed rock boulders and pebbles. If required, the portion of soil unsuitable for plantation will be sold out to intending users for construction purpose after obtaining permission from concerned authority and payment of advance Royalty. However, the process as above will be followed as per the respective approved mining plan of the quarry lease of Cluster-6 and as such no soil stack will be there in the cluster-6 area at the end of plan period of ten (10) years.
(xx)	Agreement copies.	Attached
(xxi)	Details of waste management i.e. composition and nature of waste generated, tabulated form showing year wise waste generation, usage and storage i.e. complete waste / dump / OB management.	Attached as Annexure IV
(xxii)	Total Plantation should be carried out within 2-3 years and maintenance to be continued in remaining years. Trees present in mining area should be uprooted & transplanted in safety zone. Monitoring of plantation to be undertaken twice a year.	An Environment management committee will be formed. Detailed management plan has been attached as Annexure-II
(xxiii)	Sludge disposal from ETP and settling tanks, rain water harvesting and usage /recharge / recycling of it to reduce the use of ground water.	As there is no waste water generation from the mining, there is no proposal for establishment of ETP in the mining lease. Further the

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		details of settling tank and rain water harvesting pit has been given in Annexure V.
(xxiv)	Detailed proposal for Rain water Harvesting and water balance (both monsoon and non-monsoon)	Attached as Annexure V
(xxv)	Copy of modified mining plan incorporating progressive mine closure plan.	The approved mining plan contains the Mine Closure Plan i.e. Chapter 10 as per Form O of OMMCR 2016. The measures to be adopted towards Progressive Mine Closure have been covered under this chapter. As this is a road metal resource and the depth continuity of the resource is unknown at present, final closure proposals of the cluster cannot be planned now and proposals of this chapter pertains to both for lease period i.e. progressive closure and for conceptual period i.e. final closure. Hence, modification of mining plan is not required.
(xxvi)	Occupational Health Study report, including identification of occupational health hazards for employees as well as neighboring habitation, remedial measures for it and periodical health checkups, at least once in six months by occupational health expert.	The occupational health study will be carried out after the mining cluster will be in operation. The plan for occupational health checkup for the mines worker and nearby population attached as Annexure VI.
(xxvii)	Detailed surface runoff management plan.	Attached as Annexure VII.
(xxviii)	Proceedings of public hearing to be submitted and actions proposed to be taken in physical terms for the environmental issues raised.	Attached as Annexure VIII.
(xxix)	An undertaking that they will not touch the ground water table in next 10 years. In case of intersection with ground water, details of dewatering plan and disaster management to be submitted.	Attached as Annexure XIX
(xxx)	Mining activity will affect the bio-diversity of the area. How bio-	Attached as Annexure IX

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	diversity of the area will be managed during mining activity. Study to be carried out about damage to bio-diversity during mining activity.	
(xxxix)	Details of the CSR activity along with socioeconomic study to be undertaken.	Attached as Annexure X
(xxxixii)	Traffic density study to be undertaken at exit and entry point of mines, intersecting points of haulage road with NH/SH/Public road and at crusher points.	Attached as Annexure XI
(xxxixiii)	NOC from CGWA and permission from WR department, Govt. Of Odisha for use of ground water.	As there is no proposal for ground water withdrawal so NOC is not required for the proposed project. The water required for domestic purpose will be transported to mines area through tanker by lessee. Depth of quarry is 40m so there will no ground water intersection due to mining. So NOC from CGWA is not required
(xxxixiv)	Mining closure plan including fencing/retaining walls alongside the boundary of the mines-details to be submitted.	During the lease period, it is proposed to undertake barbed wire fencing along with retaining walls all along the boundaries of the individual leases (PI refer the layout plan). The height and width of the retaining wall would be 2m and 1m respectively.

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s Kalyani Laboratories (Pvt) Ltd. Pahala, Bhubaneswar on behalf of the proponent, the SEAC approved the EIA/EMP report in cluster approach and recommended the following:**

- a) The SEIAA, Odisha may consider to grant Environmental Clearance to individual lease (for **05 nos.** quarry leases) in cluster with specific conditions as per **Annexure-A** after receipt of individual applications from the lessee in cluster along with following documents.
  - i) Filled in form-I of individual lease
  - ii) Prefeasibility report of individual lease
  - iii) EMP of individual lease.
  - iv) Approved Mining Plan of individual lease

- v) DLC status of the lease area from concerned DFO as certified by the concerned Tahasildar.
- vi) An Undertaking by the lessee not to use wagon drilling blasting to be submitted. Accordingly, specific condition to be stipulated in EC of individual lease.
- vii) No storage and usage of blasting materials/explosives inside the lease area without license/permission/authorization from competent Authority as per Indian Explosives Rules, 1983 shall be ensured by the lessee. An undertaking to this effect shall be submitted by the lessee. Accordingly, specific condition to be stipulated in EC of individual lease.
- viii) Traffic Density study at Crusher points is found to be not undertaken and so also silt management to arrest or removal of in-grassed silts to surrounding agricultural fields if any. Thus, an undertaking needs to be obtained from individual lessee.

#### **ITEM NO. 07**

#### **PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR CLUSTER-7 MINES CONSTITUTED OF RAHADPUR HILLOCKS OVER AN AREA OF 104.77 ACRES OR 42.40 HECTARES LOCATED IN VILLAGE - RAHADPUR OF TAHASIL DHARMASALA & DISTRICT JAJPUR, ODISHA OF TAHASIL DAR DHARMASALA – EC**

1. This is a proposal for Environmental Clearance of Cluster-7 mines which is constituted of 12 nos of quarry leases of Rahadpur hillocks over an area of 104.77 Acres or 42.40 Hectares located in villages Rahadpur of Tahasil Dharmasala & District Jajpur, Odisha of Tahasildar Dharmasala.
2. The project falls under Category "B1", as per Notification of MOEF & CC vide S.O. No. 3977(E), Appendix- XI, dated the 14th August, 2018.
3. ToR for this project has been granted by SEIAA vide letter No. 8324/SEIAA dated 03.06.2020. The public hearing for the said project was conducted on 25.08.2020 at 10.30 AM at G.P Office, Mahisara G.P, Jajpur and the issues raised by the public has been address and an amount of Rs.21,00,000/- has been earmarked for peripheral developmental activities as per the public demand.
4. The total area is Govt. land consisting of 12 nos of quarry leases of of Rahadpur hillocks covering a total mineralized area of 104.77Acres or 42.40 Hectares located in village/Mouza Rahadpur of Dharmasala Tahasil of Jajpur District, Odisha. The project site is located in survey of India toposheet no. 73 L/1 and bounded between the latitudes 20°44'32.54"N to 20°44'12.94"N and Longitudes 86°05'53.25"E to 86°06'43.76"E as per survey.
5. **Connectivity** - The cluster is well accessible through NH-200 at a distance of 5Km from the lease cluster. NH 5 is located at a distance of 4 Km from the lease area. The lease area is well connected to the main road through all weathered road. The mine is approached by internal road which connect the lease to the highway Nearest airport is Bhubaneswar Airport located at a distance of about 60 km Gada Madhupur railway station is located at a distance of 5 km from the lease area. Kapilash wildlife sanctuary is located at a distance of 9Km from the cluster area. Nearest river is Brahmani River- 3Km. Nearest Reserve forest is Nischinta RF wher the cluster lies inside and Mahabinayak & Kapilash RF - 9 Km. No state or national boundary exists within 10 Km radius of the project. Nearest habitation is Rahadpur village – 0.5km.

6. The mining plan for Cluster-7 constituted of Rahadpur building stone quarry has been approved by the Deputy Director Mines Jajpur Road Circle, Jajpur Road Odisha vide letter no.316 on dated 19.02.2020. The individual quarry lease of the cluster have either been auctioned or to be auctioned for long term quarry lease of 10 years for building stone/ Road metal by Tahasildar Dharmasala.
7. The geological reserve (Probable & Possible) for building stone/road metal has been estimated as 222,86,572 Cum. The mineable reserve (Probable) for building stone/road metal is worked out to be 114,65,933 Cum over the cluster-7.
8. The Mine proposed to produce total 1,10,00,000 cum of building stone/road metal during Plan Period (Ten Years).
9. A total of 733 people include skilled workers 100, Semi-skilled workers 200 and unskilled workers 400 nos will be employed during mining operation.
10. Mining of rock mass will be worked out by opencast method of mining. Handling of rock mass will be done both manually and by excavators. Handpicks, spade, chisel, hammer will be used by manual labors for sorting and sizing.
11. The loosening of rock mass will be done by drilling and blasting. Drilling will be done either by wagon drill or jack hammer taking in to consideration the bench height varying from 3 meter to 6m.
12. For blasting tentatively 45833 kg/month of explosive will be required assuming powder factor 2m<sup>3</sup> /kg. The excavated rock mass will be loaded in to 10T/20T capacity tippers/trucks by excavators. As the loading, drilling and transportation will be partly achieved through use of machineries, the mines come under semi-mechanised category.
13. The bench heights will be 3 m to 6m (max). The width of the benches will be kept either equal or more than the height. The slope of the individual bench will be maintained at around 80<sup>o</sup> to 85<sup>o</sup> with ultimate pit slope of less than 45<sup>o</sup>.
14. Mine road will be maintained between benches with Suitable gradient of haul road will be maintained in between 1 in 16 to 1 in 20.
15. Ultimate depth of Mining Cluster 7 would be 20mRL Ultimate extent of the quarry: 39.77 Ha. in Cluster-7 respectively.
16. Life of Mines: 10 Years
17. Water Requirement - 40KLD of potable water will be required from which 20 KLD of water will be required for drinking & domestic purpose. 25 KLD of water is suggested to be utilized for dust suppression and plantation purpose. Water will be sourced from ground water and rain water harvesting from the existing quarry.
18. A total of 574464 m<sup>3</sup> top-soil mixed with boulders and pebbles are envisaged to be generated during the plan period in course of mining. It is proposed to store this top-soil in the earmarked site and will be utilized for nearby avenue plantation purpose after separated out from the mixed rock boulders and pebbles. It is proposed to store this top-soil in the earmarked site and will be utilized for nearby avenue plantation purpose after separated out from the mixed rock boulders and pebbles.
19. If required, the portion of soil unsuitable for plantation will be sold out to intending users for construction purpose after obtaining permission from concerned authority and payment of advance Royalty.

20. However, the process as above will be followed as per the respective approved mining plan of the quarry lease of Cluster-7 and as such no soil stack will be there in the Cluster-7 area at the end of plan period of ten (10) years.
21. In the process, 3156 nos. of saplings will be used for plantation in the quarried out areas of 2.63 Ha.in total Cluster and 47724 nos. of saplings will be planted in 39.77\ Ha. at the end of conceptual period respectively.
22. During the conceptual period the abandoned quarry will converted to water reservoir and plantation will developed along the boundary.
23. Baseline data collection was during the period of 1st March to 22nd March 2020 and 1st April to 7th June 2020.
24. During the study period the concentration of PM10 varies from 35.2-79.2 $\mu\text{g}/\text{m}^3$  and PM<sub>2.5</sub> varies from 21.01-43.5 $\mu\text{g}/\text{m}^3$ . The concentration of SO<sub>2</sub> varies from 4-11.4 $\mu\text{g}/\text{m}^3$  and NOx concentrations vary from 9.1-22.4 $\mu\text{g}/\text{m}^3$ . From the ambient air quality monitoring carried out for three months (1st March to 7th June 2020) of the study period shows that the critical pollutants like PM<sub>10</sub>, SOx and NOx are well within the permissible limits.
25. The surface water quality results it can be inferred that all the parameters analyzed are under the prescribed limit as per IS 2296:1982; class C and the water does not contain any pollutant which would be hazardous for human, animal or crop health.
26. Analysis of ground water reveals that the pH level of the ground water sample ranges from 6.7-7.7. This indicates that the pH of the ground water in the study area is neutral and as per the drinking water standard, Total hardness ranges from 144-712 mg/l, and total dissolved solid ranges from 270 to 1450mg/l, Alkalinity ranges from 90-469 mg/l.
27. The noise level as measured in the core zone is 55.4 dB (A) in day time and 35.2 dB (A) in the night time. In the buffer zone the noise level ranges from 42.3 to 56.4 dBA during day time and 30.2 to 41.6 dBA during night time. The noise level is below the standard as per the Noise Rule, 2000 for rural area. The lease area and all the sampling points are comes under rural area.
28. The total cost of the project is Rs. 400 Lakhs and the updated capital cost and recurring cost (per annum) for the environmental facilities for the proposed mining project works out to be Rs. 40 lakhs and Rs. 14 lakh / year respectively.
29. The Environment consultant **M/s Kalyani Laboratories (Pvt) Ltd. Pahala, Bhubaneswar** along with the proponent has made a detailed presentation on EIA/EMP report.
30. The SEAC in its meeting held on Dt: 06.04.2021, recommended that the proponent should incorporate the following information / documents in the EIA/EMP report in cluster approach and submit the final EIA/EMP report (cluster approach) for approval. The project proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
(i)	Kisam of land and certificate from concerned DFO/Tahasildar that there is no involvement of DLC/forest land in the lease area.	The land schedule and Certificate to the effect that there is no involvement of DLC forest in the area of Cluster is annexed. (PI refer Annexure- XII
(ii)	Details of 12 quarry leases in cluster.	Attached as Annexure XIII

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
(iii)	Status of complaints/ court cases/legal action regarding to leases in cluster along with a detailed write up indicating case no., purpose of the case etc.	No complaint / court case / legal action pending against the individual leases in the cluster. Details attached as <b>Annexure XIV</b> in the reply.
(iv)	Soil testing report to be submitted from agricultural lands nearby.	Soil analysis is being carried out from the nearby agricultural land and incorporated in the EIA EMP report. Copy of the soil analysis report attached Annexure XXI
(v)	Inversion study to be undertaken for atmospheric topography on fugitive emissions and dusts.	Attached As Annexure I
(vi)	Three tier plantation detailed layout plan.	Attached As Annexure II
(vii)	Detailed layout of safety belt around individual lease and whole cluster.	Safety zone of 7.5m all along the peripheral hillock/ patch boundary has been proposed/ considered for the respective hillock/patch of the Cluster- 6 area. Except the peripheral quarry lease areas of the respective hillock/patch, other safety zones of inner individual quarry lease areas are proposed to be excavated after obtaining permission from DGMS.
(viii)	Percentage of chromium and <i>E coli</i> in water.	Surface and ground water has been analysed as per the standard procedure and requirement and incorporated in the EIA EMP report. Chromium and E.Coli concentration has also been measured in the report. The details is as below: In surface Water- Chromium- <0.01mg/l E.Coli- 60-220 MPN/100 ml In ground water- Chromium-<0.02 mg/l E. Coli- <2.0 MPN/100 ml
(ix)	Distance between one lease to other.	Cluster 7 consists of 12 individual leases and the separating distance between these quarries varies from 12m to 39m
(x)	Safety measures to be undertaken for nearby by sensitive places.	During the demarcation of cluster area by the district administration and mining department a safety zone of 200m has been left from the nearby habitation, school and other sensitive area. Further following safety measures will be undertaken:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		No wagon drill will be used for mining operation. Deep hole blasting will not there and only muffle blasting will be carried out for excavation of stone. Three tier plantation will be carried out along the safety zone for attenuation of air pollution and noise
(xi)	Detailed layout plan showing storage of overburden, plantation, internal roads, common haulage road for 15 leases including OB/mineral waste management with intermediate dynamic inventory holding (Maximum and minimum stock).	Attached As Annexure XVI
(xii)	Details of explosives to be used and its storage area and its management including license/permission/authorization or storage and use of explosives and to confirm no use of wagon drilling blasting.	Attached As Annexure XVII
(xiii)	Air quality Predictive simulation model study for PM 2.5 and PM 10 for next 5, 10, 12 years when cluster will start to operate.	The EIA/EMP study which requires short term data only for 3 months and the modeling is being carried out based on the 3 months non monsoon data only. The AERMOD – Air pollution modeling software has been predesigned for carry out prediction model based on the three months data. Carrying out the modeling for 5,10 and 12 years require long term meteorological and ambient air quality data which is beyond the scope of EIA study. Reputed organization like IITs can take up this as project for simulation of 5, 10, 12Years prediction.
(xiv)	Details of silt management, water logging management and Waste Water Management, besides discharge / disposal management with SOP / mechanism of water accumulated during rainy season in mines pit including silt management/removal	Attached As Annexure XVIII



Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	ingression to agricultural lands.	
(xv)	Study report on ground water of that area and mitigation measures taken for non-contamination of ground water due to mining.	Ground water study report has already been incorporated in EIA report. The said report along with mitigation measures has further incorporated as Annexure-III
(xvi)	Details of Zero discharge proposal.	As it is a mining activity no water is involved in the process. So there will be no waste water generated due to mining activity. The domestic effluents generation will be approximately 1KLD only which will be discharged to soak pits through septic tank. So no waste water will be discharged to outside.  Runoff water from mine head will be stored in the abandon pit (Rain water harvesting) and utilized for dust suppression, plantation and other activities.
(xvii)	Report on ground water table if intersected due to mining, contamination and results and mitigation measures.	Ground water table will not intersect due to mining activities. (Annexure – III)
(xviii)	Design and cross-section of check dams.	Check dams shall be constructed at strategic points in order to restrict the flowing speed of surface runoff within the garland drain and to settle down the suspended particles during monsoon. The dimension of the check dams will be length 1m., base width 0.6m., top width 0.4m. and height 0.5m. The check dams will be trapezoid shaped and the section has been submitted as annexure- XVIII.
(xix)	Separation of topsoil and subsoil to be done.	The area of the cluster is almost broken up by prior quarrying activities. The top-soil and sub-soil of the area are lateritic in nature and intermingled with boulders and cobbles of stone and contain very less humus. It is proposed to mine out the existing top-soil and sub-soil separately by not mixing with stone i.e. separate benches will be formed to excavate the existing top-soil and sub-soil. A total of 574464m <sup>3</sup> of top-soil mixed with boulders and pebbles are envisaged to be generated during

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		the plan period in course of mining. It is proposed to store this top-soil in the earmarked site and will be utilized for nearby avenue plantation purpose after separated out from the mixed rock boulders and pebbles. If required, the portion of soil unsuitable for plantation will be sold out to intending users for construction purpose after obtaining permission from concerned authority and payment of advance Royalty. However, the process as above will be followed as per the respective approved mining plan of the quarry lease of Cluster-7 and as such no soil stack will be there in the Cluster-8 area at the end of plan period of ten (10) years.
(xx)	Agreement copies.	Attached
(xxi)	Details of waste management i.e. composition and nature of waste generated, tabulated form showing year wise waste generation, usage and storage i.e. complete waste / dump / OB management.	Attached as Annexure IV
(xxii)	Total Plantation should be carried out within 2-3 years and maintenance to be continued in remaining years. Trees present in mining area should be uprooted & transplanted in safety zone. Monitoring of plantation to be undertaken twice a year.	An Environment management committee will be formed. Detailed management plan has been attached as Annexure-II
(xxiii)	Sludge disposal from ETP and settling tanks, rain water harvesting and usage /recharge / recycling of it to reduce the use of ground water.	As there is no waste water generation from the mining, there is no proposal for establishment of ETP in the mining lease. Further the details of settling tank and rain water harvesting pit has been given in Annexure V.
(xxiv)	Detailed proposal for Rain water Harvesting and water balance (both monsoon and non-monsoon)	Attached as Annexure V
(xxv)	Copy of modified mining plan incorporating progressive mine closure plan.	The approved mining plan contains the Mine Closure Plan i.e. Chapter 10 as per Form O of OMMCR 2016. The measures to be adopted towards Progressive Mine Closure have been covered under this

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		chapter. As this is a road metal resource and the depth continuity of the resource is unknown at present, final closure proposals of the cluster cannot be planned now and proposals of this chapter pertains to both for lease period i.e. progressive closure and for conceptual period i.e. final closure. Hence, modification of mining plan is not required.
(xxvi)	Occupational Health Study report, including identification of occupational health hazards for employees as well as neighboring habitation, remedial measures for it and periodical health checkups, at least once in six months by occupational health expert.	The occupational health study will be carried out after the mining cluster will be in operation. The plan for occupational health checkup for the mines worker and nearby population attached as Annexure VI.
(xxvii)	Detailed surface runoff management plan.	Attached as Annexure VII.
(xxviii)	Proceedings of public hearing to be submitted and actions proposed to be taken in physical terms for the environmental issues raised.	Attached as Annexure VIII.
(xxix)	An undertaking that they will not touch the ground water table in next 10 years. In case of intersection with ground water, details of dewatering plan and disaster management to be submitted.	Attached as Annexure XIX
(xxx)	Mining activity will affect the bio-diversity of the area. How bio-diversity of the area will be managed during mining activity. Study to be carried out about damage to bio-diversity during mining activity.	Attached as Annexure IX
(xxxii)	Details of the CSR activity along with socioeconomic study to be undertaken.	Attached as Annexure X
(xxxiii)	Traffic density study to be undertaken at exit and entry point of mines, intersecting points of haulage road with NH/SH/Public road and at crusher points.	Attached as Annexure XI
(xxxiii)	NOC from CGWA and permission from WR department, Govt. Of Odisha for use of ground water.	As there is no proposal for ground water withdrawal so NOC is not required for the proposed project.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		The water required for domestic purpose will be transported to mines area through tanker by lessee. Depth of quarry is 40m so there will no ground water intersection due to mining. So NOC from CGWA is not required
(xxxiv)	Mining closure plan including fencing/retaining walls alongside the boundary of the mines-details to be submitted	During the lease period, it is proposed to undertake barbed wire fencing along with retaining walls all along the boundaries of the individual leases (Pl refer the layout plan). The height and width of the retaining wall would be 2m and 1m respectively.

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s Kalyani Laboratories (Pvt) Ltd. Pahala, Bhubaneswar on behalf of the proponent, the SEAC approved the EIA/EMP report in cluster approach and recommended the following:**

- a) The SEIAA, Odisha may consider to grant Environmental Clearance to individual lease (for **12 nos.** quarry leases) in cluster with specific conditions as per **Annexure-A** after receipt of individual applications from the lessee in cluster along with following documents.
  - i) Filled in form-I of individual lease
  - ii) Prefeasibility report of individual lease
  - iii) EMP of individual lease.
  - iv) Approved Mining Plan of individual lease
  - v) DLC status of the lease area from concerned DFO as certified by the concerned Tahasildar.
  - vi) An Undertaking by the lessee not to use wagon drilling blasting to be submitted. Accordingly, specific condition to be stipulated in EC of individual lease.
  - vii) No storage and usage of blasting materials/explosives inside the lease area without license/permission/authorization from competent Authority as per Indian Explosives Rules, 1983 shall be ensured by the lessee. An undertaking to this effect shall be submitted by the lessee. Accordingly, specific condition to be stipulated in EC of individual lease.
  - viii) Traffic Density study at Crusher points is found to be not undertaken and so also silt management to arrest or removal of in-grassed silts to surrounding agricultural fields if any. Thus, an undertaking needs to be obtained from individual lessee.

## **ITEM NO. 08**

### **PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR CLUSTER-8 MINES CONSTITUTED OF SAHANIDIHA HILLOCKS OVER AN AREA OF 49.62 ACRES OR 20.08 HECTARES LOCATED IN VILLAGE - SAHANIDIHA OF TAHASIL DHARMASALA & DISTRICT JAJPUR, ODISHA OF TAHASILDAR DHARMASALA – EC**

1. This is a proposal for Environmental Clearance of Cluster-8 mines which is constituted of 02 nos of quarry leases of Sahanidiha hillocks over an area of 49.62 Acres or 20.08 Hectares located in villages Sahanidiha of Tahasil Dharmasala & District Jajpur, Odisha of Tahasildar Dharmasala.
2. The project falls under Category “B1”, as per Notification of MOEF & CC vide S.O. No. 3977(E), Appendix- XI, dated the 14th August, 2018.
3. ToR for this project has been granted by SEIAA vide letter No. 8341/SEIAA dated 03.06.2020. The public hearing for the said project was conducted on 27.08.2020 at 2.30 PM at G.P Office, Purunabaulamal G.P, Jajpur and the issues raised by the public has been address and an amount of Rs.18,00,000/- has been earmarked for peripheral developmental activities as per the public demand.
4. The total area is Govt. land consisting of 02 nos of quarry leases of Sahanidiha hillocks covering a total mineralized area of 49.62Acres or 20.08 Hectares located in village/Mouza Sahanidiha of Dharmasala Tahasil of Jajpur District, Odisha. The project site is located in survey of India toposheet no. 73L/1 & 73H/13 and bounded between the latitudes 20°47'55.16" N to 20°48'15.06" N and longitudes 86°02'59.48" E to 86°03'17.74" E as per survey.
5. **Connectivity** - The cluster is well accessible through NH-200 at a distance of 2Km from the lease cluster. NH 5 is located at a distance of 10 Km from the lease area. The lease area is well connected to the main road through all weathered road. The mine is approached by internal road which connect the lease to the highway Nearest airport is Bhubaneswar Airport located at a distance of about 65 km Jenapur railway station is located at a distance of 1.5 km from the lease area. Nearest river is Brahmani River- 3.2Km. Nearest Reserve forest is Nischinta RF - 6 Km. No state or national boundary exists within 10 Km radius of the project. Nearest habitation is Sahanidiha village – 0.5km.
6. The mining plan for Cluster-8 constituted of Sahanidiha building stone quarry has been approved by the Deputy Director Mines Jajpur Road Circle, Jajpur Road Odisha vide letter no.309 on dated 19.02.2020. The individual quarry lease of the cluster have either been auctioned or to be auctioned for long term quarry lease of 10 years for building stone/ Road metal by Tahasildar Dharmasala.
7. The geological reserve (Probable & Possible) for building stone/road metal has been estimated as 67,43,982Cum over Cluster-8 mineralized area. The mineable reserve (Probable) for building stone/road metal worked out to be 16,03,476 um over Cluster-8 mineralized area.
8. The Mine proposed to produce total 16,00,000 cum of building stone/road metal during Plan Period (Ten Years).
9. A total of 106 people include skilled workers 20, Semi-skilled workers 30 and unskilled workers 50 nos will be employed during mining operation.

10. Mining of rock mass will be worked out by opencast method of mining. Handling of rock mass will be done both manually and by excavators. Handpicks, spade, chisel, hammer will be used by manual labors for sorting and sizing.
11. The loosening of rock mass will be done by drilling and blasting. Drilling will be done either by wagon drill or jack hammer taking in to consideration the bench height varying from 3 meter to 6m.
12. For blasting tentatively 8000 kg/month of explosive will be required assuming powder factor 2m<sup>3</sup> /kg. The excavated rock mass will be loaded in to 10T/20T capacity tippers/trucks by excavators. As the loading, drilling and transportation will be partly achieved through use of machineries, the mines come under semi-mechanised category.
13. The bench heights will be 3 m to 6m (max). The width of the benches will be kept either equal or more than the height. The slope of the individual bench will be maintained at around 80<sup>0</sup> to 85<sup>0</sup> with ultimate pit slope of less than 45<sup>0</sup>.
14. Mine road will be maintained between benches with Suitable gradient of haul road will be maintained in between 1 in 16 to 1 in 20.
15. Ultimate depth of Mining Cluster 8 would be 05mRL Ultimate extent of the quarry: 10.00 Ha. in Cluster-8 respectively.
16. Life of Mines: 10 Years
17. Water Requirement - 20KLD of potable water will be required from which 2.5 KLD of water will be required for drinking & domestic purpose. 17.5 KLD of water is suggested to be utilized for dust suppression and plantation purpose. Water will be sourced from ground water and rain water harvesting from the existing quarry.
18. A total of 64071 m<sup>3</sup> top-soil mixed with boulders and pebbles are envisaged to be generated during the plan period in course of mining. It is proposed to store this top-soil in the earmarked site and will be utilized for nearby avenue plantation purpose after separated out from the mixed rock boulders and pebbles. It is proposed to store this top-soil in the earmarked site and will be utilized for nearby avenue plantation purpose after separated out from the mixed rock boulders and pebbles.
19. If required, the portion of soil unsuitable for plantation will be sold out to intending users for construction purpose after obtaining permission from concerned authority and payment of advance Royalty.
20. However, the process as above will be followed as per the respective approved mining plan of the quarry lease of Cluster-8 and as such no soil stack will be there in the Cluster-8 area at the end of plan period of ten (10) years.
21. In the process, 12096 nos. of saplings will be used for plantation in the quarried out areas of 10.08 Ha.in total Cluster and 12000 nos. of saplings will be planted in 10 Ha. at the end of conceptual period respectively.
22. During the conceptual period the abandoned quarry will converted to water reservoir and plantation will developed along the boundary.
23. Baseline data collection was during the period of 1st March to 22nd March 2020 and 1st April to 7th June 2020.

24. During the study period the concentration of PM<sub>10</sub> varies from 35.2-79.2µg/m<sup>3</sup> and PM<sub>2.5</sub> varies from 21.01-43.5µg /m<sup>3</sup>. The concentration of SO<sub>2</sub> varies from 4-11.4µg /m<sup>3</sup> and NO<sub>x</sub> concentrations vary from 9.1-22.4µg /m<sup>3</sup>. From the ambient air quality monitoring carried out for three months (1st March 2020 to 7th June 2020) of the study period shows that the critical pollutants like PM<sub>10</sub>, SO<sub>x</sub> and NO<sub>x</sub> are well within the permissible limits.
25. The surface water quality results it can be inferred that all the parameters analyzed are under the prescribed limit as per IS 2296:1982; class C and the water does not contain any pollutant which would be hazardous for human, animal or crop health.
26. Analysis of ground water reveals that the pH level of the ground water sample ranges from 6.7-7.7. This indicates that the pH of the ground water in the study area is neutral and as per the drinking water standard, Total hardness ranges from 144-712 mg/l, and total dissolved solid ranges from 270 to 1450mg/l, Alkalinity ranges from 90-469 mg/l.
27. The noise level as measured in the core zone is 55.4 dB (A) in day time and 35.2 dB (A) in the night time. In the buffer zone the noise level ranges from 42.3 to 56.4 dBA during day time and 30.2 to 41.6 dBA during night time. The noise level is below the standard as per the Noise Rule, 2000 for rural area. The lease area and all the sampling points are comes under rural area.
28. The total cost of the project is Rs. 250 Lakhs and the updated capital cost and recurring cost (per annum) for the environmental facilities for the proposed mining project works out to be Rs. 25 lakhs and Rs. 10 lakh / year respectively.
29. The Environment consultant **M/s Kalyani Laboratories (Pvt) Ltd. Pahala, Bhubaneswar** along with the proponent has made a detailed presentation on EIA/EMP report.
30. The SEAC in its meeting held on Dt: 06.04.2021, recommended that the proponent should incorporate the following information / documents in the EIA/EMP report in cluster approach and submit the final EIA/EMP report (cluster approach) for approval. The project proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
(i)	Kisam of land and certificate from concerned DFO/ Tahasildar that there is no involvement of DLC/forest land in the lease area.	The land scheduled and certificate to the effect that there is no involvement of DLC forest in the area of Cluster is annexed. (PI refer Annexure- XII)
(ii)	Details of 02 quarry leases in cluster.	Attached as Annexure XIII
(iii)	Status of complaints/ court cases/legal action regarding to leases in cluster along with a detailed write up indicating case no., purpose of the case etc.	No complaint / court case / legal action pending against the individual leases in the cluster. Details attached as <b>Annexure XIV</b> in the reply.
(iv)	Soil testing report to be submitted from agricultural lands nearby.	Attached As Annexure XXI
(v)	Inversion study to be undertaken for atmospheric topography on fugitive emissions and dusts.	Attached As Annexure I

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
(vi)	Three tier plantation detailed layout plan.	Attached As Annexure II
(vii)	Detailed layout of safety belt around individual lease and whole cluster.	Safety zone of 7.5m all along the peripheral hillock/ patch boundary has been proposed/ considered for the respective hillock/patch of the Cluster-6 area. Except the peripheral quarry lease areas of the respective hillock/patch, other safety zones of inner individual quarry lease areas are proposed to be excavated after obtaining permission from DGMS.
(viii)	Percentage of chromium and <i>E coli</i> in water.	Surface and ground water has been analysed as per the standard procedure and requirement and incorporated in the EIA EMP report. Chromium and E.Coli concentration has also been measured in the report. The details is as below: <p style="text-align: center;">In surface Water- Chromium- &lt;0.01mg/l E.Coli- 60-220 MPN/100 ml In ground water- Chromium- &lt;0.02 mg/l E. Coli- &lt;2.0 MPN/100 ml</p>
(ix)	Distance between one lease to other.	Cluster 8 consists of two individual leases and the separating distance varies from 15m to 22m.
(x)	Safety measures to be undertaken for nearby by sensitive places.	During the demarcation of cluster area by the district administration and mining department a safety zone of 200m has been left from the nearby habitation, school and other sensitive area. Further following safety measures will be undertaken: No wagon drill will be used for mining operation. Deep hole blasting will not



Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		there and only muffle blasting will be carried out for excavation of stone. Three tier plantation will be carried out along the safety zone for attenuation of air pollution and noise
(xi)	Detailed layout plan showing storage of overburden, plantation, internal roads, common haulage road for 15 leases including OB/mineral waste management with intermediate dynamic inventory holding (Maximum and minimum stock).	Attached As Annexure XVI
(xii)	Details of explosives to be used and its storage area and its management including license/permission/authorization or storage and use of explosives and to confirm no use of wagon drilling blasting.	Attached As Annexure XVII
(xiii)	Air quality Predictive simulation model study for PM 2.5 and PM 10 for next 5, 10, 12 years when cluster will start to operate.	The EIA/EMP study which requires short term data only for 3 months and the modeling is being carried out based on the 3 months non monsoon data only.  The AERMOD – Air pollution modeling software has been predesigned for carry out prediction model based on the three months data.  Carrying out the modeling for 5,10 and 12 years require long term meteorological and ambient air quality data which is beyond the scope of EIA study. Reputed organization like IITs can take up this as project for simulation of 5, 10, 12Years prediction.
(xiv)	Details of silt management, water logging management and Waste Water Management, besides discharge / disposal management with SOP / mechanism of water	Attached As Annexure XVIII

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	accumulated during rainy season in mines pit including silt management/removal ingression to agricultural lands.	
(xv)	Study report on ground water of that area and mitigation measures taken for non-contamination of ground water due to mining.	Ground water study report has already been incorporated in EIA report. The said report along with mitigation measures has further incorporated as Annexure-III.
(xvi)	Details of Zero discharge proposal.	As it is a mining activity no water is involved in the process. So there will be no waste water generated due to mining activity. The domestic effluents generation will be approximately 1KLD only which will be discharged to soak pits through septic tank. So no waste water will be discharged to outside.  Runoff water from mine head will be stored in the abandon pit (Rain water harvesting) and utilized for dust suppression, plantation and other activities.
(xvii)	Report on ground water table if intersected due to mining, contamination and results and mitigation measures.	Ground water table will not intersect due to mining activities.
(xviii)	Design and cross-section of check dams.	Check dams shall be constructed at strategic points in order to restrict the flowing speed of surface runoff within the garland drain and to settle down the suspended particles during monsoon. The dimension of the check dams will be length 1m., base width 0.6m., top width 0.4m and height 0.5m. The check dams will be trapezoid shaped and the section has been submitted as annexure-XVIII
(xix)	Separation of topsoil and subsoil to be done.	The area of the cluster is almost broken up by prior quarrying

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		<p>activities. The topsoil and sub-soil of the area are lateritic in nature and intermingled with boulders and cobbles of stone and contain very less humus. It is proposed to mine out the existing top-soil and sub-soil separately by not mixing with stone i.e. separate benches will be formed to excavate the existing top-soil and sub-soil. A total of 64071m<sup>3</sup> of top-soil mixed with boulders and pebbles are envisaged to be generated during the plan period in course of mining. It is proposed to store this top-soil in the earmarked site and will be utilized for nearby avenue plantation purpose after separated out from the mixed rock boulders and pebbles. If required, the portion of soil unsuitable for plantation will be sold out to intending users for construction purpose after obtaining permission from concerned authority and payment of advance Royalty. However, the process as above will be followed as per the respective approved mining plan of the quarry lease of Cluster-8 and as such no soil stack will be there in the Cluster-8 area at the end of plan period of ten (10) years.</p>
(xx)	Agreement copies.	Attached
(xxi)	Details of waste management i.e. composition and nature of waste generated, tabulated form showing year wise waste generation, usage and storage i.e. complete waste / dump / OB management.	Attached as Annexure IV
(xxii)	Total Plantation should be carried out within 2-3 years and maintenance to be continued in remaining years. Trees present	An Environment management committee will be formed. Detailed management plan has been

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	in mining area should be uprooted & transplanted in safety zone. Monitoring of plantation to be undertaken twice a year.	attached as Annexure-II .
(xxiii)	Sludge disposal from ETP and settling tanks, rain water harvesting and usage /recharge / recycling of it to reduce the use of ground water.	As there is no waste water generation from the mining, there is no proposal for establishment of ETP in the mining lease. Further the details of settling tank and rain water harvesting pit has been given in Annexure V.
(xxiv)	Detailed proposal for Rain water Harvesting and water balance (both monsoon and non-monsoon)	Attached as Annexure V
(xxv)	Copy of modified mining plan incorporating progressive mine closure plan.	The approved mining plan contains the Mine Closure Plan i.e. Chapter 10 as per Form O of OMMCR 2016. The measures to be adopted towards Progressive Mine Closure have been covered under this chapter. As this is a road metal resource and the depth continuity of the resource is unknown at present, final closure proposals of the cluster cannot be planned now and proposals of this chapter pertains to both for lease period i.e. progressive closure and for conceptual period i.e. final closure. Hence, modification of mining plan is not required.
(xxvi)	Occupational Health Study report, including identification of occupational health hazards for employees as well as neighboring habitation, remedial measures for it and periodical health checkups, at least once in six months by occupational health expert.	The occupational health study will be carried out after the mining cluster will be in operation. The plan for occupational health checkup for the mines worker and nearby population attached as Annexure VI.
(xxvii)	Detailed surface runoff management plan.	Attached as Annexure VII.
(xxviii)	Proceedings of public hearing to be submitted and actions proposed to be taken in	Attached as Annexure VIII.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	physical terms for the environmental issues raised.	
(xxix)	An undertaking that they will not touch the ground water table in next 10 years. In case of intersection with ground water, details of dewatering plan and disaster management to be submitted.	Attached as Annexure XIX
(xxx)	Mining activity will affect the bio-diversity of the area. How bio-diversity of the area will be managed during mining activity. Study to be carried out about damage to bio-diversity during mining activity.	Attached as Annexure IX
(xxxii)	Details of the CSR activity along with socioeconomic study to be undertaken.	Attached as Annexure X
(xxxiii)	Traffic density study to be undertaken at exit and entry point of mines, intersecting points of haulage road with NH/SH/Public Road and at crusher points.	Attached as Annexure XI
(xxxiii)	NOC from CGWA and permission from WR department, Govt. Of Odisha for use of ground water.	As there is no proposal for ground water withdrawal so NOC is not required for the proposed project. The water required for domestic purpose will be transported to mines area through tanker by lessee. Depth of quarry is 40m so there will no ground water intersection due to mining. So NOC from CGWA is not required.
(xxxiv)	Mining closure plan including fencing/retaining walls alongside the boundary of the mines-details to be submitted.	During the lease period, it is proposed to undertake barbed wire fencing along with retaining walls all along the boundaries of the individual leases (PI refer the layout plan). The height and width of the retaining wall would be 2m and 1m respectively.

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s Kalyani Laboratories (Pvt) Ltd. Pahala, Bhubaneswar on behalf of the proponent, the SEAC approved the EIA/EMP report in cluster approach and**

**recommended the following:**

- a) The SEIAA, Odisha may consider to grant Environmental Clearance to individual lease (for **12 nos.** quarry leases) in cluster with specific conditions as per **Annexure-A** after receipt of individual applications from the lessee in cluster along with following documents.
  - i) Filled in form-I of individual lease
  - ii) Prefeasibility report of individual lease
  - iii) EMP of individual lease.
  - iv) Approved Mining Plan of individual lease
  - v) DLC status of the lease area from concerned DFO as certified by the concerned Tahasildar.
  - vi) An Undertaking by the lessee not to use wagon drilling blasting to be submitted. Accordingly, specific condition to be stipulated in EC of individual lease.
  - vii) No storage and usage of blasting materials/explosives inside the lease area without license/permission/authorization from competent Authority as per Indian Explosives Rules, 1983 shall be ensured by the lessee. An undertaking to this effect shall be submitted by the lessee. Accordingly, specific condition to be stipulated in EC of individual lease.
  - viii) Traffic Density study at Crusher points is found to be not undertaken and so also silt management to arrest or removal of in-grassed silts to surrounding agricultural fields if any. Thus, an undertaking needs to be obtained from individual lessee.

**Since all the mines in clusters are of varied size and located in one geographically region having similar environmental issues, the SEAC recommended for site visit by Sub-Committee of SEAC to one or two mines selected randomly in cluster within about 6 months from the date of issue of EC to verify the Environmental compliance.**

**ITEM NO. 09**

**PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF SPRINGVILLE GREENS PVT.LTD. FOR EXPANSION OF RESIDENTIAL BUILDING COMPLEX “SPRING VILLE GREENS” AT MOUZA- BIJIPUR, BHUBANESWAR OF SRI. SURESH KUMAR SUREKA – AMENDMENT OF EC.**

1. This is a proposal for Amendment of Environmental Clearance of M/s Springville Greens Pvt. Ltd for expansion of Residential Building Complex “Springville Greens” At Mouza-Bijipur, Bhubaneswar of Sri. Suresh Kumar Sureka.
2. The project falls under Category “B”, Project or Activity 8(a) – Building Construction; Category B2 under Expansion project as per schedule of EIA Notification dated 14th Sep, 2006, as amended from time to time.
3. M/S. Spring Ville Greens LLP have Proposed Expansion of Residential Building Complex “Springville Greens” At Mouza - Bijipur, Bhubaneswar, Odisha. [ for construction of 13 blocks of S+14 multistoried (MIG) Residential buildings, 16 blocks of G+4 storey (EWS) Residential buildings, one G+1 storey Society cum club building, One G+3 storey Commercial building and one Basement Parking].
4. The site is coming under developmental Plan of Bhubaneswar Municipal Corporation. The building plan has approved by Bhubaneswar Development Authority vide letter no. 29331,

Dt.31st October 2016. EC obtained for 3 Block- of (S+12,S+13 & S+14) Storied , Seven Blocks of S+14 multistoried and One Block of G+4 Storied (for EWS), One Block of S+2 Storied Club-cum-Society Building with built-up area of 104545.10 sq.mt. Vide SEIAA letter No SEIAA/No-7077/SEIAA dated 30.07.2019.

5. The Revised building plan approved by BDA Vide letter No. –30092/BDA, Bhubaneswar, Dt. 12.12.2019. In revised building plan, total built-up area will increase from 104545.10 m<sup>2</sup> to 108149.210 m<sup>2</sup>. Ground Coverage will decrease from 12580.90 m<sup>2</sup> (29.4% of Plot Area) to 10919.931 m<sup>2</sup> (25.350% of Plot Area), Max building height will increase from 44.85 mt. to 44.95 mt. and Dwelling units will increase from earlier proposed 1036 units to 1048 units.
6. **Connectivity:** M/s Spring Ville Greens LLP. has proposed to construct Residential Building with club. Project is located at nearer to Tamando Police station, surrounding area is developed area. The proposed site comes under BDA (Bhubaneswar Development Authority) and land use zone of the proposed site is residential Use Zone as per land use plan of BDA land use plan. Site is located in Mouza - Bijipur adjacent to AH-45 (CHENNAI - KOLKATA).The nearest airport is Biju pattanaik Airport which is 6.7 km away from the project site towards W direction. Retang Railway junction is 3.82 km away from the project site towards West direction. Bhubaneswar Railway station is 10.45 km away from the project site towards N-E direction.
7. **Power Requirement:** The daily power requirement for the proposed project is assessed as 5218 KW (6139 KVA at 0.85 P.F).The power will be entirely supplied through CESU. There is provision of Power backup for the residential project will be through DG sets of total capacity 1870 KVA (3 X 600 KVA + 1 X 70 KVA) silent DG Set (Radiator Cooled) for residential area. Separate generator yard will be constructed for housing DG sets.
8. **Water Requirement:** During construction stage daily requirement of water will avg. 60 KLD which will be sourced from surface water through water tankers. During operation stage total water requirement will be about 726.4 KLD out of which 453.5 KLD (daily fresh water requirement will be sourced from PHED/Ground water.) Approximately, 645 KLD of wastewater will be generated during the operational phase from domestic uses and other uses. The wastewater will be treated in a Proposed STP (MBBR) Capacity = 645 KLD - Considering 5% buffer - 680 KLD. (Separate for Phase-1, 2 & EWS) 3 nos. of STP having capacity of 680 KL (310 KLD, 240 KLD & 120 KLD) provided within the complex generating 580 KLD of recoverable treated waste water from STP. Out of which 390.4KLD (will be re-used for flushing 272.4 KLD, Gardening-60 KLD & 20 KLD for cooling water make-up & 8 KLD for car washing etc.) within the project. During dry season there will be 190 KLD treated waste water discharged into municipal sewer and 250 KLD will become surplus in monsoon season.
9. **Solid Waste Generation and Management:** The solid waste generated from the project shall be mainly domestic waste and estimated quantity of the waste shall be approx.3123 kg per day @ 0.500 kg per capita per day for residential population(@ 0.20 kg per capita per day for visitors, Staff & club area. Landscape wastes @ 0.2 kg/acre/day will be disposed in project premises).
10. **Green Belt:** The green area will be developed approx. 20 % of the plot area (8616.128 sqm). The biodiversity in the area will increase due to the proposed green areas.
11. **Parking:** Proposed total area of car parking (including commercial & EWS parking) - 22500.876 M<sup>2</sup>

12. The project cost is INR ` 184 Cr [180 Cr (Existing /EC Granted) + ` 4 Cr (Expansion)].
13. The Environment consultant **M/s Visiontek Consultancy Services Pvt. Ltd., Bhubaneswar** along with the proponent made a presentation on the proposal before the Committee.
14. The SEAC in its meeting held on Dt: 11.11.2020 decided to take decision on the proposal after receipt of the certain information / documents from the proponent. The project proponent has furnished compliances as desired by the committee and same has been verified as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of the SEAC
(i)	Detailed EC compliance report duly certified by MoEF&CC, Regional Office, Bhubaneswar	Six monthly EC compliance report (Oct'2019 to March 2020) submitted but not certified by MoEF&CC, Regional Office, Bhubaneswar. Letter from MoEF Regional Office for site inspection is attached as Annexure 1 & 1A	EC compliance report duly certified by MoEF&CC, Regional Office, Bhubaneswar has to be furnished.
(ii)	A comparative statement for existing and proposed expansion in tabulated form w.r.t change in floors, greenbelt, design, drainage plan, renewable energy details, parking, water consumption, waste water generation and its management, solid waste generation etc. Show the reduced the green coverage area in the plan/map and indicate the use of it. Indicate constructional features with details constructed as per revised building plan including the construction made w.r.t environmental features. Quantification of the same as per EC granted and the basis thereof as well as per proposed/revised EC sought with quantification, basis of the same including parking in terms of ECS	Comparative statement for existing and proposed expansion had been submitted. Attached as Annexure – 2 (A-G).	They have to submit a comparative statement in one page indicating all the features of existing and proposed expansion.
(iii)	Details of construction status (percentage wise) of existing project as per Environmental Clearance granted and proposed project	Only club and community hall is being taken which is 2.41% of EC granted.	Details of construction status (percentage wise) of existing project as per Environmental Clearance granted and proposed project has to be furnished.



Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of the SEAC
(iv)	Copy of approval letter of BDA along with building plan for expansion project	Attached as Annexure - 3	Complied.
(v)	Copy of approval for safety and structural stability from appropriate authority of building for expansion	Attached as Annexure - 4	Complied
(vi)	Details and plant layout showing location of drainage changed due to expansion. Also capacity of drain for disposal of proposed discharge from BMC	Revised drainage layout submitted along with previous plan. As number of units increased by 12, no significant changes in drainage capacity.  Attached as Annexure – 2 (C&F).	Complied
(vii)	Details and plant layout showing location of greenbelt changed due to expansion	Previous landscape area – 8607.72Sqm. Landscape area provided for expansion 8616.128m <sup>2</sup> .i.e. 20% of total area is green belt area is proposed and 538nos of trees will be planted. Green belt plan is attached as Annexure – 2 (B&E).	Complied
(viii)	Details and plant Layout showing location of rainwater harvesting recharging pits and quantity to be harvested taking into consideration the erratic rainfall pattern in the area	Attached as Annexure - 5	Complied
(ix)	Fire-fighting measures	Compliance as per NBC part 4 – 2016 & recommendation vide memo no. 5379 dated 29.03.2019 issued by Director General, Fire services, Cuttack has been incorporated in Fire fighting measures with NOC from Fire Officer attached as Annexure - 6	Complied
(x)	Certificate from DFO concerned that the site is not situated in eco-sensitive zone of Chandaka- Dampara wildlife sanctuary	Attached as Annexure - 7	Complied
(xi)	NOC from Airport Authority of India for increase the height of the towers	Max. height of block is 44.95mt and maximum permissible height from	Complied

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of the SEAC
		Airport Authority of India is 84.1mt. Attached as Annexure - 8	
(xii)	Adequacy of parking in view of increased dwelling unit	Total area of parking requirement as per new BDA by law is 22500 sqmt for MIG (25%) which was earlier 26626 sqmt (30%). Parking plan and layout attached as Annexure - 9	Complied
(xiii)	To indicate the quantity of water to be drawn from PHED and ground water and the letter for PHED/ BMC their inability to supply the full requirement of water	Presently there is no scope of supply of water from BMC/PHED. Letter from PHED and application to CGWB submitted as Annexure 10 & 11.	Complied
(xiv)	Status of NOC/permission letter from CGWA/WR Deptt, Govt. of Odisha respectively for drawl of ground water	Attached as Annexure - 11	Complied
(xv)	Permission from BMC to take additional load of waste water due to the proposed expansion	Required necessary permission shall be obtained to accommodate addition waste water while constructing drainage channel to discharge waste water. BDA NOC attached as Annexure 12	Specific condition to be stipulated in EC
(xvi)	Justification why it will be not considered as a "violation"	Only club building is under construction as per EC grant, which is only 2.41% of total sanction area with no changes in layout plan – hence may please be exempted from consideration of violation.	-----

15. The SEAC in its meeting held on Dt: 04.02.2021 decided to take decision on the proposal after receipt of the certain information/ documents from the proponent followed by a site visit by sub-committee of SEAC. The project proponent has furnished compliances as desired by the committee and same has been verified as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of the SEAC
(i)	Detailed EC compliance report duly certified by MoEF&CC, Regional Office, Bhubaneswar	For certified compliance report the scientist B and D visited the site on dated 12.02.2021. They are asked to submit statutory documents; same has been submitted on - 18.02.2021 at Regional Office Bhubaneswar. Letter from Integrated Regional	Decision to be taken after they submit detailed EC compliance report duly certified by MoEF&CC, Regional Office, Bhubaneswar

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of the SEAC
		Office, Bhubaneswar for Site visit and submission of Statutory Docs at RO, Bhubaneswar attached as Annexure-A.	
(ii)	A comparative statement in one / two pages for existing and proposed expansion in tabulated form w.r.t change in floors, greenbelt, design, drainage plan, renewable energy details, parking, water consumption, waste water generation and its management, solid waste generation etc. Show the reduced the green coverage area in the plan/map and indicate the use of it. Indicate constructional features with details constructed as per revised building plan including the construction made w.r.t environmental features. Quantification of the same as per EC granted and the basis thereof as well as per proposed/revised EC sought with quantification, basis of the same including parking in terms of ECS	A comparative statement as per previous EC and current BDA approval for Expansion. Attached as Annexure-B	-----
(iii)	Details of construction status (percentage wise) of existing project as per Environmental Clearance granted and proposed project	Present construction Status – only club /community hall is being taken up for construction which is approximately 2.41 % of EC granted with no change in layout plan. For expansion we have not started any construction. Details are given in Annexure-C.	-----

16. The SEAC in its meeting held on Dt: 19.03.2021 decided to take decision on the proposal after receipt of detailed EC compliance report duly certified by MoEF&CC, Regional Office, Bhubaneswar from the proponent followed by a site visit of sub-committee of SEAC.
17. The project proponent has furnished detailed EC compliance report duly certified by MoEF&CC, Regional Office, Bhubaneswar vide File no. 109-1023/20/EPE dated 31.03.2021.
18. The sub-Committee of SEAC visited the site as well as the Nala at which, they plan to discharge the treated waste water on dated 31.03.2021. It was found to be about 1.5 km

Proceedings of the SEAC meeting held on 03.08.2021

Environmental Scientist, SEAC

away from the site. After details deliberation and visit, the Sub Committee recommended to consider the proposal after the proponent furnish the following information / document.

- I) Copy of Permission letter from BDA/BMC in support of construction of drain at road side to discharge the treated waste water to the Nala considering the additional load.
- II) More plantation in at periphery to make use of treated waste water so that the discharge load is reduced. Revised plan to be submitted.
- III) Solar power needs to be revised to about 5% of total power consumption and a detailed calculation mentioning the items to be submitted
- IV) Stack height to be enhanced and possible relocation may be considered. Revised plan to be submitted.
- V) Information from the appropriate Structural engineer about the structural changes planned to take care of enhanced height of buildings.
- VI) Revised map and plan showing above points (1-4) vs original may be submitted.

19. The SEAC in its meeting held on Dt: 28.06.2021 decided to consider the proposal after the proponent furnish the information / documents as pointed out by the Sub-Committee of SEAC. The project proponent has furnished compliances as desired by the committee and same has been verified as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
(i)	Copy of Permission letter from BDA/BMC in support of construction of drain at road side to discharge the treated waste water to the Nala considering the additional load.	Letter from BDA attached as <b>Annexure-1</b>
(ii)	More plantation in at periphery to make use of treated waste water so that the discharge load is reduced. Revised plan to be submitted.	<p>Previous Landscaped area provided was 8607.72 Sqm. Landscaped area provided for expansion 8616.128 m2 20% of green area of land has been maintained as per the BDA Previous land use plan and New BDA land use plan attached showing location of green zone, plantation of 538 nos of tree shall be taken up @ 1 tree / 80 sqmt of land area. We have removed podium above basement which shall increase green patches aesthetically. All open parking area will be finished with grass crest which will also increase green patches.</p> <p>Greenbelt Plan – Attached as <b>Annexure 2.</b></p> <p>In layout plan previous plantation (538 no. of trees) are shown in green in coloured and enhanced</p>

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		<p>plantation (150no. of trees) are marked in black coloured.</p> <p>According to the recommendation of the members, we have increased the area of the plantation and the number of trees 538 to 690. Now we will be able to re-use of 30 kiloliters of treated waste water in enhanced green belt. So now we will discharge 160 kiloliters of water instead of 190 kiloliters during the dry season.</p>
(iii)	<p>Solar power needs to be revised to about 5% of total power consumption and a detailed calculation mentioning the items to be submitted</p>	<p>As per the guideline of MoEF &amp; CC is mandatory to have provision for 1% of the total power consumption towards renewable energy/solar power. However during the site visit of SEAC subcommittee the later advice to increase the provision of solar power.</p> <p>We have already made provision and planning for 1% of solar power in our proposal. However we can double the same i.e. we confirm to increase it 2%. But none the less will make effort to progressively increase the same to 5% as far as if possible in course of time.</p> <p><b><u>CALCULATION OF SOLAR POWER FOR TOMANDO RESIDENTIAL COMPLEX AT BHUBANESWAR</u></b></p> <p>Total Average Demand of Phase-I = 1743 KW  Total Average Demand of Phase-II = 1204 KW  Total Average Demand of Phase-III = 684 KW</p> <p><b><u>REQUIRED SOLAR POWER 2% OF THE TOTAL AVERAGE DEMAND OF THE PROJECT</u></b></p> <p>Therefore,  Solar Power for Phase-I = (Total Average Demand of Phase-I x 2%) = 1743 x 2% = 34.86 KW  Solar Power for Phase-II = (Total Average Demand of Phase- II x 2%) = 1204 x 2% = 24.08 KW  Solar Power for Phase-III = (Total Average Demand of Phase- III x</p>

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		2%) = 684 x 2% = 13.68 KW <b>Total Solar Power Required for Phase-I,II,III = 72.62 KW</b> Solar roof top planning is Attached as <b>Annexure-4.</b>
(iv)	Stack height to be enhanced and possible relocation may be considered. Revised plan to be submitted.	Building height is=45 m As per CPCB, required Stack height  <b><math>H = h + 0.2 * \sqrt{KVA}</math></b> Where, H = Total height of stack in meter h = Height of the building in meters where the generator set is installed KVA = Total generator capacity of the set in KVA $H=45+0.2* \sqrt{600 \text{ KVA}}=50\text{M}$ As per above calculation, required stack height is 50 m Annually average pre dominant wind direction is SSW. We will place the vent pipe of the attached DG stack in the direction of the downwind. Location of DG set is attached as <b>Annexure-4.</b>
(v)	Information from the appropriate Structural engineer about the structural changes planned to take care of enhanced height of buildings.	Attached as <b>Annexure-5.</b>
(vi)	Revised map and plan showing above points (1-4) vs original may be submitted.	Previous Land Use Plan Of The Project Site is given in <b>Annexure-6</b>  Previous Drainage Plan Of The Project Site is given in <b>Annexure-7</b>  Revised Master Plan is attached as <b>Annexure-2</b>

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s Visiontek Consultancy Services Pvt. Ltd., Bhubaneswar** on behalf of the project proponent, the SEAC recommended for grant of Environmental Clearance valid for a period of 7 years with stipulated conditions as per **Annexure-B.**

## **ITEM NO. 10**

### **PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR KAKUDI AND KISHORIPAL SAND MINES OVER AN AREA 41.885 HA. IN VILLAGE-KAKUDI AND KISHORIPAL, UNDER TAHASIL-TALCHER, DIST-ANGUL OF M/S. MAHANADI COALFIELDS LIMITED (MCL) – EC**

1. This is a proposal for Environmental Clearance for Kakudi and Kishoripal Sand Mines over an area 41.885 Ha. in village-Kakudi and Kishoripal, under Tahasil-Talcher, Dist-Angul of M/s. Mahanadi Coalfields Limited (MCL).
2. Kakudi/ Kishoripal Sand Mine is an existing sand mine project located in the river bed of Brahmani at village Kakudi and Kishoripal, Angul district, Odisha. The sand from this mine was mined between 1991-92 to 2003-04. This sand mine has leasehold area of 41.885 Ha & existing annual production capacity of 0.25 Million M3 per annum.
3. TOR granted from MoEF & CC, New Delhi vide No.J-11015/33/2015-IA.II(M) on 17.04.2015
4. The sand mining lease had been granted by Govt. of Odisha from 14.11.1990 to 14.11.2010, afterwards it was extended upto 31.03.2020 and now it has been further extended upto 13.11.2040.
5. Mining Plan had been approved by Ministry of Coal vide letter no.34012/(4)/2011-CPAM, dt: 21.08.2013.
6. The sand from this mine is required for stabilization purpose at one operating mine i.e. Nandira Colliery and three discontinued mines viz. Deulbera, Handidhua and Talcher collieries.
7. As per the directives of DGMS, stabilization to be done at identified underground workings of Deulbera & Handidhua Colliery at the earliest for ensuring the safety of Talcher town as a whole.
8. The mining lease area is located in Village - Kakudi and Kishoripal in the Tahasil of Talcher, Dist. Angul, Odisha bearing Plot No. 949(P), 948(P) & 947(P), Khata No.70 in village Kakudi and Plot No.927(P) & 928(P) , Khata No. 120 in village Kishoripal. NH-149 passes through Talcher town at a distance of about 2.5 km & connects to NH-55.Talcher railway station on branch line of East Coast Railway at a distance of about 5.5 km.
9. The total Mining Lease Area of the project is 41.885 Ha, out of which only 19.07 Ha will be used for mining, rest of the area will left for protection and sand barrier. The annual production of the project is 0.25Mm<sup>3</sup>/year. Geological Reserve is 0.846Mm<sup>3</sup>. And Mineable Reserve is 0.35 Mm<sup>3</sup>. Life of mine is 20 years.
10. Mining will be carried out in Strip Mining by Mechanical winning of sand by hydraulic excavator (Back-hoe shovel) loading onto tipping truck & transport. For transport of sand to mines, temporary roads / cause ways have been envisaged inside the river bed. A 50m sand barrier against river bank will be left un-mined for protection of the bank.
11. Baseline data generation was during Nov'15 to Feb'16.
12. Public Hearing conducted by OSPCB on Dt: 20.12.2016.
13. Water Requirement – 102.93KLD of water shall be required for domestic and mining activities. Treated water from Deulbera/ Handidhua mines will be used for dust suppression. Wastewater generated from transportation vehicles will be treated in ETP of

nearby adjacent mines and the estimated quantity of wastewater generation is 53.22 KLD.

14. Employment Potential: Total number of employee will be around 92 which includes skilled, semi-skilled & unskilled category in the mine.
15. The project cost is ` 747.74 lakhs. Funds for Environment Management : ` 22.0 Lakhs (Capital)
16. The Environment consultant **M/s Central Mine Planning & Design Institute Ltd., Ranchi – 834 031, Jharkhand** along with the proponent have made a detailed presentation on the proposal before the Committee.
17. The SEAC in its meeting held on Dt: 11.09.2020 decided to take decision on the proposal after receipt of the following information / documents from the proponent followed by a site visit of SEAC Sub-Committee. The project proponent has furnished compliances as desired by the committee and same has been verified as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of the SEAC
(i)	One season fresh baseline data to be submitted as the data so collected is more than 3 years old	Reports of recent months (March, June, July & August'2020) are enclosed as <b>Annexure-I</b> for kind reference. During April & May'2020, Air quality could not measure due to COVID-19 pandemic. Data has been submitted. It is our invocation to consider the routine environment monitoring data as baseline report and kindly exempt the project for generating a fresh baseline data, while considering the urgent and immediate requirement of sand from this mine vide their letter dated 13.10.2020.	One season fresh baseline data has not been submitted. March, June, July & August'2020 data had been submitted.
(ii)	Mitigation measures to reduce fluoride content in surface water and ground water	MCL is monitoring surface water and ground water quality throughout Talcher Coalfields. And it is observed that none of the sample has fluoride content excess than permissible/acceptable limit. Latest reports of nearby Surface Water & Ground Water sources are enclosed an <b>Annexure-II</b> for ready reference. Moreover, Kakudi & Kishoripal mine being a sand mining project, the contamination of any fluoride in the ground/surface due to sand mining does not arise.	Water quality reports on Water & Ground Water sources are enclosed which shows Fluoride content < 0.3 mg/L.
(iii)	Minutes of public hearing to be submitted	Public Hearing proceedings along with Attendance sheet has already been submitted in Final EIA/EMP report vide Annexure-VI. However, a copy of the same is enclosed as <b>Annexure-III</b> for your kind reference.	Compiled
(iv)	Details of CSR & CER activities covered under proposed sand quarry	Details of CSR & CER activities covered under K&K sand mine is enclosed as <b>Annexure-IV</b>	Compiled
(v)	Details of plantation to be done alongside	The project has committed to take up gap/avenue plantation all along sand	Compiled in form of maps.



Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of the SEAC
	haulage road and river embankment and details of plantation done in last ten years year wise with survival rate and the plants/trees available at present with location, type and age	transportation road and block plantation at periphery of the mine, where free space available. Detail of proposal is given in <b>Annexure-V</b> , Previous plantations details in compliance report and in <b>Annexure VI</b>	
(vi)	Location of sampling points undertaken to be shown in map	A map showing location of sampling points is enclosed as <b>Annexure-VII</b>	Compiled
(vii)	Certificate from concerned Tahasildar about the geo coordinates and distance of the Bridge from the boundary of the lease area and other mines located within 500 meter from the periphery of the lease boundary	Tahasildar, Talcher vide Letter No.4261/Dtd:12.10.2020 has certified. <b>Annexure-VIII</b>	There is no bridge and other mines located within 500 meter from the periphery of the lease boundary. Distance of nearby villages had been submitted.
(viii)	Techno economic feasibility study for sand transportation in slurry form through pipes be made and submitted as a long term measure to avoid air pollution due to trucks, dumpers etc. movements. The possibility of slurry transportation to a common point may also be studied so that users may carry further by dumpers	There is no scope of conducting techno economic feasibility study.	-
(ix)	Any bridge or structure near to the sand mining area. If so, details to be given	No bridge or any other structure is located near to the sand mining area. Certificate in this regard obtained from Tahsildar, Talcher is enclosed as <b>Annexure-VIII</b> .	Compiled
(x)	Any electric HT line inside and within 500 meter of lease area if existing be indicated	No electric HT line is located inside or within 500 meter of leasehold area of the mine	Compiled
(xi)	Operation time/movement time	Production capacity of the mine - 0.25 Mm3/day Effective working days per annum	Compiled

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of the SEAC
	of vehicles carrying sand and empty vehicles including types of vehicles , no. of vehicles to be engaged and the frequency of movements be submitted	(Excluding monsoon period) - 175 days Quantity required per day - 1430 m <sup>3</sup> /day (Approx.)	
(xii)	Traffic study and management at haulage road, roads passing through villages and junction of public road (20% as stated by the proponent including internal roads of MCL with decongestion plans and measures through an expert of repute	Traffic study has been done by CMPDI and the details are already given in Mining Plan (Approved by Ministry of Coal) and EIA/EMP report. A copy of the same is enclosed as <b>Annexure-IX</b> .	Compiled
(xiii)	Distance of lease boundary from nearby habitation duly certified by the Tahasildar	Tahasilar, Talcher vide Letter No.4261/ Dtd: 12.10.2020 has authenticated the details. Copy is enclosed as Annexure-VIII. A copy of Mining Plan showing the portion left for protection of Kakudi village & 50m sand barrier are enclosed as <b>Annexure-X</b>	Compiled

18. The SEAC in its meeting held on Dt: 11.09.2020 decided to take decision on the proposal after a detailed site visit by the Sub-Committee of SEAC.

19. The sub-Committee of SEAC visited the project site on dated 19.11.2020 and following observations and recommendations were made:

- a) There is no embankment and the river bank has irregularly eroded along a stretch of about 740 meters alongside the stretched sand bed. No plantation is found over 100 meters width just from the bank.

For protection of the bank, it is recommended that the entire bank of about 740 meters stretch is stone patched to protect the river bank from erosion in consultation and on advice of the domain expert with due permission of Water Resources Department, Govt. of Odisha. This must be completed within a month or two for which they need to submit a legal affidavit.

Systematic and organized plantation must be done alongside the same stretch to cover the gap laterally between the stone patching and the plants / trees available in consultation with the local state forest authority with the recommended species by the later.

A ramp with WBM materials in consultation with the Civil Engineers for plying of vehicles (to & fro) from the sand bed to the top of the river bank and vice-versa is required to be constructed.

- b) Besides 50 mtrs of sand barrier, safety zone must be left between the river bank and the mining area as per the available guideline to this effect.
- c) There is a gap (inclined) of about 500 meters from the river bank to reach the public road (R&B/RD) of Govt of Odisha for which a strong two lane WBM road to be constructed for plying of loaded / empty sand carrying vehicles like Hywa etc.
- d) This public single road is about 2.5 km long through which the sand vehicles will travel to reach NH-149 that passes through Talcher town and connected to NH-55. Along since this road, there exists few habitations / shops etc. All safety measures need to be taken to avoid any accident while vehicles plying.

Besides, the following action has to be taken by MCL:

- (i) They need to take permission from the authority of the road to use the same for this purpose and they undertake to maintain the road perpetually till they use as per the advice of the authority concerned in form of a legal affidavit.
  - (ii) They will make plantation along both sides of this road of about 2.5 KM in vacant patches of desired species in consultation with the local forest authority of Govt. of Odisha.
- e) The major part of the about single road of about 2.5 KM will be used by MCL for this purpose temporarily as stated by them during the visit by their officials present since they will be constructing a separate haulage road of about 1.8 km dedicatedly for this purpose and MCL representatives present showed the proposed haulage road to the sub-committee.

It is recommended that haulage road must be two laned and either concrete /WBM road in consultation with the experts and plantation of required species and number must be made on both sides of the haulage road in consultation with the local forest authority.

The village “Kishoripal” will also be around 500 mtrs away from the proposed haulage road and all safety measures need /must be taken to avoid any kind of accident.

The land for the proposed road, if does not belong to MCL, is to be acquisitioned by them as per the laid down rules.

20. The SEAC in its meeting held on Dt: 16.12.2020 decided to take decision on the proposal after the proponent submit the compliance to the observations of the sub-committee of SEAC during site visit and submission of one season fresh baseline data at the earliest. The project proponent has furnished compliances as desired by the committee and same has been verified as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of the SEAC
(i)	For protection of the bank, it is recommended that the entire bank of about 740 meters stretch is stone patched to protect the river bank from erosion in consultation and on advice of the domain	The proposal had been submitted to Irrigation Department, Angul vide letter no. GM(TA)/Envt/K&K sand mine/2020/155, Dt:18.12.2020 and as per the advice of Executive Engineer, Irrigation Deptt. Angul a letter has been submitted to Engineer-in-	Specific condition to be stipulated in EC.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of the SEAC
	expert with due permission of Water Resources Department, Govt. of Odisha. This must be completed within a month or two for which they need to submit a legal affidavit.	chief, Water Resources Deptt. Bhubaneswar vide letter No. GM(TA)/Envt/K&K sand mine/2020/1, Dt:28.12.2020. Both letters are enclosed. Legal affidavit in this regard has been submitted. (Annexure 1 & 2)	
(ii)	A ramp with WBM materials in consultation with the Civil Engineers for plying of vehicles (to & fro) from the sand bed to the top of the river bank and vice-versa is required to be constructed.	Proposal for ramp construction has already been prepared. After approval from competent authority, the work will be executed & completed by Feb 2021.	Specific condition to be stipulated in EC.
(iii)	Besides 50 mtrs of sand barrier, safety zone must be left between the river bank and the mining area as per the available guideline to this effect.	Besides 50 mtrs of sand barrier (3.567 Ha.), another 19.248 Ha. Of lease area will be left for safety purpose. Copy of surface plan is attached as Annexure-III.	Specific condition to be stipulated in EC.
(iv)	There is a gap (inclined) of about 500 meters from the river bank to reach the public road (R&B/RD) of Govt of Odisha for which a strong two lane WBM road to be constructed for plying of loaded / empty sand carrying vehicles like Hywa etc.	Proposal for two lane WBM road construction has already been prepared. After approval from competent authority, the work will be executed & completed by Feb 2021.	Specific condition to be stipulated in EC.
(v)	This public single road is about 2.5 km long through which the sand vehicles will travel to reach NH-149 that passes through Talcher town and connected to NH-55. Along this road, there exists few habitations / shops etc. All safety measures need to be taken to avoid any accidents while vehicles plying.	It has been assured by Project proponent for taking safety measures during transportation of minerals.	Specific condition to be stipulated in EC.
(vi)	They need to take	A letter has been submitted	Specific condition to be

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of the SEAC
	permission from the authority of the road to use the same for this purpose and they undertake to maintain the road perpetually till they use as per the advice of the authority concerned in form of a legal affidavit.	to Sub-Collector, Talcher & Executive Officer, Talcher Municipality vide No. 156, Dt:18.12.2020 & No.165, Dt:06.01.2020 respectively for grant of permission to use the public road of about 2.5Km. copy of letters enclosed as Annexure-IV&II.	stipulated in EC.
(vii)	They will make plantation along both sides of this road of about 2.5 KM in vacant patches of desired species in consultation with the local forest authority of Govt. of Odisha.	MCL will make plantation (during monsoon 2021) along both sides of the public road of 2.5km in vacant patches of desired/indigenous species in consultation with the Forest Deptt. Angul/Talcher. Timeline: July'2021	Specific condition to be stipulated in EC.
(viii)	The haulage road must be two laned and either concrete /WBM road in consultation with the experts and plantation of required species and number must be made on both sides of the haulage road in consultation with the local forest authority.	Proposal for two lane WBM road has already been initiated. After obtaining approval from competent authority, the work will be executed & completed by June 2021. A thick green belt has already been developed on one side. Plantation on other side will be completed in July 2021.	Specific condition to be stipulated in EC.
(ix)	The land for the proposed road, if does not belong to MCL, is to be acquisitioned by them as per the laid down rules.	The land for the proposed haulage road has already been acquisitioned by MCL. Hence, no further land needs to be acquisitioned.	-----
(x)	Submission of one season fresh baseline data at the earliest	Tender for conducting baseline study is under progress. The work will be taken up during summer season (March-May 2021) and report will be submitted by June 2021.	They have to submit one season fresh baseline data for consideration of EC.

21. The SEAC in its meeting held on Dt: 22.01.2021 decided to take decision on the proposal after the proponent submit one season fresh baseline data for consideration of EC. The project proponent has furnished compliances as desired by the committee and same has been verified as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
(i)	One season fresh	Baseline data collection

<b>Sl. No.</b>	<b>Information Sought by SEAC</b>	<b>Compliance furnished by the proponent</b>
	baseline data	from March 2021 to May 2021 has been submitted.

Considering the information furnished and the presentation made by the consultant, **M/s Central Mine Planning & Design Institute Ltd., Ranchi – 834 031, Jharkhand** along with the project proponent, the SEAC recommended for grant of Environmental Clearance for the proposal valid upto lease period with stipulated conditions as per **Annexure – C**.

  
Secretary, SEAC

Approved  
  
Chairman, SEAC

**SPECIFIC CONDITIONS TO BE STIPULATED IN ENVIRONMENTAL CLEARANCE OF INDIVIDUAL MINING LEASE IN 08 CLUSTERS IN DHARMASALA DISTRICT.**

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1. This Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court of Odisha, Hon'ble NGT and any other Court of Law, if any, as may be applicable to the quarry lease.
2. The Environmental Clearance is subject to obtaining requisite NBWL Clearance, if any, from the Standing Committee of National Board for Wildlife for Mining project.
3. The lessee shall implement the Pollution Control Measures and safeguards as proposed in the approved EIA/Environment Management Plan (EMP) in the cluster approach.
4. The lessee shall appoint an Occupational Health Specialist for Regular and Periodical medical examination of the workers engaged in the Project and records maintained; also, Occupational health check-ups for workers having some ailments like BP, diabetes, habitual smokers, etc. shall be undertaken once in six months and necessary remedial/preventive measures taken accordingly. Recommendations of National Institute for Labour for ensuring good occupational environment for mine workers would also be adopted; All the old age people of the surrounding villages may be provided medical facilities.
5. Transport of minerals shall be done either by dedicated road or it should be ensured that the trucks/dumpers carrying the mineral should not be allowed to pass through the villages. The lessee shall ensure that the road may not be damaged due to transportation of the mineral; and transport of minerals will be as per IRC Guidelines with respect to complying with traffic congestion and density.
6. The lessee shall obtain NOC of Panchayat for usage of haulage road / Panchayat road.
7. The lessee shall ensure safety of human life and livestock from accidents in case village / any habitation is very nearby the mining lease area.
8. The lessee shall ensure the safeguard and wellbeing of villagers and school, regular health monitoring of all residents in the area and the compliance Report shall be submitted to the Regional office of the MOEF & CC and SEIAA, Odisha.
9. The lessee/concerned Tahasildar shall follow the detailed procedure for De-reservation of Gochar kissam land if involve in the lease area before going for mining activity.
10. Under no circumstances, the lessee shall use wagon drilling blasting during mining activity.
11. The lessee shall not store and use blasting materials/explosives inside the lease area without obtaining license/permission/authorization from competent Authority as per Indian Explosives Rules, 1983.



12. The lessee shall obtain NOC from CGWA and permission from WR department, Govt. Of Odisha for use of ground water.
13. The lessee shall complete the rejuvenation of ponds if any within lease area on priority basis after obtaining Environment Clearance.
14. No mining activities shall be allowed in forest area, if any, for which the Forest Clearance is not available.
15. No change in mining technology and scope of working should be made without prior approval of the SEIAA, Odisha.
16. No change in the calendar plan including excavation, quantum of mineral and waste should be made.
17. Mining shall be carried out as per the provisions outlined in the approved mining plan.
18. Protection of vegetation in the surrounding areas, and proper storage of solid waste, subgrade ore and their use have to be given priority during mining operation.
19. The illumination and sound at night at the lease area 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 light/night hours.
20. 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.
21. The soil to be generated during mining activity shall be stacked in the earmarked temporary soil stack and shall be utilized for the plantation purpose to be undertaken around the respective hill/patch and adjacent to haul roads of the same in lease area.
22. The abandoned mine pit shall be converted to rain water storage tank and the rain water stored in pit shall be utilized for plantation as well as dust suppression.
23. Total Plantation shall be carried out within 2-3 years of mining activity and maintenance shall be continued in remaining years. Trees present in mining area shall be uprooted & transplanted in safety zone.

**CONDITIONS TO BE STIPULATED IN ENVIRONMENTAL CLEARANCE FOR SPRINGVILLE GREENS PVT.LTD. FOR EXPANSION OF RESIDENTIAL BUILDING COMPLEX “SPRING VILLE GREENS” AT MOUZA- BIJIPUR, BHUBANESWAR OF SRI. SURESH KUMAR SUREKA – AMENDEMENT OF EC.**

**PART A - SPECIFIC CONDITIONS:**

1. Consent to Establish / Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.
2. The approval of the Competent Authority shall be obtained for structural safety of buildings due to earthquakes, adequacy of fire fighting equipment etc. as per National Building Code including protection measures from lightning etc.
3. The project proponent shall obtain all necessary clearance/ permission from all relevant agencies including town planning authority before commencement of work. All the construction shall be done in accordance with the local building byelaws.
4. The project proponent shall ensure that the guidelines for building and construction projects issued vide this Ministry's OM NO.19-2/2013-IA.III dated 9th June, 2015, are followed to ensure sustainable environmental management.

**TOPOGRAPHY AND NATURAL DRAINAGE**

5. The natural drain system should be maintained for ensuring unrestricted flow of water. No construction shall be allowed to obstruct the natural drainage through the site, on wetland and water bodies. Check dams, bio-swales, landscape and other Sustainable Urban Drainage Systems (SUDS) are allowed for maintaining the drainage pattern and to harvest rain water. Buildings shall be designed to follow the natural topography as much as possible. Minimum cutting and filling should be done.

**WATER REQUIREMENT, CONSERVATION, RAIN WATER HARVESTING, AND GROUND WATER RECHARGE**

6. As proposed, fresh water requirement from Ground water / PHED water supply shall not exceed 726.4 KLD.
7. A certificate shall be obtained from the local body supplying water, specifying the total annual water availability with the local authority, the quantity of water already committed, the quantity of water allotted to the project under consideration and the balance water available. This should be specified separately for ground water and surface water sources, ensuring that there is no impact on other users.
8. The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the Regional Office, MoEF&CC and SEIAA, Odisha along with six monthly Monitoring reports.
9. Installation of dual pipe plumbing for supplying fresh water for drinking, cooking and bathing etc. and other for supply of recycled water for flushing, landscape irrigation, car washing, thermal cooling, conditioning etc. shall be done.
10. Use of water saving devices/ fixtures (viz. low flow flushing systems; use of low flow

faucets tap aerators etc.) for water conservation shall be incorporated in the building plan.

11. Separation of grey and black water should be done by the use of dual plumbing system. In case of single stack system separate recirculation lines for flushing by giving dual plumbing system be done.
12. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.
13. The local bye-law provisions on rain water harvesting should be followed. If local bye-law provision is not available, adequate provision for storage and recharge should be followed as per the Ministry of Urban Development Model Building Byelaws, 2016. As proposed 15 (fifteen) nos. of rain water harvesting recharge pits shall be provided.
14. Any ground water dewatering should be properly managed and shall conform to the approvals and the guidelines of the CGWA in the matter. Formal approval shall be taken from the CGWA for any ground water abstraction or dewatering. The proponent shall also obtain permission from Water Resources Department, Govt. of Odisha for drawal of water.

#### **SOLID WASTE MANAGEMENT**

15. The provisions of the Solid Waste (Management) Rules, 2016, E-Waste (Management) Rules, 2016, and the Plastics Waste (Management) Rules, 2016 shall be followed.
16. Disposal of muck during construction phase shall not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.
17. Separate wet and dry bins must be provided in each unit and at the ground level for facilitating segregation of waste. Solid waste shall be segregated into wet garbage and inert materials. Wet garbage shall be composted in Organic Waste Converter. Adequate area shall be provided for solid waste management within the premises which will include area for segregation, composting. The inert waste from group housing project will be sent to dumping site.
18. Any hazardous waste generated during construction phase, shall be disposed off as per applicable rules and norms with necessary approvals of the State Pollution Control Board.
19. A certificate from the competent authority handling municipal solid wastes, indicating the existing civic capacities of handling and their adequacy to cater to the Municipal Solid Waste generated from project shall be obtained.

#### **SEWAGE TREATMENT PLANT**

20. Sewage shall be treated in the 3 nos. of STPs of capacities 680 KL (310 KLD, 240 KLD & 120 KLD) each with tertiary treatment. The treated effluent from STP shall be recycled/re-used for flushing, gardening and DG Cooling. As proposed the treated waste water shall be discharged to natural nallah located at a distance of 1.5 km as per the drawing and design vetted by the Bhubaneswar Development Authority (BDA). The proponent shall bear the entire cost for construction of drain of around 1.5 km as per the building approval letter of BDA.

21. A certificate from the competent authority shall be obtained for discharging treated effluent/ untreated effluents into the Public sewer/ disposal/drainage systems along with the final disposal point.
22. No sewage or untreated effluent water would be discharged through storm water drains.
23. The installation of the Sewage Treatment Plant (STP) shall be certified by an independent expert and a report in this regard shall be submitted to the SEIAA, Odisha before the project is commissioned for operation. Periodical monitoring of water quality of treated sewage shall be conducted. Necessary measures should be made to mitigate the odour problem from STP.
24. Sludge from the onsite sewage treatment, including septic tanks, shall be collected, conveyed and disposed as per the Ministry of Urban Development, Central Public Health and Environmental Engineering Organization (CPHEEO) Manual on Sewerage and Sewage Treatment Systems, 2013.

## **ENERGY**

25. Compliance with the Energy Conservation Building Code (ECBC) of Bureau of Energy Efficiency shall be ensured. Buildings in the States which have notified their own ECBC, shall comply with the State ECBC. Outdoor and common area lighting shall be LED. Concept of passive solar design that minimize energy consumption in buildings by using design elements, such as building orientation, landscaping, efficient building envelope, appropriate fenestration, increased day lighting design and thermal mass etc. shall be incorporated in the building design. Wall, window, and roof u-values shall be as per ECBC specifications.
26. Energy conservation measures like installation of CFLs / LED for the lighting the area outside the building should be integral part of the project design and should be in place before project commissioning. Used CFLs, TFL and LED shall be properly collected and disposed off/sent for recycling as per the prevailing guidelines/rules of the regulatory authority to avoid mercury contamination.
27. Solar, wind or other Renewable Energy shall be installed to meet electricity generation equivalent to 1% of the demand load or as per the state level/ local building bye-laws requirement, whichever is higher. Follow super ECBC requirement of ECBC 2017 and provide compliance report.
28. Solar power shall be used for lighting in the apartment to reduce the power load on grid. Separate electric meter shall be installed for solar power. Solar water heating shall be provided to meet 20% of the hot water demand of the commercial and institutional building or as per the requirement of the local building bye-laws, whichever is higher. Residential buildings are also recommended to meet its hot water demand from solar water heaters, as far as possible.
29. Use of environment friendly materials in bricks, blocks and other construction materials, shall be required for at least 20% of the construction material quantity. These include Fly Ash bricks, hollow bricks, AACs, Fly Ash Lime Gypsum blocks, Compressed earth blocks, and other environment friendly materials. Fly ash should be used as building material in the construction as per the provision of Fly Ash Notification of September, 1999 and amended as on 27th August, 2003 and 25th January, 2016.

Ready mixed concrete must be used in building construction.

30. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project shall be submitted.

### **AIR QUALITY AND NOISE**

31. Construction site shall be adequately barricaded before the construction begins. Dust, smoke & other air pollution prevention measures shall be provided for the building as well as the site. These measures shall include screens for the building under construction, continuous dust/ wind breaking walls all around the site (at least 3 meter height). Plastic/tarpaulin sheet covers shall be provided for vehicles bringing in sand, cement, murrum and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site. Sand, murrum, loose soil, cement, stored on site shall be covered adequately so as to prevent dust pollution. Wet jet shall be provided for grinding and stone cutting. Unpaved surfaces and loose soil shall be adequately sprinkled with water to suppress dust.
32. All construction and demolition debris shall be stored at the site (and not dumped on the roads or open spaces outside) before they are properly disposed. All demolition and construction waste shall be managed as per the provisions of the Construction and Demolition Waste Rules, 2016. All workers working at the construction site and involved in loading, unloading, carriage of construction material and construction debris or working in any area with dust pollution shall be provided with dust mask.
33. **Notification GSR 94(E) dated 25.01.2018 of MoEF&CC regarding Mandatory Implementation of Dust Mitigation Measures for Construction and Demolition Activities for projects requiring Environmental Clearance shall be complied with.**
34. The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution. Low sulphur diesel shall be used. The location of the DG set and exhaust pipe height shall be as per the provisions of the Central Pollution Control Board (CPCB) norms.
35. For indoor air quality the ventilation provisions as per National Building Code of India shall be provided.
36. Ambient noise levels shall conform to residential standard both during day and night as per Noise Pollution (Control and Regulation) Rules, 2000. Incremental pollution loads on the ambient air and noise quality shall be closely monitored during construction phase. Adequate measures shall be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB / SPCB.

### **GREEN COVER**

37. No tree cutting/transplantation of existing trees has been proposed in the instant project. A minimum of 1 tree for every 80 m<sup>2</sup> of land should be planted and maintained. The existing trees will be counted for this purpose. The landscape planning should include plantation of native species. The species with heavy foliage, broad leaves and wide canopy cover are desirable. Water intensive and/or invasive species should not be used for landscaping. As proposed approx. 20 % of the plot area (8616.128 sqm) shall be provided for green area development.

## **TOP SOIL PRESERVATION AND REUSE**

38. Topsoil should be stripped to a depth of 20 cm from the areas proposed for buildings, roads, paved areas, and external services. It should be stockpiled appropriately in designated areas and reapplied during plantation of the proposed vegetation on site.

## **TRANSPORT**

39. A comprehensive mobility plan, as per Ministry of Urban Development best practices guidelines (URDPFI), shall be prepared to include motorized, non-motorized, public, and private networks. Road should be designed with due consideration for environment, and safety of users. The road system can be designed with these basic criteria.
- Hierarchy of roads with proper segregation of vehicular and pedestrian traffic.
  - Traffic calming measures
  - Proper design of entry and exit points.
  - Parking norms as per local regulation
40. A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project.
41. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.
42. Vehicles hired for bringing construction material to the site should be in good condition and should have a pollution check certificate and should conform to applicable air and noise emission standards be operated only during non-peak hours.

## **ENVIRONMENT MANAGEMENT PLAN**

43. An Environmental Management Plan (EMP) shall be prepared and implemented to ensure compliance with the environmental conditions specified above. A dedicated Environment Monitoring Cell with defined functions and responsibility shall be put in place to implement the EMP. The environmental cell shall ensure that the environment infrastructure like Sewage Treatment Plant, Landscaping, Rain Water Harvesting, Energy efficiency and conservation, water efficiency and conservation, solid waste management, renewable energy etc. are kept operational and meet the required standards. The environmental cell shall also keep the record of environment monitoring and those related to the environment infrastructure.

## **OTHERS**

44. Provisions shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
45. A First Aid Room shall be provided in the project both during construction and operations of the project.
46. The company shall draw up and implement corporate social Responsibility plan as per the Company's Act of 2013.
47. As per the MoEF&CC, Govt. of India Office Memorandum F.No.22-65/2017-IA.III dated 1st May 2018, the project proponent is required to prepare and implement Corporate Environment Responsibility (CER) Plan. As per para 6(II) of the said O.M. appropriate funds shall be earmarked for the activities such as infrastructure creation for drinking water supply, sanitation, health, education, skill development, roads, cross drains, electrification including solar power, solid waste management facilities, scientific support and awareness to local farmers to increase yield of crop and fodder, rain water harvesting, soil moisture conservation works, avenue plantation, plantation in community areas etc. The activities proposed under CER shall be restricted to the affected area around the project. The entire activities proposed under the CER shall be treated as project and shall be monitored. The monitoring report shall be submitted to the regional office as a part of half yearly compliance report, and to the District Collector. It should be posted on the website of the project proponent.

## **PART B – GENERAL CONDITIONS**

1. A copy of the Environmental Clearance letter shall also be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industries centre and Collector's Office/ Tehsildar's office for 30 days.
2. The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to the SEIAA, Odisha and MoEF&CC, Govt. of India and its concerned Regional Office.
3. Officials from the Regional Office of MoEF&CC, Bhubaneswar who would be monitoring the implementation of environmental safeguards should be given full cooperation, facilities and documents/data by the project proponents during their inspection.
4. In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by the SEIAA, Odisha.
5. The SEIAA, Odisha reserves the right to add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the environment clearance under the provisions of the Environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.
6. All other statutory clearances such as the approvals for storage of diesel from Chief

Controller of Explosives, Fire Department, Civil Aviation Department, the Forest Conservation Act, 1980 and the Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponents from the respective competent authorities.

7. These stipulations would be enforced among others under the provisions of the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and the EIA Notification, 2006.
8. The project proponent shall advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded Environmental Clearance and copies of clearance letters are available with the State Pollution Control Board and may also be seen on the website of the SEIAA, Odisha. The advertisement shall be made within Seven days from the date of receipt of the Clearance letter and a copy of the same shall be forwarded to the Regional Office of MoEF&CC, Bhubaneswar.
9. Any appeal against this clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
10. A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parisad / Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.
11. The proponent shall submit/upload six monthly reports on the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF&CC, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM, SO<sub>2</sub>, NO<sub>x</sub> (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.
12. The environmental statement for each financial year ending 31<sup>st</sup> March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF&CC by E-mail.



**CONDITIONS TO BE STIPULATED IN ENVIRONMENTAL CLEARANCE FOR KAKUDI AND KISHORIPAL SAND MINES OVER AN AREA 41.885 HA. IN VILLAGE-KAKUDI AND KISHORIPAL, UNDER TAHASIL-TALCHER, DIST-ANGUL OF M/S. MAHANADI COALFIELDS LIMITED (MCL)**

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**A. Specific Conditions**

- (1) This EC for the proposal in the mine lease area of 41.885 Ha. shall be operational after submission of an undertaking through affidavit to SEIAA, Odisha within 15 days of receipt of the EC letter for compliance of all the conditions prescribed herein.
- (2) For protection of the River Bank, the entire bank of about 740 meters stretch shall be stone patched to protect the river bank from erosion in consultation and on advice of the domain expert with due permission of Water Resources Department, Govt. of Odisha.
- (3) A Ramp with WBM materials in consultation with the Civil Engineers for plying of vehicles (to & fro) from the sand bed to the top of the river bank and vice-versa shall be constructed.
- (4) Besides 50 mtrs of sand barrier, safety zone must be left between the river bank and the mining area as per the available guideline to this effect.
- (5) There is a gap (inclined) of about 500 meters from the river bank to reach the public road (R&B/RD) of Govt of Odisha for which a strong two lane WBM road shall be constructed for plying of loaded / empty sand carrying vehicles like Hywa etc. This public single road is about 2.5 km long through which the sand vehicles will travel to reach NH-149 that passes through Talcher town and connected to NH-55. Along this road, there exists few habitations / shops etc. All safety measures shall be taken to avoid any accidents while vehicles plying.
- (6) The proponent shall take permission from the authority of the road to use the public road for this purpose and they shall maintain the road perpetually till they use as per the advice of the authority concerned.
- (7) The proponent shall make plantation along both sides of the public road of about 2.5 KM in vacant patches of desired species in consultation with the local forest authority of Govt. of Odisha.
- (8) The haulage road must be two laned and either concrete /WBM road in consultation with the experts and plantation of required species and number shall be made on both sides of the haulage road in consultation with the local forest authority.
- (9) The amount proposed under Corporate Environment Responsibility (CER) shall be kept in a separate bank account and audited annually. Implementation report with supporting documents & photographs before and after shall be submitted to the Regional Office of MoEF&CC, Bhubaneswar and SEIAA, Odisha before 1st July of every year for the activities carried out during previous year.
- (10) The amount proposed under Environmental Management Plan (EMP) shall be kept in a separate bank account and audited annually. Implementation report with supporting documents, test reports, geo-locations & photographs before and after and composition of EMC shall be submitted to the Regional Office of MoEF&CC, Bhubaneswar and SEIAA, Odisha before 1st July of every year for the activities carried out during previous year.

(11) The Project Proponent shall implement the occupational health plan and provide personal protective equipments to all the workers (helmets, dust masks, ear muffs), provision of safe drinking water to workers, shelters for rest etc. In addition to this Occupational health check-up of all workers working in mine, and pulmonary function test for workers working in dusty areas. The budget earmarked for occupational health plan shall be kept in separate bank account and audited annually. Implementation report with supporting documents & photographs before and after shall be submitted to the Regional Office of MoEF&CC, Bhubaneswar and SEIAA, Odisha before 1st July of every year for the activities carried out during previous year.

**B. Standard conditions**

**(I) Statutory compliance**

- (1) The EC granted to the project/ activity is strictly under the provisions of the EIA Notification, 2006 and its amendments issued from time to time. It does not tantamount/ construe to approvals/ consent/ permissions etc. required to be obtained or standards / conditions to be followed under any other Acts/ Rules/ Subordinate legislations etc., as may be applicable to the project.
- (2) 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.
- (3) 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.
- (4) 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.
- (5) The Project Proponent shall follow the mitigation measures provided in MoEF&CC's Office Memorandum No. Z-11013/57/2014-1A. 11 (M), dated 29th October, 2014, regarding "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".
- (6) 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.
- (7) A copy of EC letter will be provided to concerned Panchayat / local NGO etc. by PP. if any, from whom suggestion / representation has been received while processing the proposal.
- (8) The Project Authorities should widely advertise about the grant of this EC letter by printing the same in at least two local newspapers, one of which shall be in vernacular language of the concerned area. The advertisement shall be done within 7 days of the issue of the clearance letter mentioning that the instant project has been accorded EC and copy of the EC letter is available with the State Pollution Control Board/Committee and web site of the Ministry of Environment, Forest and Climate Change ([www.parivesh.nic.in](http://www.parivesh.nic.in)). A copy of the

advertisement may be forwarded to the MoEF&CC Regional Office, Bhubaneswar and SEIAA, Odisha for compliance and record.

**(II) Air quality monitoring and preservation**

- (9) 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. PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>2</sub>, CO and SO<sub>2</sub> 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.
- (10) 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 equipment/ 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 MoEF&CC, Govt. of India / Central Pollution Control Board.

**(III) Water quality monitoring and preservation**

- (11) 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.
- (12) The 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.
- (13) 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-a-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.

- (14) The 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 MoEF&CC, Bhubaneswar and SEIAA, Odisha annually.
- (15) 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.
- (16) 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, Bhubaneswar and State Pollution Control Board.

#### **(IV) Noise and vibration monitoring and prevention**

- (17) 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.
- (18) 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**

- (19) 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.

**(VI) Land reclamation**

(20) 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.

**(VII) Transportation**

(21) 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.

(22) 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**

(23) The Project Proponent shall undertake all precautionary measures for conservation and protection of endangered flora and fauna and Schedule-1 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.

**(IX) Public hearing and human health issues**

(24) 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, creche 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.

- (25) 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) Miscellaneous**

- (26) 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, Bhubaneswar.
- (27) 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.
- (28) The Project Proponent shall submit six monthly compliance reports on the status of the implementation of the stipulated environmental safeguards to the SEIAA, Odisha, MOEF&CC, Govt. of India & its Regional Office, Bhubaneswar, Central Pollution Control Board and State Pollution Control Board, Odisha.
- (29) 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, MoEF&CC, Bhubaneswar.
- (30) The concerned Regional Office of the MoEF&CC, Bhubaneswar shall randomly monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the MoEF&CC officer(s) by furnishing the requisite data / information / monitoring reports.
- (31) The mining lease holders shall, after ceasing mining operations, undertake re-grossing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.
- (32) The SEIAA, Odisha or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.
- (33) Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attracts action under the provisions of Environment (Protection) Act,
- (34) The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/ High Court and any other Court of Law relating to the subject matter.
- (35) Any appeal against this environmental clearance shall lie with the National Green Tribunal, if

preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.