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Proceedings of the State Environment Impact Assessment Authority Kerala

Present : Prof. (Dr.) K.P. Joy, Chairman; Dr. J. Subhashini, Member and Sri. P. Mara Pandiyan, I.A.S., Member Secretary.

Sub: SEIAA- Environmental Clearance for the proposed building stone quarry project in Survey Nos. 163/2,3,4,7,8, 164/1,4,6,9,10,18-A,165/1A, 3 and 4 at Karavarom Village,Varkala Taluk, Thiruvananthapuram District, Kerala by Sri. Sreekumar, S.S., Managing Director, M/s M.S. Building Products, Palachiira, P.O., Varkala, Thiruvananthapuram -Granted- Orders issued.

STATE ENVIRONMENTAL IMPACT ASSESSMENT AUTHORITY

No. 763/SEIAA/EC1/447/2015 *dated, Thiruvananthapuram 04-03-2016*

Read:- 1. Application dated 02.02.2015 submitted by Sri. Sreekumar, S.S., Managing Director, M/s M.S. Building Products, Palachiira, P.O., Varkala, Thiruvananthapuram- 695 143
2. Minutes of the 44th meeting of SEAC held on 12/13-08-2015.
3. Minutes of the 46th meeting of SEAC held on 29/30-09-2015.
4. Minutes of the 44th meeting of SEIAA held on 13-11-2015.
5 Minutes of the 49th meeting of SEIAA held on 05-12-2016.

Environmental Clearance No. 39/2016.

Sri. Sreekumar, S.S., Managing Partner, M/s. M.S. Building Products, Sri Nikethan, Palachira (P.O), Varkala, Thiruvananthapuram District vide his application received on 10/02/2015 has sought Environmental Clearance under EIA Notification, 2006 for the quarry project in Sy. Nos. 163/2, 3, 4, 7, 8, 164/1, 4, 6, 9, 10, 18-A, 165/1A, 3 and 4 at Karavarom Village,Varkala Taluk, Thiruvananthapuram District, for an area of 4.5430 hectares. The project comes under Category B, Activity 1(a), (i) as per the Schedule of EIA Notification 2006 (since it is below 50 hectares) and as per O.M. No. L-11011/47/2011-IA.II (M) dated 18th May 2012 of Ministry of Environment and Forests. It is further categorized as Category B2 as per the O.M. No. J-13012/12/2013-IA-II (I) dtd. 24.12.2013 of Ministry of Environment and Forests, since the area of the project is below 25 hectares. Other details of the proposal are as follows:

2. BASIC INFORMATION OF THE PROJECT	
Name of the Project	Quarry project of M/s M.S. Building Product
Survey Numbers	Survey Nos. 163/2, 3, 4, 7, 8, 164/1, 4, 6, 9, 10, 18-A, 165/1A, 3 and 4.
Village	Karavarom Village
Tehsil	Varkala Taluk
District	Thiruvananthapuram District
Extent of land in hectors	4.54.30 hectares.
Is the property forest land/Govt. land/ own land	Private own land
Latitude	8°44"52.6" N to 8°45"04.3" N
Longitude	76°49"49.0" E to 76°49"59.4" E
Distance of mining area from nearest human settlement	105m.
Cluster condition (if any)	There is only one quarry is in operation within 500m radius.
Proposed production capacity	1,00,000 TPA
Expected life of mine	About 9 Years
Interlinked project (if any)	Crusher unit.
Whether CRZ is applicable	Not applicable
Status of litigation/complaint/cases	No
Permanent or temporary change on land use, land cover or topography	• Mining to be carried out within 4.54.30 hectares. Due to quarrying there will be change in the general ground profile in the form of Pit , which will have localized impact and create physical change in the existing environmental attributes due to the change in the existing land use. After mine closure, the proponent will convert the abandoned pit for high intensity agriculture, pisciculture and rain water harvesting.
Topography of land and elevation	• The topography of the lease area is hilly, the highest elevation is 105 m. MSL and lowest is 75 m MSL with an average depth of 30m. As the proposed area is hilly, the drainage is towards western side and joins in the seasonal nallah.
Details of method of working with phasing of activities, height, width of benches.	• The quarry will working in the conventional open cast semi-mechanized mine • Bench Height- 5.0 m • Bench width- 6.0 m.
Vegetation	• The Area is mostly covered with bushes, shrubs, coconut and Rubber Plantation. Suitable plantation with shrubs, herbs and trees will be done as part of eco-restoration work.
Reclamation works?	• Reclamation will be done at the mine closure stages. The proposed project activity involves about 80 % of the pit area for exploiting granite building stone. At the end of life of mine pit, the reclaimed area will be suitably planted and the void remaining at lower levels of the pit will utilized as water storage area.
Production and manufacturing processes?	• Granite rubble will be quarried through drilling, blasting, sized by secondary breaking using rock breakers, excavated and transported to the nearby crusher through trucks / dumpers.
Change in water bodies due to mining activities	• No
Proneness to natural hazards	• As per BMTPC, Vulnerability Atlas Seismic Zone of India IS: 1893-2002, the proposed area comes under Zone-III, moderate

	damage risk zone. The proponent stated that the project area is not prone to earthquake, landslide and flooding. There are no incidents of cloudburst and landslide reported so far.
Environmental parameters considered	
WATER	
Water (expected use and sources in KLD)	• About 5 KLD water required for dust suppression, green belt & domestic sanitary needs. Will be drawn from the mine pit water and out sourcing
Rain water hervesting plans	• Rain water will be collected in the sump created at low level. • At the end of mine, the un-reclaimed area will be utilized for water storage/ground water recharge.
Sources of generation and facilities for liquid waste treatment	• The sewage to a tune of 1.0 KLD generated from the mine office will be diverted to the septic tank followed by soak pit.
Storm water management practices	• Entire storm water flow has been diverted through natural drain courses , to seasonal nallah • The storm water collected in the quarry pit will be used for rock sand washing, water spraying on haul roads for dust suppression, plantation etc. • Before onset of monsoon, drains will be cut along the toe of quarry faces to form natural surface run off. • Garland drain will be provided at the quarry top to regulate monsoon water and direct the same to the settling ponds. Adequate check dams will be constructed in the drainage places, so that mud will be settled and clear water will over flow. • A drainage plan is prepared to manage the storm water by cutting drainage channel along the slope and will collect in the artificial pond. The storm water will be used for Plantation.
Water resource Management	• Prior to the commissioning of the project area, the water runoff used to flow naturally and used to join the nearby drainage nallahs / streams. The quarry operation will not be causing any alteration to the drainage pattern of the area. The rain water collected in the mine pit will be used for plantation.
Water quality meeting requirements	• Water quality to meet requirements after the treatment of water (filtration, disinfection & sedimentation).
LAND	
Storage of explosives /hazardous substances	• Handling and storage of hazardous materials like spent oil, old batteries etc. shall be strictly followed as per Hazardous Waste (management and Handling) Rules, 1989 and amendment thereof. So no risk in this regard.
Hazardous waste management	• No hazardous wastes are used. • The Explosive will be stored in the licensed magazine Qualified Blasters will do the Blasting operation under the supervision of Mines manager.
Facility for solid waste management	• Total quantity of waste rock weathered gneiss, 32729.4 tons Tomes will be handled during the life of the mine. • All the waste rock will be used for refilling, levelling of roads.
Top soil, overburden etc.	• It is estimated that around 18515 tonnes of top soil will be generated at the opening of quarry pit, shall be properly stocked and will be utilized for plantation. • The 32729 Ton OB waste material will be spread on the haul roads and other debris for maintaining safety in all the places of using.
NOISE	
Sources of noise pollution control measures	The major noise generating sources from the proposed activities working machineries, Drilling, blasting and plying of vehicles. The

	following control measures are to be taken to bring down the noise levels. • Proper maintains of machinery, equipments and improvement on design of machines. • Use of personal protective devices *ie*.. ear muffs and ear plugs for workers, working in noise areas. • Creation of wide greenbelt of dense foliage b between mine areas and resistance areas. • Conducting periodical medical check-up of all workers for any noise related Health Problems. • Prober Training to personal to create awareness about noise level effects. • Planned Noise monitoring at suitable locations in the plant and outside location for proper effective remedial action.
Noise level monitoring	• Planned noise monitoring at suitable locations in the plant and outside location for proper effective remedial actions. • To keep the noise level under control within the limits, proper maintenance of these machines will be done. • Minimum quantity of explosives will be charged. Blasting will be done between 1.00 to 2.00 in the noon when the atmospheric temperature will be high and noise will not be traversed for long distance. • Green belt will act as sound barrier and also as dust absorber.
AIR	
Likely emissions affecting environment	• This being a small quarry operation, only insignificant quantities of gaseous pollutants are expected, due to operation of diesel operated machineries complying CPCB like hydraulic excavators, hydraulic rock breakers, compressors, transport vehicles, etc.,. • These will be controlled through proper effective remedial measures and proper environmental management plan.
Emissions from materials handling including storage or transport	• Transport of quarried rubble from the mine face to the crusher may cause some fugitive emission which will be controlled to insignificant levels by water sprinkling on roads, black topping of roads wherever possible, good maintenance practices, green belt development, etc.
	• Mining activities will generate certain quantities of dust during Drilling , Blasting , Loading and transportation operations .The following measures will be taken to mitigate the fugitive dust from different operation • Watering of hallow roads and other roads at regular interval. • Wet drilling methods will be adopted. • Drill machines will be equipped will dust collectors. • Use of appropriate Explosives for blasting and avoiding over charging of blast holes. • Controlled blasting techniques will be adopted. • Provision of dust filters/Mask to workers working at the dust prone and affected areas. • Provision of greenbelt all along the periphery of the lease area. • Periodical monitoring of ambient air quality in and around the lease area.
Air quality monitoring	• Air quality will be monitored periodically and maintained as per norms. • Planned air quality monitoring at suitable locations in the plant and outside location for proper effective remedial actions.

ENERGY	
Energy requirement	• No electricity is needed for quarry operations etc. as only diesel operated mining machinery are used for quarrying. However, the power requirement of the administrative buildings, roads etc. are met from state grid. Besides, standby generators available in the crusher are used. • Company is operating crusher by power from Kerala electricity board.
BIODIVERSITY	
Presence of any endangered species or red listed category	• There is no endangered, endemic or scheduled flora species existing at proposed mine lease area. • There is no schedule I species of animals observed within study area as per Wildlife Protection Act 1972 as well as no species is in vulnerable, endangered or threatened category as per IUCN.
Loss of native species and genetic diversity	• The species in the proposed project area are widely distributed in the country and elsewhere, and not restricted to certain pockets. • There will be loss of some native tree species, shrubs, herbs, climbers etc. However, some of these species will be planted at the end use for eco-restoration.
Eco restoration programmes	• It is proposed to develop greenbelt to an extent of more than 25% which includes areas like all along the mine boundary (7.5 m width), all along the periphery and other places surrounding lease areas. • The company will raise thick green belt around the periphery of the quarry lease in the 7.5 m safety zone and also in the company owned lands. Total about 1400 plants will be raised in1.35.00 hectares of land.
Proximity to forest land	• The proposed area belongs to the ecologically sensitive zone III, Agasthyakoodam reserves forest land is existing 43Km away from the site.
SOCIAL ASPECTS	
Proximity to nearest densely populated or build-up area	• Thottakkadu -3km • Population – 1500
CSR related to the project	In the following sectors: 1. Education 2. Public Health 3. Infrastructure Development. A detailed study on social status of the project site surroundings & need base study on proposed CSR activities were carried out. The company will spend Rs.1 lakh per annum towards CSR activity.
GENERAL	
Details of Authorised Signatory & Address for correspondence)	Sri .S.S.Sreekumar, Managing Partner, Palachira (P.O), Varkala, Thiruvananthapuram-695143
Details of NABET approved EIA consultant Organisation	Not Applicable

3. The proposal was considered by SEAC in its 44th meeting held on 12/13-08-2015 and the Committee deferred the item for field visit. Field visit to the site was carried out on

25.09.2015 by the sub-committee of SEAC, Kerala. The Proponent with his representatives was present at the site at the time of site visit. The field visit report is as follows:

"The project is an active quarry located at Nedumparambu about 4 km north east of Alamcode on NH-66. This quarry lease area of 4.543 ha falling mostly in own land and partly in Govt. Land occupy the elevated rocky region with slopes to south and falling along the village boundary. The elevation ranges from 115 m to 90 m. The area proposed to be quarried is divided into two blocks with a narrow band of land (reported to be Govt. land) in between. The rock type is a mixture of khondalite and charnockite suite of rocks. Rock shows prominent widely spaced joints but faults are not observed in the site. Quarry is in operation with different parts developed simultaneously. It is also seen that dimension stone was being exploited from this locality. Pockets of weathered rock with about 1 m thick over burden (OB) and top soil is seen in the upper part. The OB thickness in the southern block is higher. The removed OB is stocked at convenient places adjacent to the quarry face. The entire drainage from the elevated land including the quarry flows into the lower abandoned quarry pit of adjacent plot which is used as a RWH structure. Major streams are not seen in the vicinity. Vegetation is sparse limited to patches of rubber plantation. Approach road is not well developed and haulage road to the working faces are not well maintained. Dwelling units are not in the immediate vicinity of 100 m from the northern block. There is a temple on the top of the adjacent hillock at a distance of about 250 m to the west of the quarry The unit does have an associated crusher unit but in the adjacent Nagaroor village. Many active/ old workings are seen in the area, but total area is estimated to be less than 25 ha".

"Based on an overall evaluation of the site, the quarry operations may be recommended only in the northern block. The southern block is not recommended due to presence of

a) narrow band of Govt land with a valley like configuration,

b) higher OB thickness,

c) presence of a row of dwelling units in the vicinity on the southern side and

d) as it is yet to be excavated

Following conditions should be insisted:-

1. *Fencing should be provided all around the lease area.*
2. *Workings must be in the form of benches 5m x 5m size and along the strike of the body.*
3. *Over burden should be stored in the designated places (not here and there) and provided with protective support walls.*
4. *Storm water drainage from the upper part must be channelized properly and let out through well-defined channels after clarification.*
5. *The RWH structure present as an abandoned quarry in the adjacent land may not be sufficient in the long run. A proper RWH body must be provided in the lease area with water clarification mechanism and maintained throughout. Periodic desiltation is mandatory*
6. *Considering the topography, garland drains need not be insisted upon.*

7. *Ultimate depth of mine which will depend on the possible benches of 5m width and 5m height in the lease area as there major streams are not in the neighbourhood.*
8. *The approach road from both Nedumparambu side and Vellallor side is in a pathetic condition. Since it is used mainly by the active quarries, it must be widened and provided with hard surface. The main haulage within the quarry should also be well maintained. The PWD road from Nagroor also with full of potholes presumably by the increased traffic on account of haulage transport. CSR shall include some remedial action to eliminate possible resistance from loals.*
9. *Other items from general conditions like a)Appropriate sign boards should be displayed, b) The blasting time must be displayed and strictly adhered to, c) The PPV values must be less than 10 mm/sec, d) Steps to be taken to limit fly rock to with in the lease area. Rock fragments should not fall any where outside the lease area, e)Dust suppression mechanism must be in place f)A belt of trees (Vegetation belt) should be maintained all around the quarry but must be maintained till the entire life of quarry, g) A separate small plot to be maintained in the premise to preserve rare and endemic species, if any, listed in the biodiversity assessment and the promised activity under CSR may be added".*

"The validity of the mine plan and other details in the mandatory forms were not checked. It may be ascertained".

4. The Committee appraised the proposal based on the Mining Plan, Prefeasibility Report, field inspection report and all other documents submitted along with the Form I application in its 46th meeting held on 29/30-09-2015 as agenda item No. 46.22 and decided to recommend for issuance of Environmental Clearance with the following specific conditions, in addition to the general conditions stipulated for mining projects.

1. Based on an overall evaluation of the site, the quarry operations may be recommended only in the northern block. The southern block is not recommended due to presence of a) narrow band of Govt. land with a valley like configuration, b) higher OB thickness, c) presence of a row of dwelling units in the vicinity on the southern side and d) as it is yet to be excavated
2. Fencing should be provided all around the lease area.
3. Over burden should be stored in the designated places (not here and there) and provided with protective support walls.
4. Storm water drainage from the upper part must be channelized properly and let out through well-defined channels after clarification.
5. The RWH structure present as an abandoned quarry in the adjacent land may not be sufficient in the long run. A proper RWH body must be provided in the lease area with water clarification mechanism and maintained throughout. Periodic desiltation is mandatory.

6. The approach road is of very bad state due to frequent travel of trucks. There should be a collective effort by the nearby quarry owners to maintain the road motorable as they are used by the general public also.
7. To the extent possible local biodiversity management Committee shall be involved in the environmental management/restoration activities.
8. Reclamation and eco-restoration should be done by planting native species.

5. The proposal was considered by SEIAA in its 44th meeting held on 13/11/2015 as Agenda item No. 44.22. The Authority noticed that there was no consultant. The proponent himself presented his project before SEAC. SEAC appraised the proposal based on the Mining Plan, Prefeasibility Report, field inspection report and all other documents submitted along with the Form I application in its 46th meeting held on 29/30-09-2015 as agenda item No. 46.22 and decided to recommend for issuance of Environmental Clearance with the above specific conditions (8 Numbers), in addition to the general conditions stipulated for mining projects.

In view of the conditions proposed by SEAC, the Authority decided to ask the proponent to produce the certificate of current validity of the R.Q.P and to convey the conditions proposed by SEAC. Consideration of grant of E.C. will be thereafter.

6. The proposal was again considered by SEIAA in its 49th meeting held on 05-02-2016 on production of current validity certificate by the RQP. The Authority examined the certificate and recommended for grant of E.C as already decided subject to production of no cluster certificate and general conditions stipulated for mining projects and the mitigation measures undertaken in the EMP in the PFR. However if any genuine complaints about the quarry is received, E. C issued shall be reviewed.

7. Validity may be five years subject to inspection by SEIAA on annual basis and compliance of the conditions, subject to earlier review of E.C in case of violation or non-compliance of conditions or genuine complaints from residents within the security area of the quarry. Environmental Clearance is therefore granted to the quarry project of Sri. Sreekumar, S.S., Managing Partner, M/s. M.S. Building Products, Sri Nikethan, Palachira (P.O), Varkala, Thiruvananthapuram District, Kerala subject to the general conditions annexed hereto.

8. The clearance issued will also be subject to full and effective implementation of all the undertakings given in the application form, mitigation measures as assured in Chapter 12 of the Environment Management Plan and the mining features including progressive mine closure plan as submitted with the application and relied on for grant of this clearance. The above undertakings and the conditions and undertakings in chapter 4 of Mining plan (Mining), Chapter 9 (EMP) of the Mining Plan, Chapter 5 of Mining plan (Blasting), Chapter 15 of PFR (Disaster Management), and the entire Progressive Mine Closure Plan as submitted will be deemed to be part of these proceedings as conditions as undertaken by the proponent, as if incorporated herein.

9. Compliance of the conditions herein will be monitored by the Directorate of Environment and Climate Change or its agencies and also by the regional office of the Ministry of environment & forests, Govt. of India, Bangalore.

i) Necessary assistance for entry and inspection should be provided by the project proponent and those who are engaged or entrusted by him to the staff for inspection or monitoring.

ii) Instances of violation if any shall be reported to the District collector, Thiruvananthapuram to take legal action under the Environment (Protection) Act 1986.

10. The given address for correspondence with the authorised signatory of the project is Sri. Sreekumar, S.S., Managing Partner, M/s. M.S. Building Products, Sri Nikethan, Palachira (P.O), Varkala, Thiruvananthapuram District-695143.

Sd/
P. Mara Pandiyan., I.A.S
Member Secretary (SEIAA)
&
Additional Chief Secretary to Government
Environment & Forest Department
Government of Kerala.

To,

Sri. Sreekumar, S.S.,
Managing Partner,
M/s. M.S. Building Products,
Sri Nikethan, Palachira (P.O),
Varkala, Thiruvananthapuram District-695143

Copy to:

1. MoEF Regional Office, Southern Zone, Kendriya Sadan, 4th Floor, E& F Wing, II block, Koramangala, Bangalore-560034.
2. Principal Secretary to Government, Environment Department.
3. The District Collector, Thiruvananthapuram.
4. The Director, Department of Environment & Climate Change.
5. The Director, Mining and Geology Department, Kesavadasapuram, Thiruvananthapuram-4
6. The Secretary, Karavaram Grama Panchayat, Varkala, Thiruvannathapuram-695102
7. Chairman, SEIAA
8. Website
9. Stock File
10. O/C.

Forwarded/ By order

Administrator, SEIAA

STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY

STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY KERALA

GENERAL CONDITIONS (for mining projects)

1. Rain Water Harvesting facility should be installed as per the prevailing provisions of KMBR / KPBR, unless otherwise specified.
2. Environment Monitoring Cell as agreed under the affidavit filed by the proponent should be formed and made functional.
3. Suitable avenue trees should be planted along either side of the tarred road and open parking areas, if any, including of approach road and internal roads.
4. Maximum possible solar energy generation and utilization shall be ensured as an essential part of the project.
5. Sprinklers shall be installed and used in the project site to contain dust emissions.
6. Eco-restoration including the mine closure plan shall be done at the own cost of the project proponent.
7. At least 10 percent out of the total excavated pit area should be retained as water storage areas and the remaining area should be reclaimed with stacked dumping and overburden and planted with indigenous plant species that are eco-friendly, if no other specific condition on reclamation of pit is stipulated in the E.C.
8. Corporate Social Responsibility (CSR) agreed upon by the proponent should be implemented
9. **The lease area shall be fenced off with barbed wires to a minimum height of 4ft around, before starting of mining. All the boundary indicators (boards, stores, markings, etc) shall be protected at all times and shall be conspicuous.**
10. Warning alarms indicating the time of blasting (to be done at specific timings) has to be arranged as per stipulations of Explosive Department.
11. Control measures on noise and vibration prescribed by KSPCB should be implemented.
12. Quarrying activities should be limited to day time as per KSPCB guidelines/specific conditions.
13. Blasting should be done in a controlled manner as specified by the regulations of Explosives Department or any other concerned agency.
14. A licensed person should supervise/ control the blasting operations.
15. Access roads to the quarry shall be tarred to contain dust emissions that may arise during transportation of materials.
16. Overburden materials should be managed within the site and used for reclamation of mine pit as per mine closure plan / specific conditions.
17. Height of benches should not exceed 5 m, and width should not be less than 5 m, if there is no mention is the mining plan/specific condition.
18. Mats to reduce fly rock blast to a maximum of 10 PPV should be provided.
19. Maximum depth of mining from general ground level at site shall not exceed 10m
20. No mining operations should be carried out at places having a slope greater than 45°.
21. Acoustic enclosures should have been provided to reduce sound amplifications in addition to the provisions of green belt and hollow brick envelop for crushers so that the noise level is kept within prescribed standards given by CPCB/KSPCB.
22. The workers on the site should be provided with the required protective equipment such as ear muffs, helmet, etc.
23. Garland drains with clarifiers to be provided in the lower slopes around the core area to channelize storm water.
24. The transportation of minerals should be done in covered trucks to contain dust emissions.
25. The proponent should plant trees at least 5 times of the loss that has been occurred while clearing the land for the project.
26. Disposal of spent oil from diesel engines should be as specified under relevant Rules/ Regulations.
27. Explosives should be stored in magazines in isolated place specified and approved by the Explosives Department.
28. A minimum buffer distance of 100m from the boundary of the quarry to the nearest dwelling unit or other structures, not being any facility for mining shall be provided.
29. 100 m buffer distance should be maintained from forest boundaries.

30. Consent from Kerala State Pollution Control Board under Water and Air Act(s) should be obtained before initiating mining activity.

31. All other statutory clearances should be obtained, as applicable, by project proponents from the respective competent authorities including that for blasting and storage of explosives.

32. In the case of any change(s) in the scope of the project, extent quantity, process of mining technology involved or in any way affecting the environmental parameters/impacts as assessed, based on which only the E.C is issued, the project would require a fresh appraisal by this Authority, for which the proponent shall apply and get the approval of this Authority.

33. The Authority 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 Environment (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.

34. The stipulations by Statutory Authorities under different Acts and Notifications should be complied with, including the provisions of 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 EIA Notification, 2006.

35. The project proponent should advertise in at least two local newspapers widely circulated in the region, one of which (both the advertisement and the newspaper) 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 Environment Impact Assessment Authority (SEIAA) office and may also be seen on the website of the Authority at www.seiaakerala.org. The advertisement should be made within 10 days from the date of receipt of the Clearance letter and a copy of the same signed in all pages should be forwarded to the office of this Authority as confirmation.

36. A copy of the clearance letter shall be sent by the proponent to concerned Grama Panchayat/ District Panchayat/ Municipality/Corporation/Urban Local Body and also to the Local NGO, if any, from whom suggestions / representations, if any, were received while processing the proposal. The Environmental Clearance shall also be put on the website of the company by the proponent.

37. The proponent shall submit half yearly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by e-mail) and upload 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 respective Regional Office of MoEF, Govt. of India and also to the State Environment Impact Assessment Authority (SEIAA) office.

38. The details of Environmental Clearance should be prominently displayed in a metallic board of 3 ft x 3 ft with green background and yellow letters of Times New Roman font of size of not less than 40.Sign board with extent of lease area and boundaries shall be depicted at the entrance of the quarry, visible to the public

39. The proponent should provide notarized affidavit (indicating the number and date of Environmental Clearance proceedings) that all the conditions stipulated in the EC shall be scrupulously followed.

40. No change in mining technology and scope of working should be made without prior approval of the SEIAA, No further expansion or modifications in the mine shall be carried out without prior approval of the SEIAA, as applicable.

41. The Project proponent shall ensure that no natural water course and/or water resources shall be obstructed due to any mining operations. Necessary safeguard measures to protect the first order streams, if any, originating from the mine lease shall be taken.

42. Monitoring of Ambient Air Quality to be carried out based on the Notification 2009, as amended from time to time by the Central Pollution Control Board. Water sprinkling should be increased at places loading and unloading points & transfer point to reduce fugitive emissions.

43. The top soil, if any, shall temporarily be stored at earmarked site(s) only for the topsoil shall be used for land reclamation and plantation. The over burden (OB) generated during the mining operations shall be stacked at earmarked dump site(s) only. The maximum height of the dumps shall not exceed 8m and width 20m and overall slope of the dumps shall be maintained to 45^0. The OB dumps should be scientifically vegetated with suitable native species to prevent erosion and surface run off. In critical areas, use of geo textiles shall be undertaken for stabilization of the dump. The entire excavated area shall be backfilled. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining.

44. Catch drains and siltation ponds of appropriate size shall be constructed around the mine

working, mineral and OB dumps to prevent run off of water and flow of sediments directly into the river and other water bodies. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.

45. Effective safeguard measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of PM_{10} and $PM_{2.5}$ such as haul Road, loading and unloading points and transfer points – it shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.

46. Fugitive dust emissions from all the sources should be controlled regularly. Water spraying arrangement on haul roads, loading and unloading and at transfer points should be provided and properly maintained.

47. Measures should be taken for control of noise levels below 85 dBA in the work environment.

48. A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.

49. The funds earmarked for environmental protection measures and CSR activate should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the State Environment Impact Assessment Authority (SEIAA) office.

50. The Regional Office of MOEF & CC located at Bangalore shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (S) of the Regional Office by furnishing the requisite data/information/monitoring reports.

51. 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.

52. Concealing the 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 attract action under the provisions of Environment (Protection) Act, 1986.

53. The SEIAA may revoke or suspend the order, for non implementation of any of the specific or this implementation of any of the above conditions is not satisfactory. The SEIAA reserves the right to alter/modify the above conditions or stipulate any further condition in the interest of environment protection.

54. The above conditions shall prevail not withstanding anything to the contrary, in consistent, or simplified, contained in any other permit, license on consent given by any other authority for the same project.

55. This order is valid for a period of 5 years or the expiry date of mine lease period issued by the Government of Kerala, whichever is earlier.

56. The Environmental Clearance will be subject to the final order of the courts in any pending litigation related to the land or project, in any court of law.

57. The mining operation shall be restricted to above ground water table and it should not intersect ground water table.

58. All vehicles used for transportation and within the mines shall have 'PUC' certificate from authorized pollution taking centre. Washing of all vehicles shall be inside the lease area'

59. Project proponent should obtain necessary prior permission of the competent authorities for drawal of requisite quantity of surface water and ground water for the project.

60. Regular monitoring of flow rates and water quality up stream and down stream of the springs and perennial nallahs flowing in and around the mine lease area shall be carried out and reported in the six monthly reports to SEIAA.

61. Occupational health surveillance program of the workers should be under taken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.

for Member Secretary, SEIAA Kerala

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