KERALA MINES GROUP VOCATIONAL TRAINING CENTRE

KLM/TC/299/2013

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Before the National Green Tribunal, New Delhi against the case O.A. No. 304/2019 of the National Green Tribunal, Principal Bench, New Delhi.

Kerala Mines Group Vocational Training Centre (KMGVTC) was established under the guidance and direction of DGMS to fulfil the requirement of the MVTR 1966 to impart training to all mine workers working in various mining industries in the state of Kerala. KMGVTC is constituted by 159 mine owners / organisation members and is managed by a committee elected from these member mine owners/organisation.

Mines Vocational Training Rules 1966 under Mines Act 1952 provide for the training of mine workers with a view to make them aware of the dangers associated with mine workings and to make them work efficiently with discipline and safety.

KMGVTC aims to achieve zero accident policy in Kerala mines by creating work friendly environment.

Observations from expert committee report submitted to NGT:

BLASTING; (PPV, AOP and FLY Rock)

We invite your attention to the table of PPV values as per DGMS Ground Vibration standards Technical Circular No. 7 of 1997 provided on Page 33 of the report.

It may be noted that all trial blasts conducted by the expert committee was with dominant excitation frequency of >25 Hz. As per the table the maximum safe value for historically important or sensitive structures is 10mm/sec. and whereas all structures near the mines where the studies were conducted falls in the category of domestic houses/structures made with katcha brick and cement, for which the maximum permissible value is 15 mm/sec.

On consideration of the above mentioned fact, it may be noted that all values of PPV to measure the ground vibration even in the worst case scenario at 50 meters were in the safe limits in all the blasts.

The DGMS, Technical Circular No. 7 of 1997 was approved and published by Government of India after several field studies conducted by agencies of national repute in various mining circumstances, all across India. This is an approved national standard, which cannot be altered by any individual or departmental choices. This is applicable to all across the Union of India.

The report mentions that considering the human response from the people living in the vicinity of the quarries, the permissible limit of PPV is modified and fixed to 5mm/sec. This is completely arbitrary and unsound. There cannot be any change to existing standard as determined by any other agencies based on human response. This is objectionable because there is no such established standards as Human response standard. This will vary from person to person. Hence a scientifically established and approved standard should not be overlooked or superseded by a human response standard. Further, it may also be noted that on Page 11 under clause 3.1, during observation on physical hearing, 58% of the responses indicated that there are no critical environmental impacts related with stone quarry operations and during the online survey, 74.7% of the responses indicated that they have no grievances related to stone quarries. This is a clear indicator of human response in favour of existing practice of stone quarrying. Hence there was no need for the expert committee to think otherwise.

Hence, arbitrarily changing permissible PPV limit from 15 mm/sec. to 5mm/sec. is against the standards and not logical.

Observation in the report made on fly rocks, it is observed that out of 91 blasting rounds, all were within the existing safe distance of 50m.

Air over pressure values are also reported to be well within the permissible standards approved by Government of India and within the existing safe distance of 50m.

At this juncture, it may be noted that all the above parameters including PPV, AOP etc. are monitored using scientifically designed and approved equipment, records of which are decoded using computer applications developed for the purpose. The recordings of such equipment are not manually interpolated but computer generated. Blasting is an engineering science which involves conversion of chemicals to huge volume of gas with high pressure and temperature in a confined environment, subject to explosion impact by a pre-designed mode. With the present day technology and computer applications, a blast can be designed and successfully implemented in any nearest possible locations. Hence blasting can be implemented within 50m by competent and statutorily certified Mining professionals, safely and securely.

Noise Pollution:

We invite your attention to the Central Government notified Noise Pollution (Regulation and Control) Rules 2000 published in Gazette of India, Extraordinary, Part II – Section 3(ii) vide SO 123(C) dated 14.02.2000.

As per the table of values provided in the Rule noise level **Mining activity falls in the category of Industrial Area and the permissible day time noise level is 75 dB(A). Any increase in ambient noise by 10 dB(A) shall only be deemed as violation. Hence the quarry operation needs to be limited within 85 dB(A) for safety.**

It may be noted that as per the study report on page 36 it is mentioned that maximum noise recorded during operation in 50m was 74.49 dB(A) at Palakkad, in 100m was 75.05 dB(A) at Kollam and in 200m was 64.24 dB(A) at Pathanamthitta.

Further, **in normal circumstances, the noise levels should decrease with distance**, unless there is any amplifier used. Hence the noise value recorded at distances of more than 50m should not be more than what is recorded at 50m.
However, in the report, **noise levels recorded at four quarries out of nine quarries at 100m is more than the noise levels recorded at 50m during mining operations. This seems illogical in every sense, and hence the results seem to be inaccurate.**

Unlike the PPV and AOP monitoring equipment, the readings from noise level monitoring equipment are manually recorded on sheets. Hence chances of human errors are high, which may also be taken into account. The same report also mentions the likelihood of influence from the roads, traffic and public places contributing to the overall ambient noise in few locations which are farther from the site of mining operations.

For all the reasons stated above, determining a safety distance of 150M based on the noise level observations made by the Joint Committee seem to be fraught with errors and inconsistencies and not aligning with the existing standards and statues. The current safety distance of 50M is sufficient when considering the zone of mining as Industrial Area/Zone when considering noise level pollution.

Dust Pollution:

It is an accepted fact that Mining industry generates dust from almost all activities connected with its operations. It is mentioned in the report that even though the normal practice of dust monitoring is recorded on 24 hours average basis, but for this particular study the time duration was limited to 12 hours average. This itself is a deviation from the prescribed procedure of ambient air quality analysis. When the time is reduced by half, the value of intensity gets doubled. **Hence the computation for interpretation of dust particulate matter is illegal and objected**.

On detailed analysis there is a mention of 82.73µg/m3 on page 38 but on the table of values plotted in the page 1092 indicates the same value to be 62.10µg/m3 (maximum PM 2.5 value).

Further, while the dust quality values should improve with increase in safety distance, this is not happening in many of the observed values in the report in many of the locations.

Few inconsistencies are mentioned below:

- The PM 10 values recorded at 200M is higher than recorded at 100M in 3 out of the 9 quarry units.
- The PM 10 values recorded at 200M is higher than recorded at 50M 3 out of the 9 quarry units.
- The PM 2.5 values recorded at 200M is higher than recorded at 100M in 3 out of the 9 quarry units
- The PM 2.5 values recorded at 200M is higher than recorded at 50M 5 out of the 9 quarry units.

This itself is a proof of misrepresentation of values, which could have occurred because of human error. Wherever human interface was involved in recording of values, there are chances of such errors.

In the present times there are many systems and methods to control, contain or limit the travel of dust particle at the source itself and also there are scientifically designed and proved online ambient air quality equipment to regularly monitor the air quality and for real time reporting. Project proponent may be allowed to implement suggestions and conditions put forward by the enforcement authority within a specified time frame.

Mine Pit Water Quality:

Enforcement authority may decide and suggest measures to ensure no pollutants are being carried away from the mine to nearby water body. A record of the activities and any other relevant details can be maintained at Mine office or can be submitted to the authority as being instructed.

Appointment of Qualified Mining Engineers:

Mines Act 1952, Metalliferous Mines Regulations 1961, Mines Rule 1955 and other byelaws framed in accordance with Indian Laws clearly stipulates the need for appointment of competent Statutory Certificate holder to control and supervise the Mining operations. Enforcement authority shall ensure the appointment and presence of such persons at Mines.

Suggesting few solutions to the distance criteria under question:

1**) Awareness, Training and Education** are the key words to address the present issue.
a) Awareness - Create awareness among the stakeholders on related laws, latest technology practiced, scientific method of working, monitoring systems, recruitment of technical and statutory persons for mining operations etc.

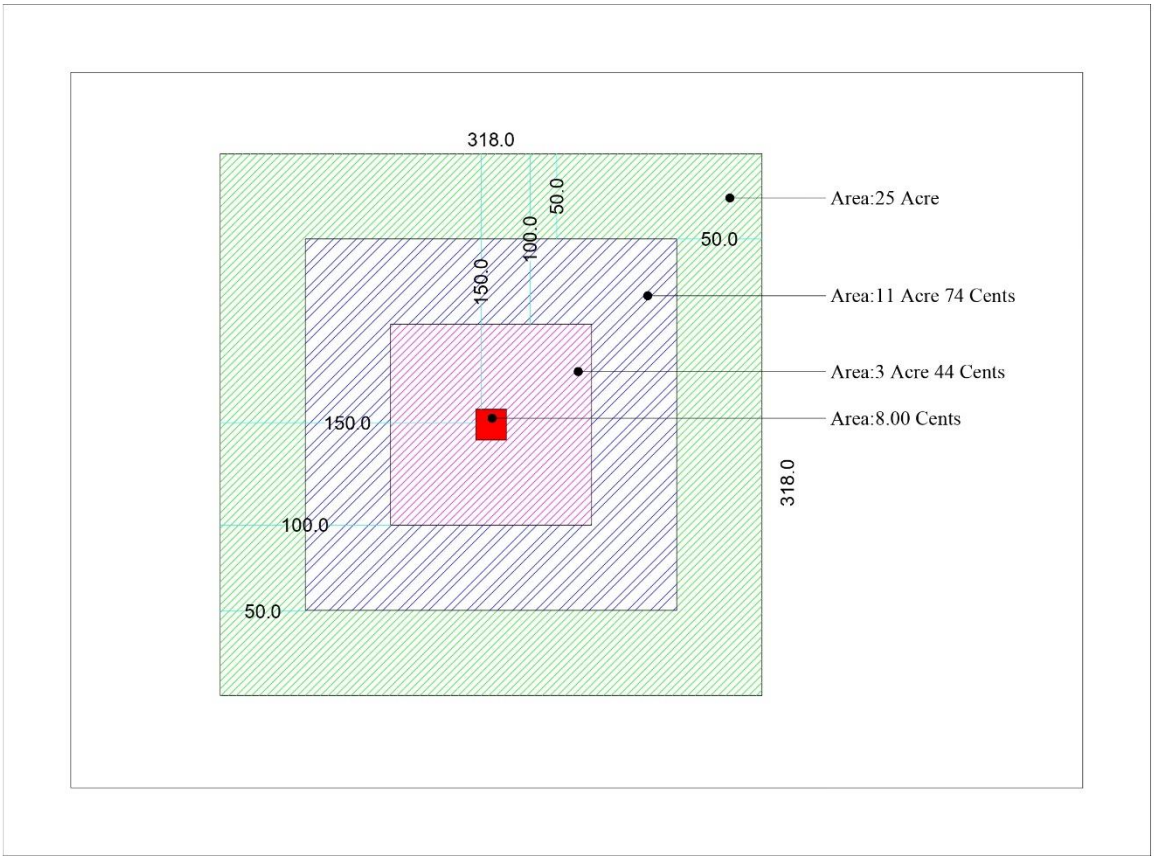
b) Training - Provide training, workshops, seminars to employees and stakeholders on topics of technical skills, management skills, statutory legislations etc.

c) Education - Educate stakeholders on the operations and benefits of the mining industry to the community and State Government.

Once these keywords are practiced and addressed among the stakeholders, all issues related to the mining industry will subside and will benefit the nation.

2) With due precautions, blasting is successfully carried out even in crowded city limits in the vicinity of structures for infrastructure projects, including railways, metro rail, bridges, fly-overs etc. **This is a clear indicator that ''distance'' is not the right parameter but it is ''CHARGE PER DELAY'', which decides the safety of neighborhood**. Peak Particle Velocity of any blasting can be easily measured by using seismographs and geophones.

A professionally, legally and scientifically operated mines will not disturb its neighborhood. If the distance is increased from 50m to 150m, the area of unproductive land surrounding the quarry will increase drastically, so as to safeguard its operations, which will be a national waste. This will ultimately result in economically non-feasibility of the project and the investor will back out from making investment in the Industry, which will impact the revenue generation to the State Government and increase in unemployment. A pictorial representation is made herewith with a sketch (A) for better understanding, wherein if 150M safety distance is implemented, only 8 cents can be mined for an area of 25 Acres. **It might also be worthwhile to point out that in a state like Kerala, where land ceiling allows a company or individual to hold a maximum of 15 acres of land, if this irrational 150M safety is implemented, no mining will be possible by any individual or a single company**. Hence considering all the above facts, technological advancement needs to be focused than conventional thinking.



(Sketch A)

3) i) Appointment of experienced and competent Mining Engineers is required in State Mining and Geology Department and in the committee of State Environment Impact Assessment Authority who are the authorities for approving and monitoring the Mining projects. Absence of competent Mining Engineers leads to ignorance of Mining laws and interpretation of mining laws in wrong manner. This causes delay in approving applications and difficulty to project proponents in Mining Operations.

ii) Professional Mining courses to be popularized in academic institutions and universities to increase the availability of Mining professionals and also to groom and upscale their technical skills. There is shortage of competent statutory Certificate holders for employment in Kerala Mines. Various academic programmes in mining will help to attract more youth to the Mining Industry and compensate the shortage of personals.

iii) DGMS shall conduct Mining Statutory Competency exams regularly to address the issue of shortage of Competency Certificate holder for employment in mines.

iv) Mining Industry to be declared as commercial activity so as to remove the restrictions of land holding. KLR Act permits a person/family or company to hold a maximum of 15 Acres of land only. But for conducting long term scientific mining professionally, a mine requires larger extent of area. Declaration of Minor Mineral, Mining Industry as a commercial activity will help to resolve this issue.

v) Mines Safety Week celebration to be held religiously every year to encourage inter personal relationship and create awareness on safety in mining operations and environmental protection activities. This will help in upgrading or adopting to the latest technology and reducing public complaints.

vi) Mining lease and environment clearance to be granted for long term basis. Long term mining lease permission shall be encouraged as in major minerals to ensure scientific mining operations and compliance of applicable laws.

vii) Full time employment of competent mining professionals to be ensured by the statutory authorities.

4.) Metalliferous Mines Regulation 1961(Reg.109 and Reg.164) framed in accordance with Mines Act 1952 accords powers to DGMS to dictate site specific conditions to ensure safe extraction of minerals up to 50 meters from important structures and public locations. Project proponents who wish to extend their mining operations up to 50 meters from public locations may be permitted to do so in accordance with MMR Reg.109 and Reg.164.

Conclusion:

The recommendations of the Joint Committee to fix 150 meters as the distance criteria based only on precautionary principle is not maintainable or acceptable and against the findings of the Committee report itself and liable to be revised. Any decision taken in this safe distance subject matter may be made with a view to optimize the extraction of valuable minerals through scientific methods and introduction of advanced technology, socio-economic impact in the locality, enforcement of systems and procedures to monitor the compliance of applicable laws to safe guard the environment, local community and the investments made in the national interest.

Thanking you

Girish Menon, FCC

Vocational Training Manager

KMGVTC

Cc: The Convener Joint Committee, NGT, New Delhi.

Cc: The Principal Secretary, Industries Department Government of Kerala,

Cc: The Director of Mining and Geology, Trivandrum, Kerala.