



Stone crushers effect on environment and its problems

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Abstract

Stone crushing industry is an important industrial sector in the country engaged in producing crushed stone of various sizes depending upon the requirement which acts as raw materials for various construction activities such as construction of roads highways bridges building canals etc. It is estimated that there are over 12000 stone crusher units in India the number is expected to grow further keeping in view the future plans for development of infrastructure of roads canals and buildings that are required for over all development of the country.

Keywords: stone, crushers, environment, development

Introduction

In India the crushing industry sector is estimated to have an annual turn over of rupees 5000 crore (equivalent to over U.S and 1 billion) and is therefore an economically important sector. The sector is estimated to be providing direct employment to over 500,000 people engaged in various activities such as mining crushing plant transportation of mined stone and crushed products etc. many people are from economically backward rural areas where employment opportunities are limited and therefore it carries greater significance in terms of social importance in rural areas. It is source of earning for uneducated poor unskilled rural people. The stone crusher is one such industry that exists in the vicinity of almost all major cities /towns/through out the country in all states because the construction activities go on through out the country. As transportation of stone over long distance adds to cost of the crushed stone products the crushers need to be necessarily located nearer to the demand centers such as cities bridges canals etc. stone crushers also need electricity supply and large number of man power for its operation.

Environment impacts of various control technologies

Application of emission reduction systems are associated with both beneficial and adverse impacts on air water solid waste energy and noise that may be directly attributed to the operation of these emission control system.

Impact on air

Impacts on air emissions association with the application of the alternative emissions reduction system for the control of particular emission and from both process and fugitive dust sources are discussed here: because emissions form fugitive dust sources typically large in area and are discharged directly to the atmosphere in an unconstrained manner rather than through a stack such as quantitative measurement of these emission.

Impact on water pollution

Dry collection control techniques generate no water effluent. When wet dust suppression techniques are used the application of air pollution control technology in the stone crushers has little impact on water quality.

Impact on noise

Noise levels and employee exposure times are specified by the mining enforcement and safety administration department those limits require that potential noise problems be assessed and sound dampening equipment be installed as required by application of either of the above air pollution control techniques no significant noise impact is anticipated.

Local problems in implementation of pollution control measures

Discussion were made with number of stone crusher owners to know and learn about the local problems faced by them in controlling dust emission. A few of the reported problems are here under:

1. High investment cost for providing dust containment like G.I sheet enclose for vibratory screen.
2. Lack of availability of water for dust suppression forcing the sc us to purchase the same at higher cost.
3. Financial constraints to implement the pollution control measures for small units.

Emission during mining activity

Fugitive emission are generated during various mining activity such as drilling blasting, excavation, breaking and loading etc. in some bigger mines the primary blasting emission are quite substantial over a large area. The emission during secondary blasting are also substantial but lesser comared to primary blasting. These emission last only for few minutes. There is hardly any controls adopted world over for controlling blasting emissions.

Nature and Spread of emissions

The dust is generated primarily due to size reduction and handling of stones at various stages. The major source of dust generation is during size reduction in the primary, secondary and tertiary crushers. The fines in the dust generated increase with subsequent stages of crushing. The dust is also generated during handling of stones falls from great height.

Danger to the human with blasting

There is danger to human life while blasting in quarries many people have injured without making awareness of blasting. Labor people being illiterate they don't have awareness of blasting and dust pollution in air.

Environmental, health and safety problems due to emissions

The percentage of some fugitive dust particles gets settled down within the unit premises itself, but a substantial percentage of airborne emissions are carried away to the surrounding by wind currents. Dust that settles within the plant gets air borne again due to vehicular movement or by wind and acts as secondary emission source. Dust settled over the equipments may cause rapid wear and tear of the rotating parts and gets frequent breakdowns and higher maintenance costs.

Present Scenario

The present status of stone crusher in Baswapur village Mulugu Mandal reflects the gloomy and lawlessness situation promoting the rapid growth of stone crusher units through of stone crusher units though it seems a small investment project but from pollution point of view it is categorized as highly polluting unit by state pollution control board. It poses major threat to adjacent villages and the workers. Mostly there units work as organized sector without any legal compliance and social responsibilities. The village head people will collect money from the stone crusher's management by warning them to close down the stone crushers. By keeping in view the warnings the management pays lump sum of money to shut down their mouths. Here the poor and illiterate people are not getting any benefit. But losing their health because of dust of stone and concrete. Hence the government should and must take appropriate steps for rural people who are residing nearby village.

Control of blasting operations

available during blasting operations no effective method is for controlling particular emissions good blasting practices are generally employed to minimize noise vibration and air shock and the blasting operations are scheduled to occur only during conditions of no wind and no inversion potential so as to reduce the impact of emissions substantially.

Precaution

1. Unit shall provide wind breaking walls of adequate height both in downwind and upwind directions.
2. Metalled roads should be constructed within the premises
3. Regular cleaning and wetting of the ground within the premises.
4. The unit shall provide adequate dust containment cum

suppression system at all potential dust generating points to minimize fugitive dust emission.

5. The unit shall abide by environment protection Act 1986.

Occupational health hazard

1. People working in the stone crushing are prone to silicosis five times than an ordinary person.
2. Apart from silicosis the workers are also prone to cancer and lung diseases.
3. It is found that morbidity and mortality rate is high among these classes of workers.

Safety Measure

- Using respirators during working period.
- Regular sprinkling in the site.
- Regular health checkup of the workers.
- Using of containments for holding the dusts.

Authorities to redress grievances of pollution due to stone crushing

1. First local authority that may be Grampanchayat or NAC or municipalities bearing on the location where the unit is situated
2. Revenue inspector and Tehsildar are the authority who gives site clearance and the objections can be filed before such authority in case of non compliance of sitting criteria's.
3. The complaint can be logged to district industry office
4. State pollution control board who issues NOC to such units and can give show cause notice in case of non compliance of environmental norms.
5. One can lodge FIR in nearest police station under 268 of IPC which deals with public nuisance.
6. Affected person can file a civil suit in the nearest civil court for proper compensation to the damages.
7. The executive magistrate is also under obligation to take cognizance of such nuisance under section 133 criminal procedure.

Conclusion

There is a great effect on the environment due to stone crushing and also on the cultivation of lands so the government should take appropriate steps towards the rural areas for the better. Due to pollution our environmental problems are increased. And ozone layer is also getting more effected. This stone crushing (concrete machines) should be away from villages. These stone crushers are creating lot of noise pollution and air pollution.

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