



**STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY,
(SEIAA), ORISSA.**

(Constituted vide order No. S.O. 2674 (E) Date 17th Nov. 2008 of Ministry of Environment & Forest, Govt. of India, Under Environment Protection Act, 1986.) Qr. No. 5RF-2/1, Unit-IX, Bhubaneswar-751022
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Ref. No. _____

Dt. _____

From

Bhagirathi Behera, IFS
Director, Environment-cum-
Spl. Secy. to Government
Forest & Env. Deptt.
& Member Secretary, SEIAA

To

Shri Avin Jain
Attorney holder, Dharam Villa, 12/A,
Mahatma Gandhi Marg, Ring Road,
Lajpat Nagar-IV, New Delhi-110024

Sub- Environment Clearance in favour of sidhamath iron & manganese mines of M/s Dharamchand Jain for production of iron ore up to 1.5 MTPA at Sidhamath reserve forest near village Tanto, Dist-Keonjhar.

Sir

This has reference to your letter No DCJ/SIMM/MOEF-TOR/01 dt. 11.08.2008, No nil dt. 18.07.2009, No. DCJ/SIMM/ZP-KJR/PH/2009/01 dt. 03.12.2009, No. DCJ/SIMM/SEAC/EC/2010/01 dt 16.04.2010 and No. SIMM/DCJ/MOEF/EC/2010/02 dt 18.05.2010 along with the application in the prescribed format (Form-1) and Terms of Reference (TOR) for Environment Clearance on the above mentioned subject, I am directed to say that, the State EIA Authority considered the application on the proposal for Sidhamath iron & manganese mines production of 1.5 MTPA iron ore at Sidhamath reserve forest near village Tanto, in the district of Keonjhar. The proposal is for production of Iron ore upto 1.5 MTPA. The ToR for this project was prescribed on 11.09.2009 by the State Level Expert Appraisal Committee, Govt. of Orissa. The mine lease area is 29.421 ha. The lease area extent over 29.421 ha. exist within Sidhamath Reserve Forest. The applicant granted ML over 637 Ac in Sidhamath RF of Keonjhar for Iron ore & Manganese mine, by mining Deptt. Govt. of Orissa vide proceeding No. 6175 dt. 5.6.1984. Subsequently the lease area was revised to 28.485 ha vide dept. of Steel and Mines Memo No. 5546, dt. 18.5.94 and subsequently the area recomputed to 29.421 ha vide letter No. 10988, dt. 23.08.84. Water requirement is 150 KLD and source of water is ground water. The public hearing was conducted on 23.3.2010. No. National Park/ Sanctuary is located within 10 km of the mine lease area. Mine working will be opencast and semi-mechanized involving drilling and blasting. The mine working will not

intersect groundwater table. Waste generation will be 392863 CuM during plan period. The mine has earmarked 18400 Sq.M as OB dump area. The mine has proposed garland drain, check dams and retaining wall to prevent wash out of loose material from dump area.

Based on the informations, documents and clarifications provided by you, the SEIAA here by accords for grant of Environment Clearance in favour of the project for a period of 5 (five) years for production of 1.5 MTPA of iron ore at Sidhamath reserve forest near village Tanto, Dist- Keonjhar under the provisions of the Environment Impact Assessment Notification, 2006, 2009 and subsequent amendment there to under various MOEF, Govt. of India circulars there under and subject to the following stipulated conditions.

2. This Environment Clearance is subject to the grant / approval /sanction of mining lease by the competent authority as required under law. The Environment Clearance will stand automatically cancelled if mining lease is not sanctioned or is cancelled.

Stipulated Conditions:-

1. The applicant (Project proponent) will take necessary measures for prevention, control and mitigation of Air Pollution, Water Pollution, Noise Pollution and Land pollution including solid waste management as mentioned by him in Form 1, Final EIA reports and Environment Management Plan (EMP) in compliance with the prescribed statutory norms and standards.
2. The applicant will take necessary steps for socio-economic development of the people of the area on need based assessment for providing employment, education, health care, drinking water and sanitation, road and communication facilities etc. after a detailed primary socio-economic survey.
3. The applicant will comply to the points, concerns and issues raised by the people during public hearing on 23.03.2010 in accordance with the commitments made by him thereon.
4. The applicant will take statutory clearance/ approval/ permissions from the concerned authorities in respect of his project as and when required.
5. For post environmental clearance monitoring, the applicant will submit half-yearly compliance report in respect of the stipulated terms and conditions of Environmental Clearance to the state Environmental Impact Assessment Authority (SEIAA), Orissa on 1st June and 1st December of each calendar year.
6. The core zone should be monitored intensively with no. of stations as prescribed by CPCB, Delhi and unit of pollutant level should be expressed as NAAQ of CPCB, Delhi. The detail methodology adopted for analysis of samples shall be clearly indicated.
7. The proponent shall submit ground tooting baseline data on flora & fauna and CSR activities already carried out within three months to the SEIAA.
8. Adequate buffer zone shall be maintained between two consecutive mineral bearing deposits.
9. The following shall be implemented viz. (a) dump run-off should be diverted into settling ponds(b) adequate rain water harvesting and ground water recharging facilities should

be developed in the core zone; (c) attempt should be made to achieve zero water balance.

10. The applicant will take Forest Clearance from competent authority.
11. Mining would start simultaneously in two quarries since nature of ore (occurrence) is different at these two places, which is supposed to be unique to the area. Therefore, complete physical and chemical analysis data of the ore bodies carried out by an authentic firm and duly approved by IBM may be produced before obtaining EC.
12. Leachability studies carried out by a third party showed that acetic acid with sodium acetate buffer was used as one of the leachants while 1M MgCl₂ was the other leachant. They presented a paper which used such leachants for lake sediments. It needs to be evaluated whether such leaching solutions are capable of leaching trace metals under the existing environmental conditions, which is of utmost importance to the region. The proponent shall furnish supportive document regarding correctness of leachate analysis.
13. They propose is to sell an acceptable grade of ore by blending. Thus both the quarries will be active throughout the lease period and possibly beyond, depending on further exploration. This is environmentally harmful and may be avoided. The lateritic and in-situ/float zone ores can be mined separately and disposed off after due screening and crushing rather than blending.
14. The water requirement of 150KLD is proposed to be drawn from the bore wells. The proponent shall furnish copy of the permission from CGWA and relevant State Authorities to draw ground water.
15. The proponent has proposed two numbers of 500 KW diesel generators for supplying power without assessing their impact on the air quality of the area. Model calculations should have taken this factor into account.
16. Safe storage and handling of the required fuel has also not been shown.
17. The air quality data in the buffer zone shows 15-20 $\mu\text{g}/\text{m}^3$ of NO_x at most of the stations while at Stn. 5 it is 30-60 $\mu\text{g}/\text{m}^3$. The proponent shall inform the source of such high NO_x.
18. Similarly, RSPM in the buffer zone is 30-40% of the SPM, which establishes that there is very high concentration of fine dusts compared to the total suspended particulate matter. This could be due to erroneous placement of HVS, possibly by the road sides. This might have deleterious effects on the breathing air quality of the region, which is already reeling under too much mining and transportation activities affecting the normal life of the area. So air quality data needs to be reevaluated after proper sampling over a few weeks period as suggested earlier.
19. The RH is shown to be 70-77% in winter months (period of sample collection), which is quite unacceptable and erroneous considering the area. The RH on Feb.7 and 8, 2009

is shown to be >90%; apparently when it rained. The proponent should obtain fresh authenticated data either from IMD or reevaluate their own AWS data and resubmit.

20. Although the Committee pointed out apparent misinterpretation of future dust propagation data during the ToR presentation, the consultant tried to explain the dust fall out to spread up to nearly 10km from the nuclear zone due to topography of the area (hill on the leeward side of the wind flow); it was not convincing. However, if such data is accepted, there will be much greater impact of SPM and RSPM on the nearby habitat (villages and forest canopy); therefore the proponent shall specify adequate measures to mitigate the same before issue of EC.
21. Maximum rainfall in Sept-Oct is shown as 233mm with Wind speed only 3-4km/h. So meteorological data presented are quite erroneous and needs reevaluation.
22. Maintenance of roads through which transportation of ores are undertaken shall be carried out by the project proponent regularly at its own cost.
23. Fugitive dust generation shall be controlled. Fugitive dust emission shall be regularly monitored at locations of nearest human habitation (including schools and other public amenities located nearest to source of dust generation as applicable) and records shall be submitted to the SEIAA, Orissa.
24. Transportation of ore shall be done by covering the trucks with tarpaulin or other suitable mechanism so that no spillage of ore/ dust takes place.
25. Rain water harvesting shall be undertaken to recharge the ground water source.
26. Monitoring of ground and surface water quality shall be regularly conducted and records should be maintained and data shall be submitted regularly to the SEIAA, Orissa.
27. The proponent shall ensure that no silt originating due to mining activity is transported in the surface water course. Measures for prevention and control of soil erosion and management of silt shall be undertaken. Protection of dumps against erosion shall be carried out with geo textile matting or other suitable material, and thick plantations of native trees and shrubs shall be carried out at the dump slopes, Dumps shall be protected by retaining walls.
28. Trenches/ garland drain shall be constructed at foot of dumps to arrest silt from being carried to water bodies. Adequate number of Check Dams shall be constructed across seasonal/ perennial nallahs (if any) flowing through the ML area and silt be arrested. De-silting at regular intervals shall be carried out.
29. Provision shall be made for the housing of the labourers within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

30. Occupational health and safety measures for the workers including identification of work related health hazards, training on malaria eradication, HIV, and health effects on exposure to mineral dust etc. shall be carried out. The proponent shall engage a full time qualified doctor who is trained in occupational health. Periodic monitoring for exposure to respirable mineral dust on the workers shall be conducted and records maintained including health records of the workers. Awareness programme for workers on impact of mining on their health and precautionary measures like use of personal equipments etc. shall be carried out periodically. Review of impact of various health measures undertaken (at interval of five years or less) shall be conducted followed by follow up action wherever required. Occupational Health Centre shall be established near the mine site itself.
31. Shelter belt i.e. Wind Break of 15m width; and consisting of at least 5 tiers around lease facing the human habitation, school/ agricultural fields etc. (if any in the vicinity), in the safety zone/ back-filled & reclaimed areas, around voids & roads shall be raised. Greenbelt development and selection of plant species shall be as per CPCB guidelines. Density of the trees has to be around 2500 plants per hectare. Herbs and shrubs shall also form a part of afforestation programme besides tree plantation. Help and guidance of local DFO may be sought in the matter. Details of year wise afforestation programme including rehabilitation of mined out area shall be submitted to the SEIAA, Orissa within six months.
32. The mining operations shall be restricted to above ground water table and it should not intersect the groundwater table.
33. The top soil shall temporarily be stored at earmarked site(s) only and it should not be kept unutilized for long (not more than 3 years). The topsoil shall be used for land reclamation and plantation.
34. The over burden (OB) generated during the mining operation shall be stacked at earmarked dump site(s) only and it should not be kept active for a long period of time and its phase-wise stabilization shall be carried out. Proper terracing of OB dump shall be carried out so that the overall slope shall not exceed 28° Backfilling shall be done as per approved mining plan. Back-filling to start from 3rd year onwards of the mining operation & the entire quantity of waste generated shall be backfilled & liquidated within five years. There shall be no external over-burden dumps after the 6th year of the mining operation. The backfilled area shall be afforested. Back filling has to be done in a manner that it is restored to the normal ground level. Monitoring & management of rehabilitated areas should continue till the vegetation is established & becomes self-generating. Compliance status to be reported to the appropriate authorities.
35. The funds earmarked for the environment protection measures shall be judiciously utilized. Under no circumstances this funds shall be diverted for other purposes. Year-wise expenditure for this fund should be reported to the SEIAA, Orissa.
36. The critical parameters such as SPM, RSPM, NOX in the ambient air within the impact zone, peak particle velocity at 300m distance or within the nearest habitation, whichever is closer shall be monitored periodically. Further, quality of discharged water shall also be monitored [(TDS, DO, PH and Total Suspended Solids (TSS)]. The monitored data shall be uploaded on the website of the company as well as displayed on a display board at the project site at a suitable location near the main gate of the Company in public

domain. The circular No. J-20012/1/2006-IA.II(M) dated 27.05.2009 issued by Ministry of Environment and Forests, which is available on the website of the Ministry www.envfor.nic.in shall also be referred in this regard for its compliance.

37. A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to be SEIAA 5 years in advance of final mine closure for approval.
38. The above monitored stipulated conditions shall be complied in time bound manner. Failure to comply with any of the conditions mentioned above may result in withdrawal of this environmental clearance and attract action under the provisions of Environment Protection (EP) Act, 1986.

Environmental concern becomes all the more important since there are 41 mines in close proximity covering an area of 14,520 ha of land, out of which forest/ reserve forest land could be to a sizeable extent. Before granting EC to a fresh mine, environmental concerns should be properly addressed and proposed management measures may be evaluated.

Member Secretary

Memo No. _____

Dt. _____

Copy to:

1. Ministry of Environment & Forests Govt. of India, Paryavaran Bhawan, C.G.O. Complex, Lodhi Road, New Delhi-110003 for kind information.
2. Principal Secretary to Govt., Forests & Environment Dept. for kind information.
3. Chairman, State Pollution Control Board, Parivesh Bhawan, A/118, Nilakantha Nagar, Unit-8, BBSR for kind information.
4. Chief Conservator of Forests, Regional Office (EZ), Ministry of Environment & Forests, A-31, Chandra Sekharpur, Bhubaneswar for kind information.
5. Chairman, Central Pollution Control Board, CBD-cum-office Complex, East Arjun Nagar, New Delhi, 110032 for kind information.
6. The Collector, Dist- Keonjhar, for kind information and necessary action.
7. Copy forwarded to the Chairman/ Member Secy. / Member, SEIAA for kind information.
8. Chairman SEAC/Secretary SEAC, Parivesh Bhawan, A/118, Nilakantha Nagar, Unit-VIII, Bhubaneswar for kind information.
9. Guard file for records.

Member Secretary