E.C. for 64.463 ha.

Valid upto -

Mr. Gopinath Prasad
Mr. S.D. Tal

No.J-11015/341/2006-IA.II(M)
Government of India
Ministry of Environment & Forests

Paryavran Bhawan,
C.G.O.Complex, Lodi Road,
New Delhi-110003.

Dated: 3rd July, 2007

To,

M/s Balasore Alloys Limited
At/P.O.: Dala,
Jajpur Road-755 019
Orissa

Subject: Expansion of Kaliapani Chromite Ore Mining Project of M/s Balasore Alloys Ltd. located in Village Kaliapani,Tehsil Sukinda, District Jajpur, Orissa – environmental clearance -reg.

Sir,

This has reference to your letter No. BAL/Mines/06 dated 21.08.2006 and subsequent letter dated 18.11.2006 on the subject mentioned above. It has been noted that the proposal is for grant of environmental clearance under the provisions of EIA Notification, 1994 for enhancement of production of chromite ore from 0.12 million tonnes per annum (million TPA) to 0.42 million TPA. The project was earlier accorded environmental clearance by the Ministry on 12th April, 2002 for production of 0.12 million TPA of chromite ore. The total mine lease area of the project is 64.463ha, out of which 64.12ha is Government wasteland and 0.343ha is others (Roads). No forestland is involved. Area proposed for mining is 22.02ha, an area 27.79ha is kept for OB dumps, 5.70ha for infrastructure, 3.80ha for roads, 4.093ha for green belt and 1.06ha is for mineral processing (COB+ETP+tailings pond). No ecologically sensitive area such as national park/wildlife sanctuary/biosphere reserve/tiger reserve etc. is reported to be located in the core and buffer zone of the mine and that the area does not form corridor for Schedule-I &II fauna. Protected forest is adjacent to the lease area. Working is opencast by fully mechanised method involving blasting. The targeted production capacity of the mine is 0.42million TPA and life of mine is 11years. The topography of the area is undulated and hilly at an elevation ranging from 120-195m AMSL. The general

from the beneficiation plant. There will be zero discharge from the project. It is estimated that 5188640m^3 of over burden, 24000tonnes per annum of tailings and 10TPA of sludge will be generated. The over burden from the mine shall be dumped in the earmarked areas. The tailings collected from the tailing pond after being dried shall be shifted to the waste dump. Sludge from the ETP shall be fed into the COB plant. No backfilling is envisaged as it is proposed to undertake underground mining beyond opencast limit. Plantation will be raised in an area of 31.883ha at the end of the mine life and an area of 22.02ha will be developed as water body at the post mining stage. NOC from the State Pollution Control Board of Orissa obtained on 01.11.2006 for enhancement of chromite ore production from 0.12million TPA to 0.42million TPA involving lease area 64.463ha. Public hearing of the project held on 04.07.2006. The Indian Bureau of Mines has approved mining scheme of the project on 15.12.2005 for lease area of 64.463ha. The capital cost of the project is Rs.800Lakhs.

2. The Ministry of Environment and Forests has examined the application in accordance with Section 12 of EIA Notification 2006 read with para 2.1.1(i) of the Circular No.J-11013/41/2006-IA.II(I) dated 13.10.2006 and hereby accords environmental clearance under the provisions thereof to the above mentioned Kaliapani Chromite Mining Project of M/s Balasore Alloys Ltd. for an annual production capacity of 0.42million tonnes production of chromite ore by opencast mechanised method involving total lease area of 64.463ha subject to implementation of the following conditions and environmental safeguards:

A. Specific conditions:

(i) All the conditions stipulated by the State Pollution Control Board in their Consent to Establish should be effectively implemented.

(ii) The project proponent shall ensure that no natural watercourse shall be obstructed due to any mining operations.

(iii) Top soil should be stacked properly with proper slope at earmarked site(s) with adequate measures and should be used for reclamation and rehabilitation of mined out areas.

(iv) Over burden shall be stacked at earmarked dump site(s) only and should not be kept active for long period. The total height of the dump(s) should not exceed 40m in four stages of 10m each, keeping overall slope of the dumps below 28^0. The over burden dump should be scientifically vegetated with suitable native species to prevent erosion and surface run off. In critical areas, use of geo textiles shall be taken for stabilization of the dump. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status should be submitted to the Ministry of Environment & Forests and its Regional Office, Bhubneswar on six monthly basis.

P.3/-

(v) Trace Metals such as Ni, Co, As, and Hg should be analysed in dust fall and soil samples for at least one year during summer, monsoon and winter seasons. If concentrations of these metals are found below the standards then with prior approval of Ministry of Environment and Forests this specific monitoring could be discontinued.

(vi) Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from working pit, soil, over burden and mineral dumps. The water so collected should be utilized for watering the mine area, roads, plantation etc. The drains should be regularly desilted and maintained properly.

Toe wall and garland drain (size, gradient and length) shall be constructed for both mine pit & waste dumps and sump capacity should be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material.

Storm water return system should be provided. Storm water should not be allowed to go to the effluent treatment plant during high rainfall/super cyclone period. A separate storm water sump for this purpose should be created.

(vii) Dimension of retaining wall at the toe of over burden dumps and benches within the mine to check run-off and siltation should be based on the rainfall data.

(viii) There shall be no discharge from the project.

(ix) Effluents containing Cr^{+6} shall be treated to meet the prescribed standards before reuse/discharge. Effluent Treatment Plant should be provided for treatment of mine water discharge and wastewater generated from the workshop and mineral separation plant.

Run off from OB dumps and other surface run off should be analysed for Cr^{+6} and in case its concentration is found higher than the permissible limit the water should be treated before reuse/discharge.

(x) Separate impervious concrete pits for disposal of sludge shall be provided for the safe disposal of sludge generated from the mining operations.

(xi) The project proponent shall ensure that the quality of decanted effluents from the tailing pond conform to the prescribed standards before discharge.

..4/-

(xii) The project proponent shall explore the possibility to reduce concentration of Cr^{+6} in the tailing pond in consultation with an expert scientific institution like NEERI.

(xiii) Plantation shall be raised in an area of 31.883ha including green belt of adequate width by planting native species around ML area, OB dumps, roads, around worked out area etc. in consultation with local DFO/ Agriculture Department. The density of the trees should be around 2000 plant species per hectare.

(xiv) Regular monitoring of ground water level and quality should be carried out by establishing a network of existing wells and constructing new piezometers during the mining operation. The monitoring should be carried out four times in a year – pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the data thus collected may be sent regularly to Ministry of Environment and Forests , Central Ground Water Authority and Regional Director, Central Ground Water Board.

(xv) The project proponent shall carry out regular monitoring of groundwater quality around the tailing pond by constructing observation wells for leachates, if any.

(xvi) Sludge from the tailing pond (dry tailing) shall be stacked properly so as to ensure that it does not get into the environment either through air, water or soil.

(xvii) The project authorities should meet water requirement of the peripheral village(s), especially, if the village wells go dry due to mine de-watering.

(xviii) Permission from the competent authority should be obtained for drawal of water from Damsal Nallah and ground water, if any, required for the project.

(xix) Suitable rainwater harvesting measures on long term basis shall be planned and implemented in consultation with Regional Director, Central Ground Water Board.

(xxii) The void left unfilled in an area of 22.02ha shall be converted into water body. The higher benches of excavated void/mining pit shall be terraced and plantation done to stabilize the slopes. The slope of higher benches shall be made gentler. Peripheral fencing shall be carried out along the excavated area.

(xxiii) Vehicular emissions should be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral. The vehicles should be covered with a tarpaulin and shall not be overloaded.

(xxiv) Consent to operate should be obtained from SPCB before starting enhanced production from the mine.

(xxv) Sewage treatment plant should be installed for the colony.

(xxvi) A Final Mine Closure Plan along with details of Corpus Fund should be submitted to the Ministry of Environment & Forests 5 years in advance of final mine closure for approval.

B. General Conditions

(i) No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forests.

(ii) No change in the calendar plan including excavation, quantum of mineral chromite and waste should be made.

(iii) Conservation measures for protection of flora and fauna in the core & buffer zone should be drawn up in consultation with the local forest and wildlife department.

(iv) Four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RPM, SPM, SO_2 & NOx monitoring. Location of the stations should be decided based on the meteorological data, topographical features, and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board.

(v) Data on ambient air quality (RPM, SPM, SO_2 & NOx) should be regularly submitted to the Ministry including its Regional Office at Bhubaneshwar and the State Pollution Control Board / Central Pollution Control Board once in six months.

(vi) Fugitive dust emissions from all the sources should be controlled regularly. Water spraying arrangement on haul roads, loading and

..6/-

unloading and at transfer points should be provided and properly maintained.

(vii) Measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs / muffs.

(viii) Industrial waste water (workshop and waste water from the mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time. Oil and grease trap should be installed before discharge of workshop effluents.

(ix) 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.

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

(x) 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.

(xi) The project authorities should inform to the Regional Office located at Bangalore regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.

(xii) The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry and its Regional Office located at Bhubaneshwar.

(xiii) The Regional Office of this Ministry located at Bhubaneshwar

(xv) A copy of clearance letter will be marked to concerned Panchayat / local NGO, if any, from whom suggestion / representation was received while processing the proposal.

(xvi) The State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Centre and Collector's office/ Tehsildar's Office for 30 days.

(xvii) The project authorities should advertise at least in two local newspapers widely circulated around the project, one of which shall be in the vernacular language of the locality concerned within seven days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and also at Web Site of the Ministry of Environment & Forests at **http://envfor.nic.in**. and a copy of the same should be forwarded to the Regional Office of this Ministry located at Bhubaneshwar.

3. The Ministry or any other competent authority may stipulate any further condition for environmental protection.

4. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance.

5. 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 thereunder.

(SATISH.C.GARKOTI)
Additional Director(S)

Copy to:

1. The Secretary, Ministry of Mines, Government of India , Shastri Bhawan, New Delhi.

2. The Secretary, Department of Steel and Mines, Government of Orissa, Secretariat, Bhubaneshwar.

3. The Secretary, Department of Environment, Government of Orissa, Secretariat, Bhubaneshwar.

4. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-32.

..8/-

5. The Chairman, Orissa Pollution Control Board, Parivesh Bhawan, A/118, Nilkanthanagar, Unit VIII, Bhubneshwar-751012.

6. The Chief Conservator of Forests, Regional Office (EZ), Ministry of Environment and Forests, A-31, Chandrasekharpur, Bhubaneshwar - 751 023.

7. The Member Secretary, Central Ground Water Authority, A2, W3 Curzon Road Barracks, K.G. Marg, New Delhi-110001.

8. The Chief Controller of Mines, Indian Bureau of Mines, Indira Bhavan, Civil Lines, Nagpur-440 001.

9. The Collector, Jajpur District, Orissa.

10. EI Division, Ministry of Environment and Forests, New Delhi.

11. Monitoring File.

12. Guard file.

13. Record file.