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F. No. J-11011/109/2010-IA-II (I)  
Government of India  
Ministry of Environment and Forests  
(I.A. Division)

2657

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Dated: 23<sup>rd</sup> May, 2011 2012

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To,  
The Managing Director,  
M/s. Kerala Minerals and Metals Ltd.,  
Sankaramangalam, Chavara 691583  
Kollam, Kerala

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**Sub:** Proposed Titanium Sponge Unit (500 TPA) at 202, Block-18, Panmana, Karunagappally, Chavara, Dist-Kollam, Kerala by **M/s Kerala Minerals and Metals Limited – regarding Environmental Clearance**

Sir,

This has reference to your letter no. KMML/TSP/P41/ETP dated 11.03.2011 along with copies of EIA/EMP and public hearing reports seeking environmental clearance and subsequent communication dated 11.08.2011 under the provisions of EIA Notification, 2006.

2. The Ministry of Environment and Forests has examined your application. It is noted that M/s Kerala Minerals and Metals Ltd. (KMML) have proposed for the Titanium Sponge Unit (500 TPA) at Panmana, Karunagappally, Chavara, Dist-Kollam, Kerala. Defense Metallurgical Research laboratory (DMRL) will supply the know-how & basic engineering and KMML will set up and operate the plant in their premises, including supply of the main raw material, Titanium Tetrachloride (Tickle). Total project area is 23 acres on the south-east end of the KMML complex and is already in possession. No national park/wild life sanctuary/reserve forests are located within 10 km radius of the project site. The sea is at a distance of 1.0 km from the plant. It is noted that raw material viz. Titanium Tetrachloride (Tickle; 1,988 TPA), Magnesium Ingots (513 TPA), Argon (50,100 Nm<sup>3</sup>), Caustic lye (45 TPA) and 3% HCL (5.01 TPA) will be used in the process as raw material with recovery and recycle of Magnesium. Titanium Tetrachloride (Pigment grade) is produced as an intermediate product within the nearby sister unit, which will be pumped to the existing site for production of Titanium Sponge. Total cost of the project is Rs. 143.11 Crores.

3. Vents from tickle storage vessels and the reflux & distillate receiver vessels will be connected to exhaust system to vent gases from Tickle Purification Section and bleed offs from the metal production unit (HCl fumes) which will be scrubbed and vented to the atmosphere. The scrubbed solution will be sent to equalization tank for neutralization. The suction line will consist of ID fan and clarifier system. Argon blanket will be provided to ensure moisture free atmosphere and stored in double walled vessel with safety valves, rupture discs etc. 30 m stack to ventilation and exhaust system and 24 m to DG sets will be provided. Special glandless/seal less canned motor pumps will be used for handling Tickle to avoid any leakage of chloride into the atmosphere. Extraction hoods will be provided to control fugitive emissions.

4. Water requirement of 362m<sup>3</sup>/day would be met from the ground water source. About 112m<sup>3</sup>/day of effluent will be generated. Acidic effluent will be generated from the Magnesium pickling process & alkaline bleed material from caustic scrubber and used for scrubbing vent gases & process wash material. The effluent will be collected and neutralized using caustic lye and neutralized effluent after removing residual sludge will be discharged to

sea through the existing discharge pipeline of KMML. Scrubbed liquid by caustic lye scrubber will be neutralized in equalization tank. All the effluent from Magnesium pickling section, residual caustic from vent gas scrubber, tray/lid washing, wash/regeneration from softening plant will be collected in equalization tank, neutralized in neutralization tank and discharged to sea after meeting KSPCB norms. Service water will be passed through oil separator to remove oil content in the effluent. Domestic effluent will be treated in septic tank followed by soak pit. No effluent will be discharged outside the premises and 'Zero' discharge will be adopted. It is proposed to harvest the rain water by developing rain water harvesting structure. The power requirement of 5.58 MVA will be sourced from State Electricity Board. DG set of 2,000 KVA capacity will be installed as stand by.

5. The solid waste will be generated in the form of filtered cake and magnesium chloride as byproduct. The by-product magnesium chloride will be cast in the form of block and will be stored in HDP bags till such time it is disposed off to the end users. It is proposed to recover magnesium chloride by electrolytic process in the second phase and the chlorine will be send back to KMML for recycling. Used oil will be sold to authorized recyclers.

6. The Primary Metallurgical Industries are listed at S.No. 3(a) in Category 'A' under the schedule of EIA Notification, 2006 and appraised at the Central level. Public hearing for the project was held on 17<sup>th</sup> January, 2011

7. The proposal was considered by the Expert Appraisal Committee-1 (Industry) in its 24<sup>th</sup> meeting held during 19<sup>th</sup> - 20<sup>th</sup> May, 2011. The Committee recommended the proposal for environmental clearance subject to stipulation of specific conditions along with other environmental conditions. As per the procedure prescribed vide Circular No. J-11013/41/2006-IA.II (I) dated 16.11.2006, the proponent was asked to place the matter before the Board of Directors of Company and submit a written commitment in the form of formal resolution that the violation of the Environment (Protection) Act, 1986 will not be repeated.

8. The Ministry therefore received the resolution passed by the Board of Directors of M/s KMML in its meeting held on 27.06.2011 and submitted vide letter No KMML/TSP/P41/ETP dated 11.08.2011 is annexed.

9. Based on the information submitted by you, presentation made by you and consultant, M/s Ultra-Tech Environmental Consultancy & Laboratory, Pune, the Ministry of Environment and Forests hereby accords environmental clearance to the above project under the provisions of EIA Notification dated 14<sup>th</sup> September 2006 subject to strict compliance of the following Specific and General conditions:

**A. SPECIFIC CONDITIONS :**

- i. The gaseous emissions (PM, RSPM, SO<sub>2</sub>, NO<sub>x</sub> and HCl) from various process units shall conform to the standards prescribed from time to time. The Kerala SPCB may specify more stringent standards from relevant parameters keeping in view the nature of the Industry, its size and location. On-line monitoring of various pollutants with centralized data logging for relevant parameters shall be measured and reports submitted to the Ministry's Regional Office at Bangalore / CPCB. HCl in vent gas shall be controlled and kept within the permissible limits. At no time, the emission level shall go beyond the prescribed standards. In the event of failure of any pollution control system (s) adopted by the unit, the respective unit shall not be restarted until the control measures are rectified to achieve the desired efficiency.
- ii. The National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 should be followed.

- iii. Gaseous emissions levels including secondary fugitive emissions from all the sources should be controlled within the latest permissible limits issued by the Ministry vide G.S.R. 414(E) dated 30<sup>th</sup> May, 2008 and regularly monitored. Guidelines / Code of Practice issued by the CPCB should be followed.
- iv. Total water requirement shall not exceed 362 m<sup>3</sup>/ day. Efforts shall further be made to use maximum water from the rain water harvesting sources. The process effluent after treatment and conforming to the prescribed standard shall be recycled to the maximum extent and the remaining effluent shall be discharged to sea through the existing pipeline. Sanitary sewage should be treated in septic tank followed by soak pit.
- v. Risk and Disaster Management Plan along with the mitigation measures should be prepared and a copy submitted to the Ministry's Regional Office at Bangalore, SPCB and CPCB within three months of issue of environment clearance letter. The company shall undertake measures for emergency preparedness against the impact of Tsunami.
- vi. As proposed, green belt shall be developed in 33 % of plant area. Selection of plant species shall be as per the CPCB guidelines in consultation with the DFO.
- vii. All the commitments made to the public during the Public Hearing / Public Consultation meeting held on 17<sup>th</sup> January, 2011 shall be satisfactorily implemented and a separate budget for implementing the same shall be allocated and information submitted to the Ministry's Regional Office at Bangalore.
- viii. At least 5 % of the total cost of the project should be earmarked towards the Enterprise Social Commitment (ESC) based on Public Hearing issues and item-wise details along with time bound action plan should be prepared and submitted to the Ministry's Regional Office at Bangalore. Implementation of such program should be ensured accordingly in a time bound manner.
- ix. The company shall adopt well laid down corporate environment policy and identified and designate responsible officers at all levels of its hierarchy for ensuring adherence to the policy and compliance with environmental clearance, environmental laws and regulations.
- x. The Company shall submit within three months their policy towards Corporate Environment Responsibility which should inter-alia address (i) Standard operating process/ procedure to bring into focus any infringement/deviation/violation of environmental or forest norms/conditions, (ii) Hierarchical system or Administrative order of the Company to deal with environmental issues and ensuring compliance to the environmental clearance conditions and (iii) System of reporting of non compliance/violation environmental norms to the Board of Directors of the company and/or stakeholders or shareholders.

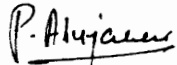
**B. GENERAL CONDITIONS:**

- i. The project authorities must strictly adhere to the stipulations made by the Kerala State Pollution Control Board (KSPCB) and the State Government.
- ii. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests.

- iii. At least four ambient air quality monitoring stations shall be established in the downward direction as well as where maximum ground level concentration of PM, SO<sub>2</sub> and NO<sub>x</sub> are anticipated in consultation with the KSPCB including one ambient air quality monitoring station in the downwind direction. Data on ambient air quality and stack emission should be regularly submitted to this Ministry including its Regional Office at Bangalore and the KSPCB / CPCB once in six months.
- iv. Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19<sup>th</sup> May, 1993 and 31<sup>st</sup> December, 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose.
- v. The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (nighttime).
- vi. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
- vii. The company shall develop rain water harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.
- viii. The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report. Further, the company must undertake socio-economic development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.
- ix. Requisite amount shall be earmarked towards the capital cost and recurring cost/annum for environmental protection measures and judiciously utilized to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. The funds so provided shall not be diverted for any other purpose.
- x. A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad / Municipal Corporation, Urban Local Body and the local NGO, if any, from whom suggestions / representations, if any, were received while processing the proposal. The clearance letter shall also be put on the web site of the company by the proponent.
- xi. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MOEF, the respective Zonal Office of CPCB and the **KSPCB**. The criteria pollutant levels namely; SPM, RSPM, SO<sub>2</sub>, NO<sub>x</sub> (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.
- xii. The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MOEF at Bangalore, the respective Zonal Office of CPCB and the SPCB. The

Regional Office of this Ministry at Bangalore / CPCB / KSPCB shall monitor the stipulated conditions.

- xiii. The environmental statement for each financial year ending 31<sup>st</sup> March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company alongwith the status of compliance of environmental conditions and shall also be sent to the respective Regional Offices of the MOEF by e-mail.
  - xiv. The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the KPCB and may also be seen at Website of the Ministry of Environment and Forests at <http://envfor.nic.in>. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the Regional office at Bangalore
  - xv. Project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.
10. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
  11. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
  12. The above conditions shall 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, Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008 and the Public (Insurance) Liability Act, 1991 along with their amendments and rules.

  
(Dr. P. L. Ahujarai)  
Scientist 'F'

**Copy to:**

1. The Secretary, Science, Technology & Environment Department, Thiruvanthapuram Kerala.
2. The Chairman, Kerala State Pollution Control Board, Plamoodu Junction Pattom Place, Trivendrum 695004, Kerala.
3. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
4. The Chief Conservator of Forests (Central), Regional Office (SZ), Kendriya Sadan, IVth Floor, E&F Wing, 17<sup>th</sup> Main Road, Koramangala, Bangalore-560034.
5. The Managing Director, M/s. Kerala Minerals and Metals Ltd-, Sankaramangalam, Chavara 691583 Kollam, Kerala
6. Guard file/Record file/Monitoring file.

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(Dr. P. L. Ahujarai)  
Scientist 'F'