

BY SPEED POST

No. J-11015/175/2011-IA.II (M)
Government of India
Ministry of Environment, Forests & Climate Change
Impact Assessment Division

3rd Floor, Vayu Wing,
Indira Paryavaran Bhawan,
Jorbagh Road, Aliganj,
New Delhi-110 003
Dated: 17th April, 2015

To

✓ **M/s Trimex Sands Pvt. Ltd.**
56, Telugu Musalayaa Layout,
Adithya Nagar, Arasavilli Road,
srikakulam-532001
Andhra Pradesh.
Tel: 044-24988822
Fax: 044-24986047

**Subject: Srikurmam Mineral Sand Mine of M/s Trimex Sands Pvt. Ltd.,
Village Vatsavalasa, Mandal Gara, District Srikakulam, Andhra
Pradesh (720 ha) (2.0MTPA to 6.0 MTPA)-Environmental
Clearance regarding.**

Sir,

This has reference to your letter nos. TSPL/SRIKURMAM-MINING/2011-07/001, dated 12.07.2011 and subsequent letters dated 12.01.2012, 05.04.2012, 16.10.2012, 02.02.2013, 11.06.2013, 14.02.2014, 04.06.2014 and 20.11.2014 on the subject mentioned above. The project was prescribed Terms of Reference (TORs) by the Ministry of Environment, Forests & Climate Change on dated 06.07.2012. The Project Proponent decided to reduce the capacity of expansion from 8.00 MTPA to 6.00 MTPA due to technical and market issues involved. In this regard, the PP was permitted for downscaling the earlier proposal of expansion from 8.0 MTPA to 6.0 MTPA vide letter No. J-11015/175/2011-IA.II (M) dated 09.09.2013. The proponent submitted its application to the Ministry on 18.02.2014 for seeking environmental clearance. The proposal was considered in the EAC meeting held during 28-30 May 2014 and re-considered in the EAC meeting held during January 15-16, 2015 wherein the Committee recommended the proposal for environmental clearance.

2. The proposal is for expansion of Mineral Sand Mining from 2.0 MTPA to 6.0 MTPA & Mineral Sand production from 0.63 MTPA to 0.93 MTPA. Mine lease area is 720 ha for mining of heavy mineral sand having Ilmenite, Rutile, Zircon, Garnet, Sillimanite & 59.27 ha Plant Area located at Vatsavalasa & Tonangi Villages, Gara Mandal, Srikakulam District, Andhra Pradesh. The area is covered under Survey of India Toposheet No. 74B/3, B/4, B/7 and lies between Latitudes from 18°15'56" N to 18°19'19" N and Longitudes from 84°02'39" E to 81°07'44" E.

3. The State Govt of Andhra Pradesh has granted a mining lease for mining of heavy mineral sand having Ilmenite, Rutile, Zircon, Garnet, Sillimanite minerals

from 23.02.2004 to 22.02.2034 in 720 ha area at Vatsavalasa & Tonangi Villages, Gara Mandal, Srikakulam District, Andhra Pradesh. The Ministry of Environment & Forest has earlier granted Environmental and CRZ clearance for the project for 2.0 MTPA.

4. The Mine lease area is 720 ha & Plant area is 59.27 ha situated outside ML area. There is no forest land in the lease area. The land usage of mining lease is 364 ha of agriculture land and 356 ha of Government waste land. Scheme of Mining for a further period of five years from 2009-2010 to 2013-2014 was approved by the Indian Bureau of Mines vide letter no AP/SRK/MP/Garnet-2/Hyd dated 18/6/2009 and by Atomic Minerals Directorate for Exploration and Research (AMD) vide letter no. AMD/MPA/3M/TSPL/720Ha/2009 dated 17.08.2009.

5. The mine is opencast and will be worked by mechanized method involving dry mining and dredging. No drilling and blasting are involved or sorting of the material at the mine site. Run-off mine ore will be mined and concentrated with advanced environment friendly equipment and technology, wherein ore mining, concentration, backfilling and afforestation on reclaimed land takes place simultaneously, thus limiting the gap between mining and rehabilitation to pre-mining stage to only a few months.

6. Mined/dredged heavy mineral sand is screened, slurried and pumped to a pre-Concentration Plant (CP) to concentrate minerals in the ROM into three to four mineral rich concentrates. The concentrates from this Plant will be further transported to a Mineral Separation Plant (MSP) for separation of individual minerals. Heavy mineral sand from lower layers having high slime content will be additionally cleaned in a slime cleaning Plant before it is pumped to the pre-Concentration Plant. The excavated area will be simultaneously refilled with tailings generated from pre-Concentration Plant and afforested with local suitable plant species to restore the ecological balance of the area. Total Mineral Reserves are about 27.98 million tonnes with mineral resources of 37.45 million tonnes. Life of the mine is about 8 years.

7. It was reported by the PP that solid waste generation will be about 22.958 million tonnes of silica sand which form the reject quantity during the first five years when 27.65 million tonnes of ROM will be handled. The plant waste/tailings contain shells, silica & silt/slime and this waste sand will be dewatered by cyclones. The tailings which form about 83% of ROM will be transported/pumped back for refilling the mined out areas and subsequent afforestation.

8. The total water requirement for the project is estimated as 15,000 KLD. The PP holds permission to draw 500 m³/hr from the Vamsadhara River. It was reported by PP that mining (dredging) will be carried out below the ground water table, however, there is no mine dewatering involved. A comprehensive hydro geological study carried out by Andhra University was submitted.

9. It was reported by the PP that there is no wildlife sanctuary/tiger reserve/national park, etc within the 10 km radius area around the mine lease. Schedule I species i.e Olive Ridley Turtle is found in the study area. Baseline studies were carried out during summer season 2012 (March -May). All the parameters for air, water, and noise quality were reported to be within prescribed standards. The study on the impact of the mining on Olive Riddley Turtles, traffic, ground water, flora & fauna etc. are also carried out and submitted along with final EIA. HTL/LTL demarcation by authorized agency has also been carried out and report submitted.

10. It was informed by the PP that the Public Hearing for the project was conducted on 29.12.2012 near Project site. The PH was chaired by District Collector, Srikakulam. The issues raised during Public Hearing are considered and discussed in the final EIA. It was informed by Project Proponent that as per the villager's requirements, they would give preference to locals for employment; health issues, providing education and assistance in vocational training etc. The estimated cost of the project is Rs 140 Crores. It was reported by the PP that there is no court case pending against the project.

11. The Ministry of Environment, Forests & Climate Change has examined the application in accordance with the EIA Notification, 2006 and hereby accords environmental clearance under the provisions thereof to the above mentioned proposal of M/s Trimex Heavy Minerals Pvt. Ltd. for Mineral Sand Mine proposed expansion of production capacity from 2.0MTPA to 6.0 MTPA in 720 ha mine lease area and 59.27 ha plant area located at village Vatsavalasa, Mandal Gara, District Srikakulam, Andhra Pradesh subject to implementation of the following conditions and environmental safeguards:

A. Specific Conditions

- (i) The 325 dunes recorded in the TSPL area of which, 13 dunes exist beyond 100m from the high tide, shall be protected and maintained. All effort should be made to ensure that existing natural vegetation of these dunes are fully protected.
- (ii) Rs. 1.80 corers proposed for Wildlife Conservation plan should be deposited within one month of issue of EC letter for implementation of Wildlife Conservation plan by the Department.
- (iii) The Environmental clearance is subject to obtaining clearance under the Wildlife (Protection) Act, 1972 from the Standing Committee of National Board of Wildlife, as may be applicable to this project.
- (iv) The Environmental clearance is subject to obtaining clearance under the Coastal Regulation Zone, Notification, 2011 to this project.
- (v) Necessary AERB clearance shall be obtained under the Atomic Energy (Radiation Protection) Rules, 2004 for operation of BSM (Beach Sand Minerals) facility.
- (vi) The mining activity will commence only after taking necessary approval of water drawl from the concerned Authority of State Government.

- (vii) The Mined area should be replenished immediately.
- (viii) The mineral separation plant/pre-concentration plant should be located outside coastal Regulation zone area.
- (ix) Implementation of Wildlife Conservation plan for Schedule-I species. The Conservation Plan should be species specific, should have allocation of budget, time frame and agencies to be responsible for the implementation for each of the target species. Conservation plan shall be approved by the State Government.
- (x) No mining shall be carried out in the inter-tidal zone and within 100 m from HTL towards landward side.
- (xi) Identification of sand dunes shall be done prior to undertaking mining activities and their conservation shall be as per MoEF guidelines from time to time. No flattening of sand dunes shall be carried out. Dressing or altering the sand dunes, hills, natural features including landscape changes shall not be carried out for beautification/recreational purposes. Precautions shall be taken to prevent intrusion of sea water into hinterland to avoid problem of submersion/flooding.
- (xii) Fencing of entire lease area, barrier of 100 meters towards sea to prevent olive turtle nesting ground.
- (xiii) Tailings and rejects shall be filled back systematically after separating the heavy/rare minerals. Sand tailing shall be put back at the mined area on completion of extraction of rare minerals. Afforestation shall be taken up with suitable species on mined out areas to prevent erosion of shoreline. Under no circumstances, the tailings will be dumped in agricultural lands, wet lands, paddy fields, canals and the backfilling will be carried out only in the inland mined out areas.
- (xiv) The mining activities shall be regulated in such a way that there will be minimum disturbance to the fauna during spawning and brooding period i.e. from November to March.
- (xv) Mining shall be carried out in phases only. Simultaneous opening of entire beach front is not permissible. There shall be uninterrupted access to the seafront. Minimum 20m width of approach roads shall be provided where necessary.
- (xvi) Tapping of ground water is expressly prohibited in CRZ area. A network of ground water observation wells within and outside the lease area shall be established for regular monitoring of ground water quality and water levels in the surrounding area. These analysis as per norms much be documented and sent regularly (every three month) to the Regional Office MoEF.
- (xvii) The fresh water gradient towards the sea will be maintained by close monitoring of water table. Piezometer wells to be constructed and monitored.
- (xviii) Mining shall be carried out by permitted methods without the use of any forms of blasting. Use of explosives for blasting is prohibited. The mining should be stated near sea side and mining should be progressed parallel to sea coast so that inland water table is not disturbed.

- (xix) Radiation survey shall be carried out as stipulated by the Atomic Minerals Directorate for Exploration and Research, Department of Atomic Energy, Government of India to ascertain the effects of radioactive minerals.
- (xx) Occupational health and safety measures, especially concerning radiation to be enhanced for workers who are having some ailments like hypertension, diabetes etc. should have health check-up once in six months.
- (xxi) The project proponent shall obtain Consent to Operate from the State Pollution Control Board, Andhra Pradesh and effectively implement all the conditions stipulated therein.
- (xxii) Implementation of conditions laid down in the Mining Plan along with Progressive Mine Closure Plan which has been approved by Indian Bureau of Mines, Ministry of Mines vide Letter No. AP/SRK/MP/Garnet-2/Hyd dated 26.09.2003 and 18.06.2009.
- (xxiii) Implementation of conditions laid down in the Mining Plan which has been approved by Atomic Minerals Directorate for Exploration and Research, Department of Atomic Energy vide Letter No. AMD/MPA/3M/TRIMEX/03, dated December 08, 2003 and Mining scheme approval vide no. AMD/MPA/3M/TSPL/720 ha/2009 dated 17.08.2009.
- (xxiv) Implementation of the Conditions, if any, as laid down by Andhra Pradesh State Coastal Zone Management Authority
- (xxv) Effective safeguard measures such as conditioning of material with water, regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as around crushing and screening plant, loading and unloading point and transfer points. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
- (xxvi) Regular monitoring of ground water level and quality shall be carried out in and around the mine lease by establishing a network of existing wells and installing new piezometers during the mining operation. The periodic monitoring [(at least four times in a year- pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January)); once in each season)] shall be carried out in consultation with the State Ground Water Board/Central Ground Water Authority and the data thus collected may be sent regularly to the Ministry of Environment, Forests & Climate Change and its Regional Office Chennai, the Central Ground Water Authority and the Regional Director, Central Ground Water Board. If at any stage, it is observed that the groundwater table is getting depleted due to the mining activity, necessary corrective measures shall be carried out.
- (xxvii) The project proponent shall ensure that no natural watercourse and/or water resources shall be obstructed due to any operations.
- (xxviii) Regular monitoring of water quality upstream and downstream of adjoining water bodies shall be carried out and record of monitoring data should be maintained and submitted to Ministry of Environment, Forests & Climate Change , its Regional Office, Chennai, Central Groundwater Authority,

- Regional Director, Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board.
- (xxix) As part of ambient air quality monitoring during operational phase of the project, the air samples shall also be analysed for their mineralogical composition and records maintained.
 - (xxx) Compliance status shall be submitted to the Ministry of Environment, Forests & Climate Change and its Regional Office located at Chennai on six monthly basis.
 - (xxxii) Effective safeguard measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of SPM and RPM such as haul road, loading and unloading point and transfer points. It shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
 - (xxxiii) Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transportation of ores and others shall have valid permissions as prescribed under Central Motor Vehicle Rules, 1989 and its amendments. The vehicles shall be covered with a tarpaulin and shall not be overloaded.
 - (xxxiv) Digital processing of the entire lease area using remote sensing technique shall be carried out regularly once in three years for monitoring land use pattern and report submitted to Ministry of Environment and Forests and its Regional Office, Chennai.
 - (xxxv) Implementation of Action plan on issues rose during Public Hearing. As committed by the project proponent during the public hearing shall be implemented and the report shall be submitted to the Regional Office of the Ministry every year.
 - (xxxvi) During initial mining stages, a green belt of 7.5m barrier all around the mine lease boundary shall be made. Subsequently to develop 50m barrier zone with 5-tier plantation inside mine lease in a progressive way near the active mining sites. Adequate plantation shall be raised in the ML area, haul roads, vacant area etc. Green belt development shall be carried out considering CPCB guidelines including selection of plant species and in consultation with the local DFO. Herbs and shrubs shall also form a part of afforestation programme besides tree plantation. The density of the trees shall not be less than 2500 plants per ha. The company shall involve local people with the help of self-help group for plantation programme. Details of year wise afforestation programme including rehabilitation of mined out area shall be submitted to the Regional Office of the Ministry every year.
 - (xxxvii) Adequate air monitoring stations shall be installed in areas of human habitations near the mine and the results of ambient air quality shall be maintained and regularly submitted to the Regional Office of the Ministry. The monitored data for criteria pollutants shall be regularly uploaded on the company's website and also displayed at project site.
 - (xxxviii) The waste water from the mine shall be treated to conform to the prescribe standards before discharging in to the natural stream. The discharged water shall be regularly monitored and report submitted to the

Ministry of Environment & Forests, Central Pollution Control Board and the State Pollution Control Board.

- (xxxviii) A final mine closure plan, along with other details shall 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 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 beach sand mineral i.e. Illeminite, Rutile, Zircon, Monozite and Garnet and waste should be made.
- (iii) At least four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RSPM (Particulate matter with size less than 10 micron i.e., PM₁₀) and NO_x monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board. The data so recorded should be regularly submitted to the Ministry including its Regional office located at Chennai and the State Pollution Control Board / Central Pollution Control Board once in six months.
- (iv) 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.
- (v) There will be zero waste water discharge from the plant.
- (vi) 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.
- (vii) 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.
- (viii) 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.
- (ix) 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 Chennai.
- (x) The project authorities should inform to the Regional Office located at Chennai regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.
- (xi) The Regional Office of this Ministry located at Chennai shall monitor compliance of the stipulated conditions. The project authorities should

- extend full cooperation to the officer(s) of the Regional Office by furnishing the requisite data / information / monitoring reports.
- (xii) The project proponent shall submit six monthly reports on the status of compliance of the stipulated environmental clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the Ministry of Environment, Forests & Climate Change , its Regional Office Chennai, the respective Zonal Office of Central Pollution Control Board and the State Pollution Control Board. The proponent shall upload the status of compliance of the environmental 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 Ministry of Environment, Forests & Climate Change , Chennai, the respective Zonal Officer of Central Pollution Control Board and the State Pollution Control Board.
 - (xiii) A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parisad/ 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 website of the Company by the proponent.
 - (xiv) The State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Centre and the Collector's office/ Tehsildar's Office for 30 days.
 - (xv) The environmental statement for each financial year ending 31st 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 along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Office of the Ministry of Environment, Forests & Climate Change , Chennai by e-mail.
 - (xvi) The project authorities should advertise at least in two local newspapers of the District or State in which the project is located and widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 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 & Climate Change at <http://envfor.nic.in> and a copy of the same should be forwarded to the Regional Office of this Ministry located at Chennai.

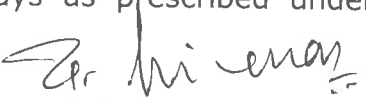
12. The Ministry or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.

13. Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may

result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

14. 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 there under and also any other orders passed by the Hon'ble Supreme Court of India/ High Court of Andhra Pradesh/ National Green Tribunal and any other Court of Law relating to the subject matter.

15. Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.


(Dr. U. Sridharan)
Scientist 'F'

Copy to:

- 1). **The Secretary**, Ministry of Mines, Government of India Shastri Bhawan, New Delhi.
- 2). **The Secretary**, Department of Atomic Energy, Atomic Minerals Directorate for Exploration and Research, Government of India, 1-10-153-156, Begumpet, Hyderabad-500 016
- 3). **The Secretary**, Department of Environment, Government of Andhra Pradesh, Hyderabad.
- 4). **The Secretary**, Department of Forests, Government of Andhra Pradesh, Hyderabad.
- 5). **The Secretary**, Department of Mines and Geology, Government of Andhra Pradesh, Hyderabad.
- 6). **The Secretary**, Department of Industries and Commerce (M-III), Govt. of Andhra Pradesh, Hyderabad.
- 7). **The Additional Principal Chief Conservator of Forests**, Regional Office Chennai, Ist and IInd floor handloom export promotion council, 34, Cathedral Garden Road, Nungambakkam, Chennai-34.
- 8). **The Chairman**, Andhra Pradesh State Pollution Control Board, Paryavaran Bhawan, A-3 Industrial Estate, Sanath Nagar, Hyderabad - 500 018
- 9). **The Member Secretary**, Central Ground Water Authority, A2, W- 3 Curzon Road Barracks, K.G. Marg, New Delhi-110001.
- 10). **The Controller General**, Indian Bureau of Mines, Indira Bhavan, Civil Lines, Nagpur- 440 001.
- 11). **The District Collector**, District Srikakulam, State of Andhra Pradesh.
- 12). **Guard File**
- 13). **MoEF Website.**


(Dr. U. Sridharan)
Scientist 'F'