



F. No. (J-14011/3/2018-IA-1(N)
Government of India
Ministry of Environment, Forest and Climate Change
(IA Division)

SPEED POST

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Dated: 26th July, 2019

To,

Shri Arun Kumar Mohapatra
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Subject: EC FOR SETTING OF RARE EARTH PERMANENT MAGNET PLANT WITH A MANUFACTURING CAPACITY OF 3 TPA RARE EARTH METAL AND 3 TPA RARE EARTH PERMANENT MAGNET AT BARC CAMPUS, VIZAG.

This has reference to your letter no. IRE/REPM/EC/2019 dated 06.03.2019. seeking EC for setting up a plant for production of Samarium-Cobalt (SmCo) Rare Earth Permanent Magnets (REPM) with production capacity of 3 TPA Rare Earth Permanent Magnets (REPM) (product mix of SmCo₅ - 1 TPA and Sm₂Co₁₇ - 2 TPA) within Bhabha Atomic Research Centre (BARC), Vizag Campus, Achutapuram, District-Vishakhapatnam, State-Andhra Pradesh.

2. As has been submitted by IREL, Samarium-Cobalt (Sm-Co) Magnets are used by Department of Atomic Energy (DAE) and Defence due to their superior properties for strategic purposes. For the production facilities of the Samarium-Cobalt (SmCo) Rare Earth Permanent Magnets, a special purpose vehicle (SPV) under Department of Atomic Energy (DAE) will be formed and IREL will act as a management agent of the SPV to run the same.

3. Presently India is dependent on the imports of RE value added products. Dependence on import for these SmCo magnets will impede our country's growth in Atomic energy, defense, space and other strategic sectors. This project is first of its kind in the country and the technology for RE Metal alloy (SmCo₅) and RE permanent Magnet (REPM - SmCo₅ and Sm₂Co₁₇) have been developed by Bhabha Atomic Research Centre (BARC) and Defense Metallurgical Research Laboratory (DMRL) indigenously.

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4. The ToR letter for the proposed project was issued by MoEF& CC vide letter No. J-14011/3/2018-IA. I(N) dated 12th September, 2018. The Public hearing of the project was exempted as it is a strategic project. A letter in this regard has been issued by the Chairman, Atomic Energy Commission and Secretary, Department of Atomic Energy on 14th November, 2018.

5. The details submitted by the PP during the presentation and subsequent detailed deliberations are as given below:

- i) Total project area is 1.185 Ha (2.92 Ac) of acquired land. This is a barren land with sparse growth of thorny bushes located within BARC, Vizag campus.
- ii) MoEF&CC, New Delhi vide letter no: J-14011/3/2010-IA.II(N), dated 28.5.2012 granted the environment clearance in favour of BARC – Vizag Campus, Department of Atomic Energy, Achutapuram, Visakhapatnam for setting up of Strategic R & D Centre, prototype manufacturing center, Technical Laboratories along with township in Phase-I over an area of 1353.97 ha through strategic route. 1.185 Ha (2.92 Ac) land allotted for REPM project is located within the BARC Vizag Campus.
- iii) This REPM site is located at a distance of 4 Kms away from Bay of Bengal and thus does not require CRZ clearance.
- iv) **Benefit:** Samarium cobalt RE Permanent magnets find applications in Atomic Energy, space and Defence sectors for strategic purposes due to their superior qualities in the terms of high magnetic strength, corrosion resistance, device miniaturization capability and stability at the high temperatures. Presently our country is solely dependent on the imports settings of this project will supply the SmCo magnets in a continuous manner of various strategic projects. Product output of the project will be fully utilized by the Department of Atomic Energy/ DMRL to meet strategic need of the country. The project is first of its kind in the country and manufacturing technology of Rare Earth Metal alloys and Permanent Magnets are developed by BARC and DMRL indigenously. REPM are essentially required by DoE for meeting strategic objectives pertaining to Atomic Energy Programme. The proposed REPM production facilities will be of strategic importance to the nation and is a "Make in India" initiative by Department of Atomic Energy (DAE). The project will be operated through SPV and Indian Rare Earths Limited (IREL) will be the management agent for the same.
- v) As per EIA Notification dated 14.09.2006 and its subsequent amendments, the project falls under Serial No.3(a) Metallurgical Industry (Ferrous & Non-ferrous).
- vi) Estimated cost of REPM project is Rs. 120.68 Crores.
- vii) There is no forest land involved in the proposed area of 2.92 Ac for REPM project. No Wildlife Sanctuary / National Park / Mark Park located within 10 kms study area from the project site.
- viii) No rare, endemic and endangered species found in the Study area. No Schedule-I species was found in the study area.
- ix) The project will be setup in the acquired land and there will be no displacement of people.
- x) No fossil fuel will be used in the proposed facility as proposed project will be based on electric furnace/Vacuum Induction Melting Furnace. It is laboratory



scale vacuum induction type batch furnace. Emission is negligible and hence no pollution control equipment envisaged.

- xi) The plant will be designed as zero discharges (ZLD) as far as the process effluents are concerned. The water will be recirculated after process use, through required cooling and treatment. STP of capacity 5 KLD will be installed at the project site. All the backwash water from DM plant, process waste water, after neutralization shall be used for toilet flushing, floor washing etc., along with STP treated waste water.
- xii) No hazardous waste shall be generated from the process except the 165 liters per year of 'Used Oil', which will be sold to registered recyclers.
- xiii) No major river is within the 1 km of the project site.
- xiv) As per the analytical reports of the project site and the surrounding areas, the ambient air quality is well below the NAAQS limits, so to maintain the ambient air quality of the area, the latest / modern air pollution control measurements along with suitable EMP will be adopted.
- xv) The rainwater harvesting pond of approx. 1500 cubic meter capacity would be considered. There would be generation of surface run-off of approx. 6725 cubic meter. It is expected that 60% of run-off (4035 cubic meters) will be collected in the pond, from the proposed plant facility. The plant runoff would be collected in the harvesting pond for use within the plant.

6. On the basis of recommendation of the EAC, the Ministry of Environment Forest and Climate Change, in acceptance of the recommendation of the EAC (Nuclear and Defense), hereby accords Environment Clearance to the above project viz. **SETTING OF RARE EARTH PERMANENT MAGNET PLANT WITH A MANUFACTURING CAPACITY OF 3 TPY RARE EARTH METAL AND 3 TPY RARE EARTH PERMANENT MAGNET AT BARC CAMPUS, VIZAG'** under the provision of EIA Notification, 2006 amendments thereto and circulars issued thereon, subject to compliance of the following specific and general conditions:

Specific Conditions:

- i. The project proponent shall obtain the necessary permissions/clearances from the BARC safety council before commencement of the project.
- ii. Regular monitoring of conventional radioactive pollutants in the environment shall be ensured by the BARC Council as per the AERB standards.
- iii. Soil and groundwater samples shall be tested to ascertain that there is no deterioration of groundwater quality by leaching heavy metals, radio nuclides and other toxic contaminants.
- iv. The radioactive liquid waste emanating from the plant shall be treated and managed as per the guidelines of Atomic Energy Regulatory Board (AERB)/International Commission on Radiological Protection (ICRP) in this regard.
- v. The clearance from NBWL shall be ensured, if applicable.
- vi. The radioactive levels in the different matrices of environment including food chain, air, water and soil shall be monitored regularly in the surrounding areas as per AERB standards and records to be maintained.
- vii. The conventional pollutants shall also be monitored and records maintained.
- viii. Periodic health survey of the population residing within 5 km around the proposed plant site shall be undertaken.



- ix. Green belt shall be developed in 33 % area around the project boundary with the native species of adequate density and width. In addition, plantation shall be raised in other vacant areas within the plant site.
- x. A Disaster Management Plan and Emergency Preparedness Plan shall be prepared and put up in place as per the norms of AERB. Regular mock drills shall be undertaken and based on the same, any modification required, if any, shall also be incorporated.
- xi. The Risk Analysis and Probabilistic Safety Assessment reports to be verified by the competent authority in BARC Safety Council and RO, MoEF&CC.
- xii. Suitable provision shall be made for sewage/waste water disposal and storm water independently.
- xiii. Adequate rain water harvesting system shall be put in place as committed in EIA/EMP report.
- xiv. The ventilation air shall be released into the atmosphere after necessary control and at adequate height so that the radiation release rate as well as the increase in radiation in the surrounding area above the background levels are within the permissible limits as prescribed by the regulatory agency.

General Conditions:

- i. Environmental clearance is subject to obtaining all the requisite clearances from the competent authorities including Forest Clearance, if applicable and shall strictly adhere to the stipulations of the SPCB and State Government or any other statutory body.
- ii. Installation of STP should be certified by concerned Pollution Control Board.
- iii. It shall be ensured that the noise levels in the work zone both during construction and operation phase are within permissible limits. For people working in high noise area, requisite personal protective equipment like earplugs/ear muffs etc. shall be provided.
- iv. Installation and operation of DG sets shall comply with notified guidelines.
- v. The solid wastes shall be managed and disposed as per the norms of the Solid Waste Management Rules, 2016.
- vi. Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Rules, 2016.
- vii. Hazardous waste (like used oil) generated in the plant will be disposed of as per Hazardous Waste (Management, Handling & Transboundary Movement) rules, 2016.
- viii. The Regional Office of this Ministry 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.
- ix. The project proponent shall obtain Consent to Establish/Operate under the Air Act, 1981 and the Water Act, 1974 from the concerned State Pollution Control Board.
- x. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report and also that during their presentation to the EAC.
- xi. Install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released.

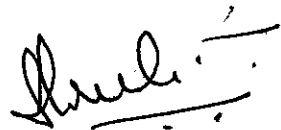
- xii. The project proponent shall submit six monthly compliance reports on the status of the implementation of the stipulated environmental conditions to the Regional Office, Ministry of Environment, Forest and Climate Change.



(Dr. Shruti Rai Bhardwaj)
Addl. Director/Scientist 'E'

Copy to:

1. The Principal Secretary (Forests), EFS & D Department, Government of Andhra Pradesh, B Block, Secretariat, Hyderabad-500004.
2. Addl. Principal Chief Conservator of Forests (C) Ministry of Env., Forest and Climate Change Regional Office (SEZ), 1st and 11nd Floor, Handloom Export Promotion Council, 34, Cathedral Garden Road, Nungambakkam, Chennai - 34.
3. The Chairman, Central Pollution Control Board Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi - 110 032.
4. The Chairman, Andhra Pradesh Pollution Control Board, D.No. 33-26-14 D/2, Near Sunrise Hospital, Pushpa Hotel Centre, Chalamvari Street, Kasturibaipet, Vijayawada - 520 008
5. Guard File/ Monitoring Cell.



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