

However, recently, Indian Rare Earths Limited (IREL) has set up a 10,000 tonne per annum Monazite Processing Plant (MoPP) at its Orissa Sand Complex (OSCOM) unit at Chhatrapur, Odisha. The Plant is designed to produce 11,000 tonne per annum Mixed Rare Earths Chloride (MRECL), equivalent to 5,000 tonnes of Rare Earths Oxide (REO) at its full capacity and it is in its final stage of commissioning. This production capacity is about 3% of the current global production of Rare Earths Oxide, which is estimated at 1,30,000 tonne per annum. Further, IREL has developed technology to produce Separated Rare Earths Oxides (SREOs) of various purities up to their very high pure form from MRECL and this facility at rare earth division at Alwaye, Kerala is also under commissioning. The facility can process 5,500 tonnes of MRECL.

In addition, IREL, in collaboration with its technology partners such as Bhabha Atomic Research Centre (BARC) and Defence Metallurgical Research Laboratory (DMRL), Hyderabad is also developing the process of making Rare Earth Metal from SREO and further convert them to permanent magnets of high power density.

(c) No. Sir, the Department is not aware of any court verdict pronounced recently so as to allow private sector in Rare Earth mining and trading.

#### **Neutrino observatory in Tamil Nadu**

1602. SHRI M.P. ACHUTHAN :

SHRI D. RAJA:

Will the PRIME MINISTER be pleased to state:

(a) whether it is a fact that the Prime Minister has cleared India-based Neutrino observatory in Tamil Nadu's Theni district bordering Kerala's Iddukki district;

(b) if so, the details of this project and its impact on the environment of the area;

(c) whether the concerned State Government has been approached by the centre for their sanction for the project; and

(d) if so, the details thereof and the response of the two state Governments thereto?

THE MINISTER OF STATE IN THE PRIME MINISTER'S OFFICE (DR. JITENDRA SINGH): (a) The Government of India has approved the India-based Neutrino Observatory (INO) Project, to be located in the Theni district of Tamil Nadu and financial sanction has been issued on 06.01.2015.

(b) The project at an estimated cost of ₹ 1583.05 crore includes construction of an underground lab and associated surface facilities at Pottipuram in Bodi West hills of Theni District, in Tamil Nadu, construction of a 50 kilo ton magnetised iron - calorimeter detector to study a fundamental particle called neutrino, and setting up Inter-Institutional Centre for High Energy Physics at Madurai. The environmental impact of the project has been taken into account before sanction of the project. Detailed studies on the environmental impact of the project were carried out by Salim Ali Centre for Ornithology and Natural History, Coimbatore an autonomous institute under the Ministry of Environment & Forests, and geotechnical studies were carried out by the Geological Survey of India (GSI).

(c) and (d) The Project is located in Tamilnadu and the application for environmental clearance was submitted to the Department of Environment & Forests, Government of Tamil Nadu. The Government of Tamil Nadu recommended and forwarded the application to the Ministry of Environment and Forests, Government of India for concurrence. The Ministry of Environment and Forests, Government of India has cleared the project.

#### **Thorium based nuclear power plants**

1603. SHRI AJAY SANCHETI : Will the PRIME MINISTER be pleased to state:

(a) the policy of Government so far as Thorium based nuclear power plants are concerned;

(b) whether such plants are functioning in India;

(c) the estimated availability of Monazite mineral reserves from which Thorium is derived, in the country; and

(d) whether the country is extracting Thorium from Monazite mineral at present; and

(e) if so, details thereof and if not, reasons therefor?

THE MINISTER OF STATE IN THE PRIME MINISTER'S OFFICE (DR. JITENDRA SINGH) : (a) Research and Development on Thorium utilisation has been a high priority for the Department of Atomic Energy (DAE) right since its inception. On account of physics characteristics of Thorium, it is not possible to build a nuclear reactor using Thorium alone. It has to be converted into Uranium-233 in a reactor before it can be used as fuel. With this in view, a three-stage nuclear power programme, based on a closed