GOVERNMENT OF INDIA
ATOMIC ENERGY
LOK SABHA

UNSTARRED QUESTION NO:1919
ANSWERED ON:05.12.2012
EXPORT OF HEAVY RARE EARTH MINERALS
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Will the Minister of ATOMIC ENERGY be pleased to state:

(a) the details of mining companies holding licenses for mining heavy metals such as monazite and ilmenite, State-wise;

(b) the total exports of heavy rare earth minerals during 2011-2012, including thorium containing ilmenite and monazite;

(c) whether export of thorium or thorium containing ilmenite and monazite is permitted under the Atomic Energy Act;

(d) if so, the details thereof;

(e) whether illegal mining and export of thorium and other heavy minerals have been reported from the coasts of Tamil Nadu and Kerala; and

(f) if so, the details thereof including the action taken by the Government in this regard?

Answer

THE MINISTER OF STATE FOR PERSONNEL, PUBLIC GRIEVANCES & PENSIONS AND PRIME MINISTER'S OFFICE (SHRI V. NARAYANASAMY) :

(a) The details of mining companies holding licenses for mining of heavy metals such as monazite and ilmenite are maintained by the Indian Bureau of Mines, of the Ministry of Mines. The information obtained from the Department of Mines in this regard is given in Annexure-I.

(b) There is no such commercially available material with a name, description or reference as "thorium containing ilmenite". Ilmenite is a mineral which occurs naturally in combination with, and as a part of beach sand minerals. Monazite also exists as a part of the same beach sand mineral raw material. Thorium does not exist in a natural form, and is one of the products obtained through processing of Monazite. However, ilmenite after completion of processing has a possibility of containing monazite as a "contaminant" to a small percentage, for the reason that both ilmenite and monazite are extracted from the same base raw material, i.e., beach-sand. Information on the total exports of any commodity from out of the country, including heavy minerals such as ilmenite, and rare earth minerals such as monazite etc. are maintained by the Department of Commerce. The information obtained from the Department of Commerce is given in Annexure-II.

(c)&(d) As stated earlier, there is no such commercially available material with a name, description or reference as "thorium containing ilmenite". Ilmenite is a mineral which occurs naturally. During the process of separation of ilmenite from beach-sand containing heavy minerals, there is a possibility that a small percentage of monazite gets retained with the ilmenite, the main product being produced on a commercial scale. It may also not be technically and economically viable to produce ilmenite completely (100%) free of such monazite impurity.

As per the Atomic Energy Regulatory Board directive No. 01/2010 issued in respect of "Exclusion Exemption and Clearance of Radionuclide in Solid Materials" under Rule 3,5 and 6 of Radiation Protection Rules 2000, Monazite content in ilmenite is limited to a maximum of 0.25%. Further, monazite is a naturally occurring heavy mineral present in beach sand. Processing of Monazite yields thorium as one of the products. Monazite and thorium in the form of metal, alloy, chemical compound or concentrate or any substance is considered as a "prescribed substance" under schedule of prescribed substances under the Atomic Energy Act, 1962. Sections 14, 16 and 30 of the Atomic Energy Act, 1962 prohibit acquisition, production, possession, use, disposal, export or import of any of the prescribed substance except under a license issued by Government of India.

(e)&(f) Government has not received any official report or information in the matter of illegal mining and export of thorium and other heavy minerals from the coastal regions of Tamil Nadu and Kerala. However, in the recent past, certain press reports and other communications have been received in the matter. The official process in respect of grant of mining lease for any mineral and beach sand mineral in particular is as follows: applications for grant of mining leases for beach sand minerals are received from interested parties by the respective State Governments who forward them to Ministry of Mines, Government of India for their recommendations. The Ministry of Mines, Government of India seeks "No Objection Certificate" (NOC) from the Department of Atomic Energy if the mining lease application includes mining of atomic minerals such as ilmenite, rutile, zircon, leucoxene, garnet, silimanite and monazite. Upon the Department of Atomic Energy granting the NOC, the Ministry of Mines issues recommendations to the State Governments, who in turn grant or reject the mining lease to the applicants. The Directors, Mines and Geology of respective State

Governments control the mining activities in each state and ensure the compliance with relevant laws by the mining lessees. Hence the responsibility of identifying illegal mining of any mineral in a State is with the State Government Authorities. Necessary regulatory inspections of beach sand mining facilities by Atomic Energy Regulatory Board are in place, and a decision has been taken to strengthen it further, including thorough involvement of Atomic Minerals Directorate for Exploration and Research (AMD). In respect of illegal exports of monazite and thorium, the Central Excise and Customs Department is the competent authority to check illegal exports of any material. Department of Atomic Energy has confirmed that with the installation of radiation detection equipment, now under manufacture by the Electronics Corporation of India Limited (ECIL) for installation at various sea-ports in the next year, the presence of unacceptable levels of monazite in beach sand mineral export consignments will be easily detected.