

**Fact Sheet on Uranium Exploration, Mining Production and Environmental Protection**

**What are the issues?**

During the last 3 years, there has been a dramatic revival and comeback of the uranium industry in the light of the expanding nuclear power programme all over the world. As a result, there has been a boom in uranium exploration, mining and production activities to meet the higher demand of uranium and reduce the gap between uranium demand and uranium supply from mines. In coming years, additional requests for TC, training/workshop and CRPs are expected in the areas of: 1) advanced aerial and ground geophysical techniques for discovery of new deposits which could be deeply buried; 2) investigations of uranium sources in sedimentary, igneous and metamorphic environments; 3) In-Situ leaching (ISL) of uranium deposits; 4) advanced acid/alkali leaching of low, medium and high grade uranium ores and purification of uranium; 5) reclamation of used uranium mines and related environmental protection issues; and 6) uranium supply, demand and market issues.

**What services are being and can be provided by the Nuclear Fuel Cycle and Materials Section?**

The services could be workshops and hands-on field trainings at National and/or Regional levels in mines, mills and sites covering the following activities:

- Uranium exploration involving conventional and advanced geophysical techniques and instruments, advanced drilling equipment and tools, etc.
- Uranium mining (open-cast and underground), recovery and purification by acid/alkali leaching, In-Situ leaching (ISL), purification by conventional and advanced solvent extraction and ion exchange techniques and concentration of uranium in the form of yellowcake (ammonium diuranate, magnesium diuranate and uranium peroxide).
- Promoting best practices in uranium mining and milling (including tailing pond), covering environmental issues, reclamation of used uranium mines and chemistry of uranium production cycle and ground water and sustainability of uranium production.

**On-going and past TC activities:**

- ARG/3/008: Prospecting for Uranium and Other Elements Using Gamma-Ray Spectrometry Surveys completed on 2005-07-26
- CPR/3/005: Remediation of Decommissioned Uranium Tailing Impoundments, completed on 2003-04-29
- CPR3006: Evaluation of in Situ Leachable Uranium Resources completed on 2005-01-31
- PAN3003: Monitoring Natural Radiation Background completed on 2004-05-20
- ROM/3/003: Restructuring of the uranium mining industry
- CPR/3/007: Exploration techniques and prospecting for sandstone-type uranium deposits in the Ordos Basin-
- PAK/3/010: Uranium geochemistry, mineralogy and host rock uranium deposit description
- EGY/3/015: Establishment of the comprehensive document on uranium availability in Egypt

**How to benefit from this activity?**

Member States interested in uranium geology, exploration, mining, milling, purification and environmental issues related to uranium fuel cycle should contact the Technical Cooperation Department of the Agency. Member States interested in knowing more about the Agency's programme on uranium and thorium fuel cycle technologies including mining, milling, purification and environmental issues should contact:

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