



**Supply of Fuels**

**SCREENING CHAPTER 15**  
**ENERGY**

**AGENDA ITEM: NUCLEAR ENERGY**

**Supply of Fuels**

**Country Session: The Republic of TURKEY**  
**14-15 June 2006**



## CONTENT

- **Legal Framework**
- **Facilities utilizing nuclear fuel**
- **Uranium and thorium reserves and mines**



## LEGAL FRAMEWORK

- **Legislation Concerning Nuclear Mineral Exploration, Exploitation and Mining**
  - **Law on Boron Minerals, Trona and Asphaltit Mines and Exploitation of Nuclear Energy Raw Materials No. 3971**  
(Official Gazette: 19 February 1994, no. 21854)
  - **Mining Law No. 3213**  
(Official Gazette: 15 June 1985, no. 18785)  
(Amended by Law No. 5177 Official Gazette: 5 June 2004, no. 25483)
- **Legislation Concerning Safeguards, Safety and Security of Nuclear Materials**
  - **Turkish Atomic Energy Authority (TAEK) Law No. 2690**  
(Official Gazette: 13 July 1982, no. 17753)



## LEGAL FRAMEWORK (CONT'D)

### Legislation Concerning Nuclear Mineral Exploration, Exploitation and Mining

#### Law Regulating Boron Minerals, Trona and Asphaltit Mines and Exploitation of Nuclear Energy Raw Materials No. 3971

##### Article 2

- Uranium and thorium exploration and exploitation can only be conducted by the State.
- ETI MINE, a state enterprise, holds the exclusive right of exploitation of uranium and thorium minerals.  
(Cabinet Decree no. 7/16681, Official Gazette: 31 October 1978, no. 16462)



## LEGAL FRAMEWORK (CONT'D)

### Mining Law No. 3213

Establishes principles, requirements and procedures regarding exploration, operation, ownership and abandonment of mines.

#### Article 2

Classifies minerals into five groups:

- Sand and Gravel
- Marbles and aggregates
- Dissolved Salts and CO<sub>2</sub>
- Metallic, industrial and energy minerals (**including uranium and thorium**)
- Precious stones



## LEGAL FRAMEWORK (CONT'D)

### Mining Law No. 3213

#### Article 7

- Defines permissions for mining activities
- Determines the principles with regard to the performance of environmental impact assessment, issues on non-sanitary establishments and accessing the land.

#### Article 16

- Defines principles for application, licensing, and assessment.



## LEGAL FRAMEWORK (CONT'D)

### Mining Law No. 3213

#### Article 24

- Before the end of the exploration license term, the license holder applies for an operation license submitting an exploration activity report that includes reserve information of the detected minerals and the restoration plan of the mining area.
- If the proven reserve is still available, license duration may be extended.

#### Article 50

“Produced **uranium and thorium ores** shall be sold to the State or to entities determined by the Council of Ministers.”



## LEGAL FRAMEWORK (CONT'D)

### Legislation Concerning Safeguards, Safety and Security of Nuclear Materials

#### Turkish Atomic Energy Authority (TAEK) Law No. 2690

##### Article 4b

“To determine general principles for exploring, exploiting, purifying, distributing, importing, exporting, trading, transporting, using, transferring and storing of **nuclear raw materials, special fissionable material** and other strategic materials used in the nuclear field and to make recommendations and cooperation thereon.”





## LEGAL FRAMEWORK (CONT'D)

### Turkish Atomic Energy Authority (TAEK) Law No. 2690

#### Article 4d

“ .....; to determine guiding principles and measures for protection against damages of ionizing radiation in the activities performed using ....., **special fissionable materials** ..... and to determine the limits of legal liability; to grant a license to governmental or private bodies or persons who keep, use, import or export, transport, store and trade **radioactive materials** ... and to carry out radiation protection inspections; .....; to prepare legislation governing the general principles of the use, export, import and transport of **radioisotopes** and insurance obligations.”



## LEGAL FRAMEWORK (CONT'D)

### Turkish Atomic Energy Authority (TAEK) Law No. 2690

#### Article 4e

“To grant approval, permit and licences related to siting, construction, operation and environmental safety of nuclear power and research reactors and **nuclear fuel cycle facilities**; to perform necessary inspections, to restrict the operation in case of non-compliance with the conditions of the permit or licence; to suspend or revoke the permit or licence and to make recommendations to the Prime Minister for the shut down of those installations; to prepare necessary technical legislation for these purposes.”



## LEGAL FRAMEWORK (CONT'D)

### Turkish Atomic Energy Authority (TAEK) Law No. 2690

#### Article 4j

“To carry out studies related to national and international nuclear law and to propose legislation.”

#### Article 8a

“Department of Nuclear Safety:

Among the duties stated in Article 4 of this Law; to carry out those related to nuclear safety and those concerning siting, construction, system engineering, commissioning, operating, physical protection of **nuclear facilities** and to perform services for radiation protection, safety and control of **nuclear materials**,.....”



## LEGAL FRAMEWORK (CONT'D)

### Turkish Atomic Energy Authority (TAEK) Law No. 2690

#### Article 8b

“Department of Radiological Health and Safety:  
Among the duties stated in Article 4 of this Law; to grant license, to prepare legislation and determine principles of radiation protection, to carry out inspections for transport and storage of **radioactive materials**,.....”



## **LEGAL FRAMEWORK (CONT'D)**

### **Turkish Atomic Energy Authority (TAEK) Law No. 2690**

According to these articles of the Law, TAEK deals with the issue from safeguards, physical protection/security and safety points of view; and grants permits or licenses to exploit, import, export, hold, store, transfer or transport of nuclear materials, based on the amount of special fissionable material, its form, usage purpose, etc.

#### **Secondary legislation issued for these purposes:**

- **Regulation on Issue of Licenses for Nuclear Installations**  
(Official Gazette: 19 December 1983, no. 18256)

Defines procedures and requirements for licensing of nuclear reactors and nuclear fuel cycle facilities, including permits for transportation of nuclear fuel to the nuclear reactor facility and fuel loading.



## LEGAL FRAMEWORK (CONT'D)

### Turkish Atomic Energy Authority (TAEK) Law No. 2690

#### Secondary Legislation

- **By-Law on Accounting for and Control of Nuclear Materials**  
(Official Gazette: 10 September 1997, no. 23106)

Defines procedures and requirements concerning safeguards of nuclear materials.

- **By-Law on Physical Protection of Special Nuclear Materials**  
(Official Gazette: 20 July 1979, no. 16702)

Defines procedures and requirements concerning Physical Protection of Special Nuclear Materials.



## LEGAL FRAMEWORK (CONT'D)

### Turkish Atomic Energy Authority (TAEK) Law No. 2690

#### Secondary Legislation

- **By-Law on the Safe Transport of Radioactive Materials**

(Official Gazette: 10 September 1997, no. 23106)

(revised – Official Gazette: 8 July 2005, no. 25869)

Defines procedures and requirements concerning the transport of nuclear/ radioactive materials.

- **By-Law on Permitting Exports of Materials, Equipment and Related Technology Used in Nuclear Field”**

(Official Gazette: 15 February 2000, no. 23965)

Covers provisions on permissions required for exports of nuclear materials included in the lists of Nuclear Suppliers Group and Zangger Committee and of those materials, equipment and components used in nuclear field.



## LEGAL FRAMEWORK (CONT'D)

### Turkish Atomic Energy Authority (TAEK) Law No. 2690 Secondary Legislation

- **Communiqué on the Import of Radioactive Materials and Devices” No 2006/3**  
(Official Gazette: 31 September 2005, no 26040)

Gives Harmonised Tariff System list for the nuclear materials require import permissions from Turkish Atomic Energy Authority.

- **Regulation on Radiation Safety and**  
(Official Gazette: 7 September 1985, no. 18861) (under revision)

#### **By-Law on Radiation Safety**

(Official Gazette: 24 March 2000, no. 23999)

(revised – Official Gazette: 29 September 2004, no. 25598)

Defines procedures and requirements concerning safety of nuclear/ radioactive materials.





## **FACILITIES UTILIZING NUCLEAR FUEL**

### **TR-2 Research Reactor**

- Fuel supplied from France (1992)
- Currently, there is no plan to purchase new fuel

### **TRIGA Mark II Research Reactor**

- All fuel supplied from USA (1979)
- Existing fuel considered sufficient for life-time operation



## FACILITIES UTILIZING NUCLEAR FUEL (CONT'D)

### Nuclear Fuel Pilot Plant

- $U_3O_8$ 
  - Transferred from MTA in 1998
- **Thorium**
  - Purchased from France in 1998
- Some of these raw materials were used for trial pellet production.
- Currently, there is no plan to purchase new raw nuclear material.



## URANIUM AND THORIUM RESERVES AND MINES

- Currently, there is no uranium or thorium mining, known reserves considered not economical
- Exploration studies were mostly conducted before 1990
- Major uranium reserves: 9,000 tonnes  $U_3O_8$  total
- A pilot mining installation was operated in 1974-1982
- Major thorium reserves: 380,000 tonnes  $ThO_2$  total



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**Thank You For Your Attention**