



## **SCREENING CHAPTER 25 SCIENCE AND RESEARCH**

### **AGENDA ITEM 1: EURATOM (Additional Screening)**

#### **Presentation of TAEA Research Activities**

**Country Session: The Republic of TURKEY  
14 November 2005**

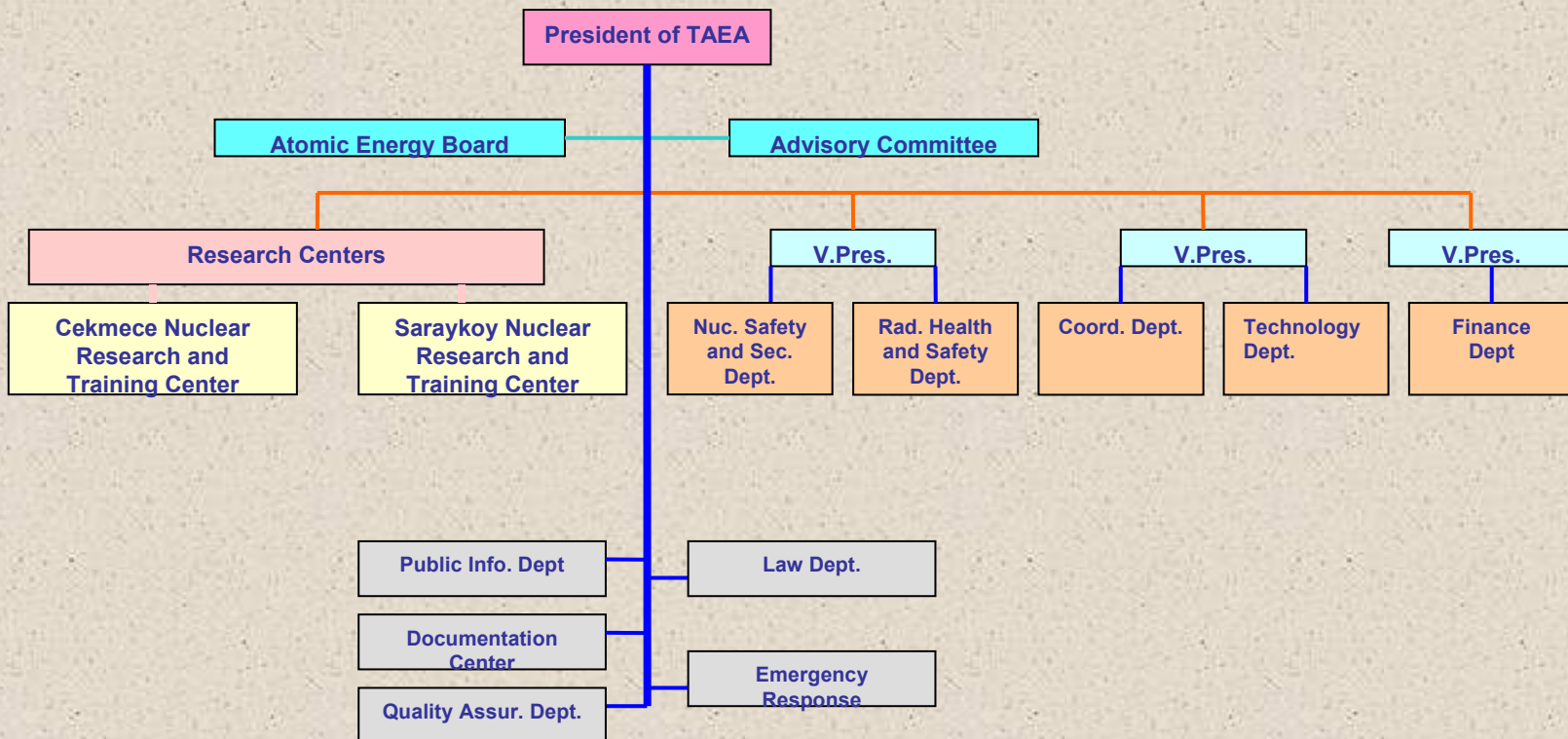


## **TURKISH ATOMIC ENERGY AUTHORITY**

- **Atomic Energy Commission was established on 26 October 1956**
- **In 1982, it was reorganized in accordance with Act no: 2690**
- **Commission directly reports to the Prime Minister**

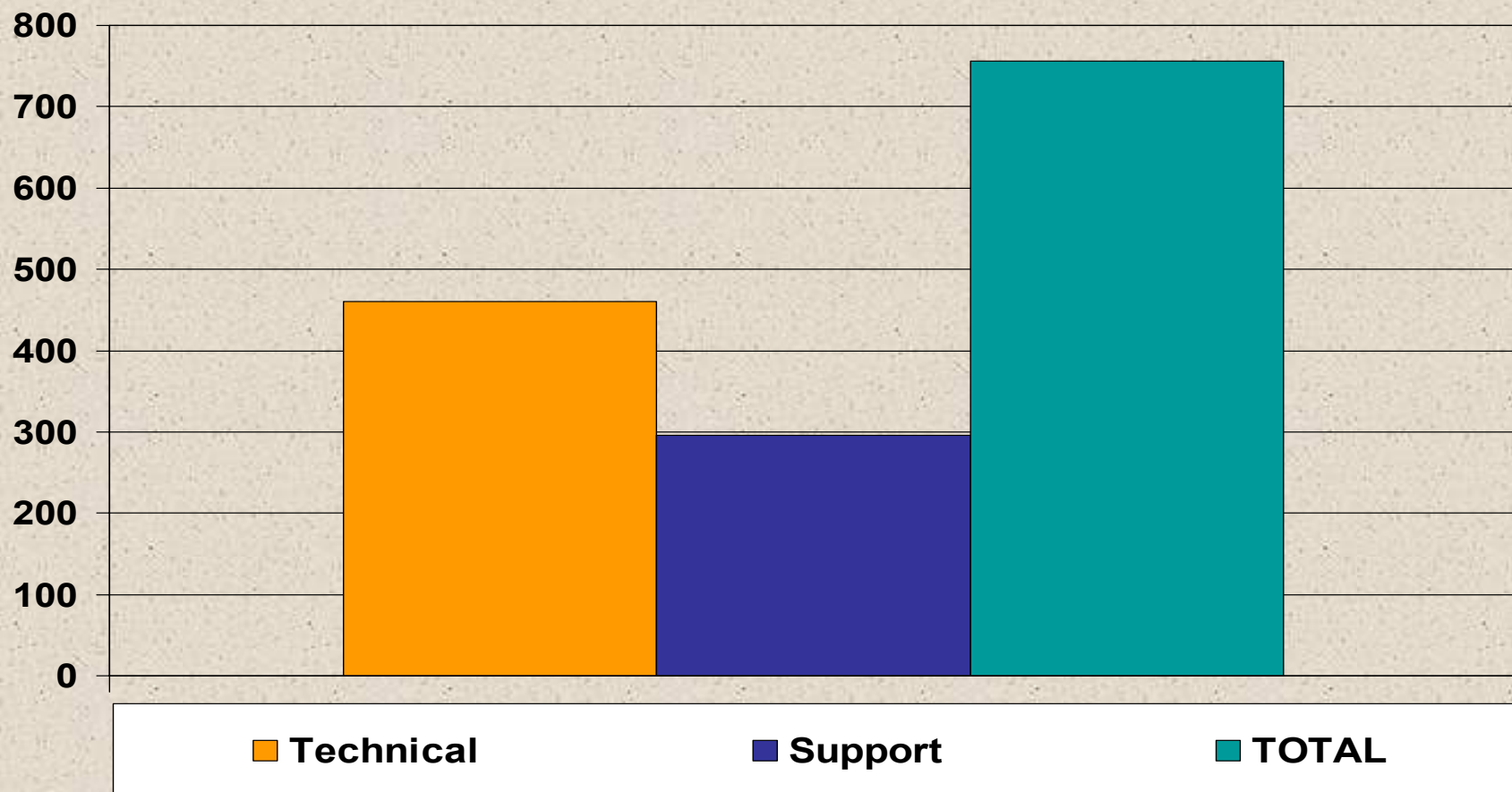


## ORGANIZATION CHART OF TAEA



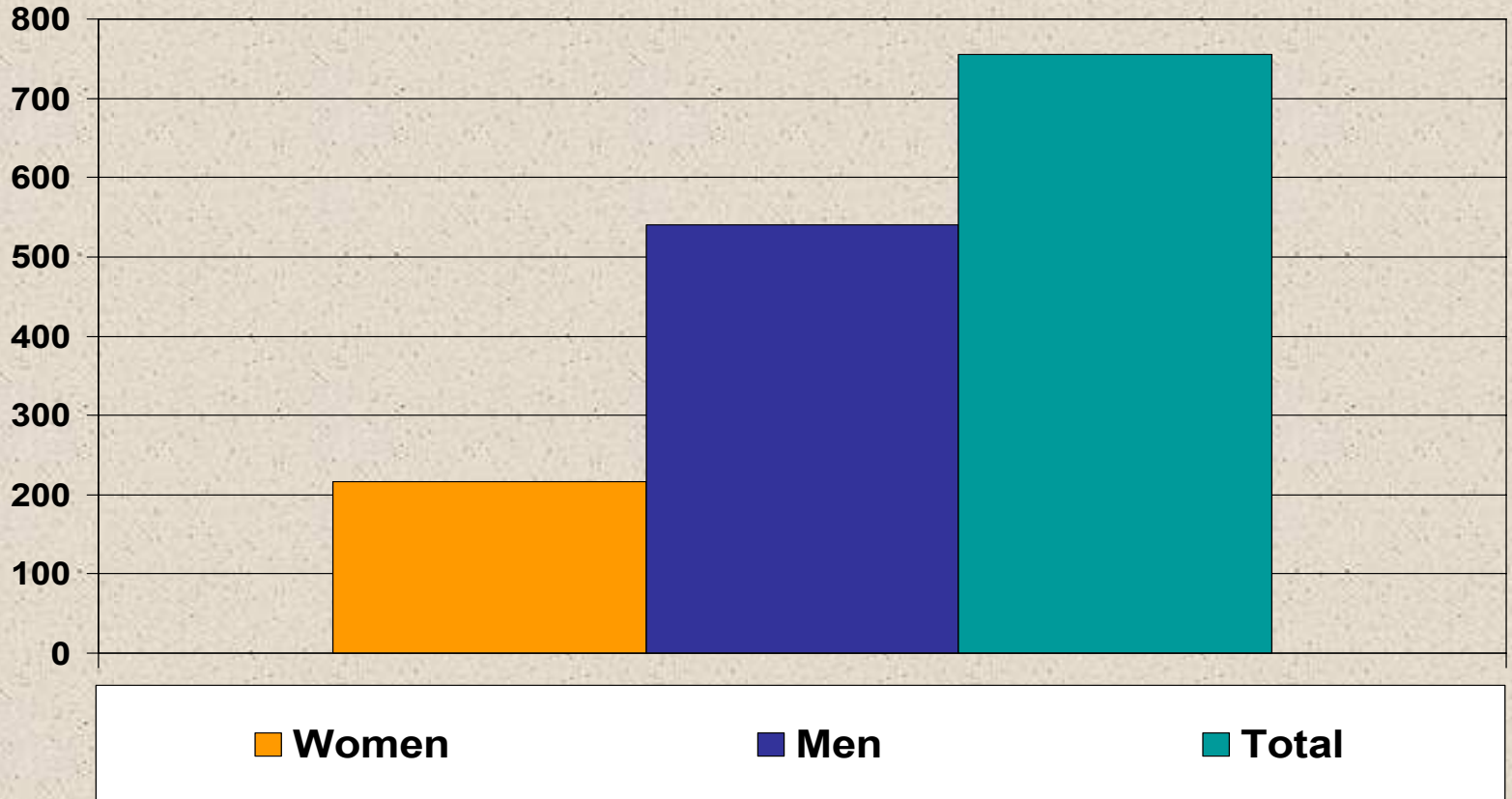


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## DUTIES AND RESPONSIBILITIES

- To prepare national policy, related plans and programmes for the peaceful use of atomic energy
- To submit these plans to the Prime Minister for approval
- To conduct research
- To coordinate and support activities in nuclear field





- To establish and operate research and training centers
- To establish and operate the radioisotope production, quality control, measurement and distribution facilities
- To give approval, permission and license for site selection, construction, operation, environmental safety of nuclear power and research reactors



- To carry out studies related to national and international legislations
- To prepare and enforce decrees and regulations determining the criteria related to the protection of nuclear materials and facilities
- To carry out radiological inspections
- To comment on the relevant regulations prepared by other institutions.





## CURRENT RESEARCH ACTIVITIES

- R&D activities concentrated on:
  - Radiation applications in industry, medicine, food and agriculture
  - Management of radioactive waste
  - Radiation protection



## PROJECTS ACCORDING TO SOURCES OF FUNDING

- The IAEA funded projects
- The EU funded projects
- Central budget funded projects



## THE IAEA FUNDED PROJECTS

(National Technical Cooperation Projects)

- IAEA-TUR/2/015- Strengthening of Radioisotope Production Facility at Cekmece Nuclear Research Centre
- IAEA-TUR/5/023- Application of Nuclear and Gene-based Biotechnology in Agriculture
- IAEA-TUR/5/024- Improving Crop Productivity through Nuclear and Related Techniques
- IAEA-TUR/9/015- Enhancing the Regulatory Competence of the Turkish Atomic Energy Authority on Nuclear Safety
- IAEA-TUR/9/016- Enhancing the National Radiation Safety and Monitoring Capabilities
- IAEA-TUR/5/022- Implementation of Food Irradiation Technology



## THE IAEA FUNDED PROJECTS

(Regional Technical Cooperation Projects)

- IAEA-RER//1/006-Nuclear Techniques for the Protection of Cultural Heritage Artifacts in the Mediterranean Region
- IAEA-RER/3/002- Quality Management of Radioactive Waste in Countries of Central and Eastern Europe
- IAEA-RER/7/003- Marine Environmental Assessment of the Mediterranean Region
- IAEA-RER/8/009- Air Pollution Monitoring in the Mediterranean Region
- IAEA-RER/8/010- Quality Control Methods and Procedures for Radiation Technology (Health Care and Advanced Materials Processing Harmonization)
- IAEA-RER/9/078- Safety Assessment and Regulatory Control of Waste Management and Disposal Facilities



## THE IAEA FUNDED PROJECTS

(Regional Technical Cooperation Projects)

- IAEA-RER/9/080- Strengthening National Capabilities in Radiation, Waste and Transport Safety in the Mediterranean Region
- IAEA-RER/9/081- Practical Implementation of the Principle of Optimization of Radiation Protection through Regional Networking
- IAEA-RER/0/022- Development of CPFs and Country and Regional Programme Review for Europe
- IAEA-RER/0/023- Strategic Planning for Management, Self-reliance, and Sustainability of National Nuclear Institutions
- IAEA-RER/5/012- Regional Control of Brucellosis in Sheep and Goats
- IAEA-RER/9/073- Implementation of National Strategies for Regaining Control over "Orphan Sources"





## THE IAEA FUNDED PROJECTS

(Regional Technical Cooperation Projects)

- IAEA-RER/9/075- Medical and Public Health Preparedness for Response to a Radiation Emergency as a Result of Nuclear Terrorist Events
- IAEA/RER/0/016- Human Resource Development and Nuclear Technology Support
- IAEA-RER/6/011- Thematic Programme on Nuclear Medicine in Healthcare for the Europe Region
- IAEA-RER/6/012- Quality Assurance/Quality Control in Radiation Oncology
- IAEA-RER/9/058- Safety Review of Research Reactor Facilities and Application of Code of Conduct





## THE IAEA FUNDED PROJECTS

(Coordinated Research Projects)

- IAEA-CRP 11651-Use of irradiation to ensure hygienic quality of fresh pre-cut fruits and vegetables and other minimally processed food of plant origin
- IAEA-CRP 12673-The effect of supplementation of different oils to ruminant diets as potent rumen inhibitors by use of rumen molecular techniques
- IAEA-CRP 12149-Safety Significance of Near Field Earthquakes (NFE); Validation of CAMUS Experiments
- IAEA/CRP/12984-Comparison of Soil Organic Matter Accumulations Under Various Soil Management Systems in Vetch-Wheat Versus Wheat Rotations in Central Anatolia Using Nuclear Techniques
- IAEA-CRP 12604 Development and Utilization of Nuclear Analytical Techniques for Analysis of Nuclear Forensic Materials



## THE EU FUNDED PROJECT

Harmonization of Techniques and Methodologies for Measuring Radioactivity  
in the Environment (JRC-ITU, Karlsruhe/Germany)



## CENTRAL BUDGET FUNDED PROJECTS

- Biocompatibility of Hydrogel Systems in Biological Tissues
- Improvement of Detection Methods for Emerging Foodborne Pathogens and Comparison of Microbiological and Genetic methods in Irradiated foods
- Biological Dose Assessment Research Projects
- Research and Development on Nuclear Techniques Using Low Energy Ion Accelerator and Fast Neutrons
- Nuclear Techniques in Environmental Protection
- Developing biopolymer systems having long-term and powerful protective effects against radiation
- Improvement of New Safflower Cultivars for High Yield and Oil Quality by Using Radiation Induced Mutation
- Improvement of New Tomato Genetors by Nuclear Techniques
- Radiation Treatment of Industrial Wastewater
- Radiation Treatment of Municipal Wastewater And Biosolid



## EDUCATION AND TRAINING ACTIVITIES

TAEA continuously organises conferences, congress, seminars, workshops, courses and internships for university students in nuclear field.



## **PROTOCOLS BETWEEN TAEA AND NATIONAL AUTHORITIES IN TURKEY**

TAEA has carried out its research and co-ordination activities through protocols between TAEA and ministries, universities, research institutions and private sector.





## **PROTOCOLS BETWEEN TURKISH ATOMIC ENERGY AUTHORITY AND OTHER INSTITUTIONS IN TURKEY**

1. Joint Research Project Protocol between TAEA and General Directorate of Eti Mining Utilities, General Directorate of Mineral Research and Exploration
2. Cooperation Protocol on “Determining the Radioactivity in the Rocks used as Construction Material” between TAEA and Cukurova University
3. Cooperation Protocol on “Determining the Environmental Radioactivity” between TAEA and the Ministry of Environment and Forest
4. Cooperation Protocol on “Setting up and Operating a Laboratory for Measuring Environmental Radioactivity” between TAEA and the Faculty of Science at Rize of the Black Sea Technical University
5. Cooperation Protocol on “Setting up and Operating a Laboratory for Measuring Environmental Radioactivity” between TAEA and Kafkas University





## **PROTOCOLS BETWEEN TURKISH ATOMIC ENERGY AUTHORITY AND OTHER INSTITUTIONS IN TURKEY**

6. Cooperation Protocol on “Setting up and Operating an Emergency Intervention System” between TAEA and the Turkish State Meteorological Service, and its Additional Protokol
7. Cooperation Protocol on “Radioactivity Measurement of Pumice Stone” between TAEA and Suleyman Demirel University
8. Cooperation Protocol on “Heavy Metal Characterization in Aerosols in Buyukcekmece Region of Istanbul” between Cekmece Research and Training Center (CNAEM) of TAEA and Fatih University
9. Protocol on “Transferring and Assembling of Radioactive Ir-192 sources to Gammagraphy Devices” between Cekmece Research and Training Center (CNAEM) of TAEA and Enkon Ltd.



## **INTERNATIONAL BILATERAL, REGIONAL AND MULTILATERAL AGREEMENTS**

TAEA has been in close co-operation with the various national and international organisations (OECD/NEA, IAEA, etc.) in nuclear field through bilateral, regional and multilateral agreements.