



Energy and Minerals Regulatory Commission  
(EMRC)



The Tenth Annual Workshop  
on  
Radiation Measurement Cross Calibration (RMCC-10)  
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Prepared by: Ahmad Shanan  
Director / Laboratories and Radiological Monitoring

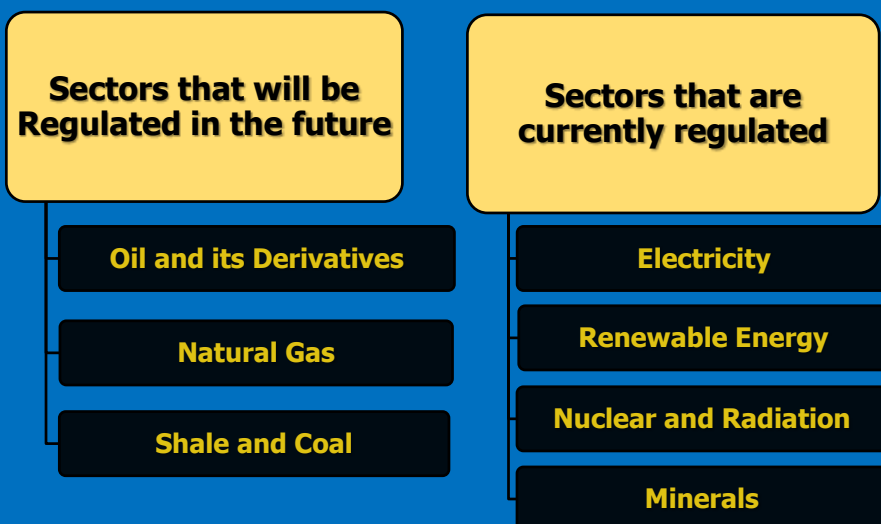
## Regulatory Framework for EMRC

- ✚ The General Electricity Law No. (64) of 2002.
- ✚ Renewable Energy & Energy Efficiency Law No. (13) of 2012, and its amendments.
- ✚ Radiation Protection and Nuclear Safety and Security Act No. (43) of 2007, and its amendments.

## Regulatory Framework for EMRC

- ✚ Natural Resources Regulatory Affairs Law No. (12) of 1968, and its amendments.
- ✚ Government Reform and Merger Law No. (17) of 2014.
- ✚ Cabinet decision No. (4033) of 24/4/2014, that controls and defines the authority of the Board of Commissioners and The CEO in terms of Radiation protection and natural resources.

## Regulatory Framework for EMRC



# **Nuclear and Radiation Regulatory Sector**

## **The Commission shall seek to achieve the following:**

- ✚ Regulate and control the use of nuclear energy and ionizing radiation.**
- ✚ Protect the environment, human health and property from the hazards of contamination and exposure to ionizing radiation in accordance with the provisions of the Law.**
- ✚ Enforce the fulfillment of requirements of public safety, radiation protection, and nuclear safety and security.**

## **Current and future Nuclear Projects**

- 1. Jordan Subcritical Assembly.**
- 2. Jordan Research and Training Reactor (JRTR).**
- 3. SESAME Synchrotron Facility.**
- 4. Jordan Nuclear Power Plant.**

## **Radiation measurements Lab**

### **Consists from**

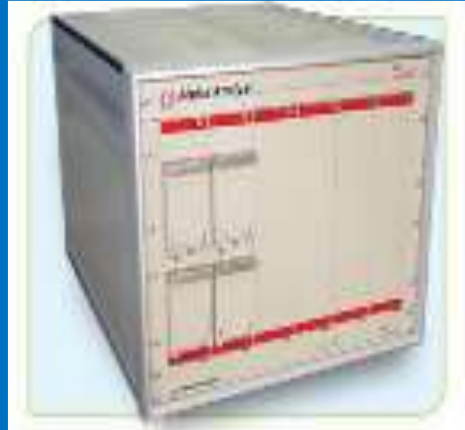
Gamma spectroscopy Lab.

Alpha Spectroscopy Lab. (future)

Beta Counting Lab. (future)

Gross Alpha Gross Beta

- 8 chambers alpha spectroscopy system
- completely computer control system
- Extensive QA record keeping built in



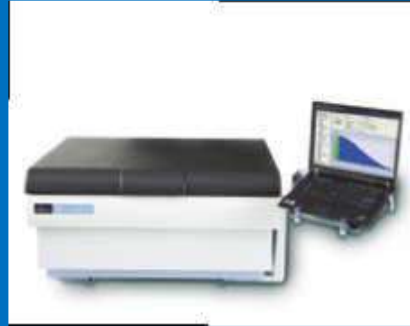
Alpha spectroscopy

- XtRa HPGe detector  
R.E. 50%
- BE HPGe detector  
R.E 50%



Gamma spectroscopy

- The Tri-Carb 3180TR/SL  
Is a computer-controlled bench top  
Liquid scintillation analyzer  
For detecting small  
Amounts of alpha and radioactivity



- The CANBERRA iSolo® is a  
portable, firmware based,  
single-sample, manual, gas-less  
alpha/beta counter. The iSolo is  
designed for the analysis of air  
filters and most other types of  
alpha/beta samples.



## Radiological Monitoring

Three monitoring Station distributed in East  
(Alkarama- Iraqi borders), North (Jeresh-  
Qafqafa), South (Altafelah – Alqadesyya)

### Nuclide-Specific Aerosol Monitor.

- Gamma spectroscopy R.E 15%
- Continuous sampling and analysis system



### Iodine Monitors.

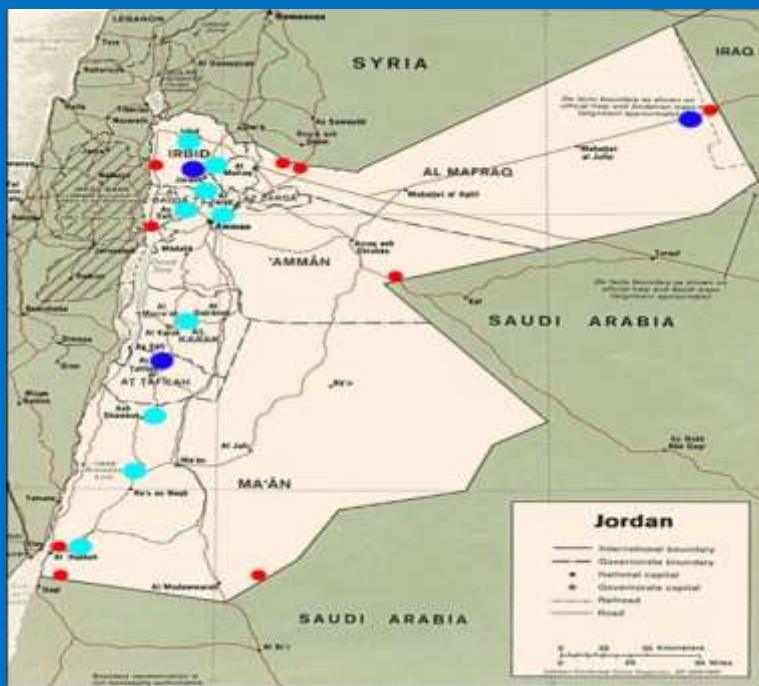
- NaI 3x3 detector
- Monitor gaseous iodine-131 in ambient air.



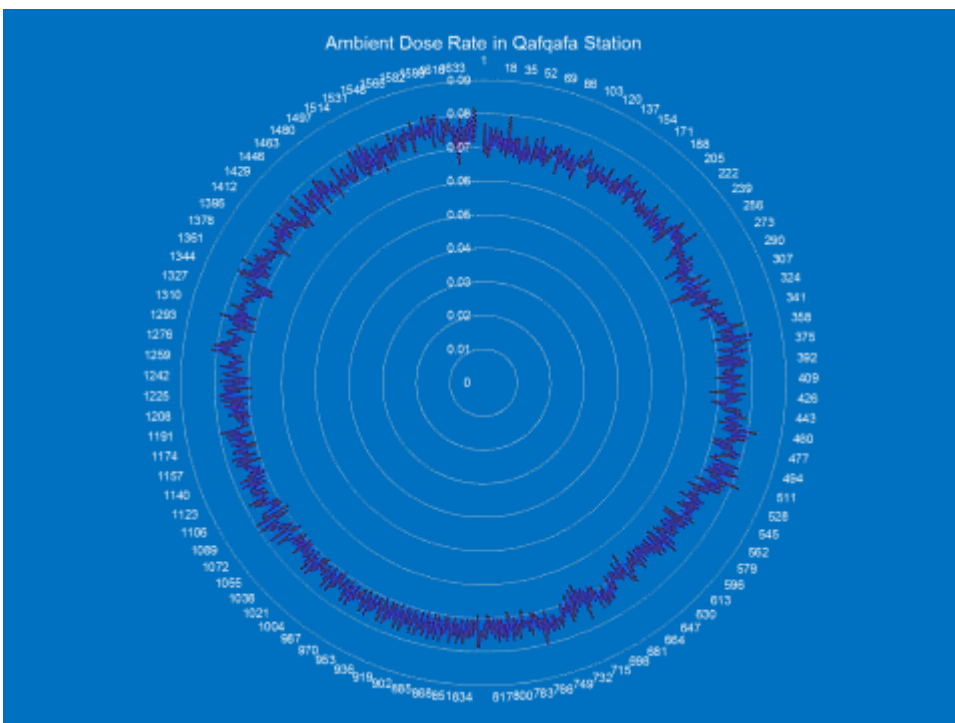
- Alpha/Beta Aerosol Monitors:

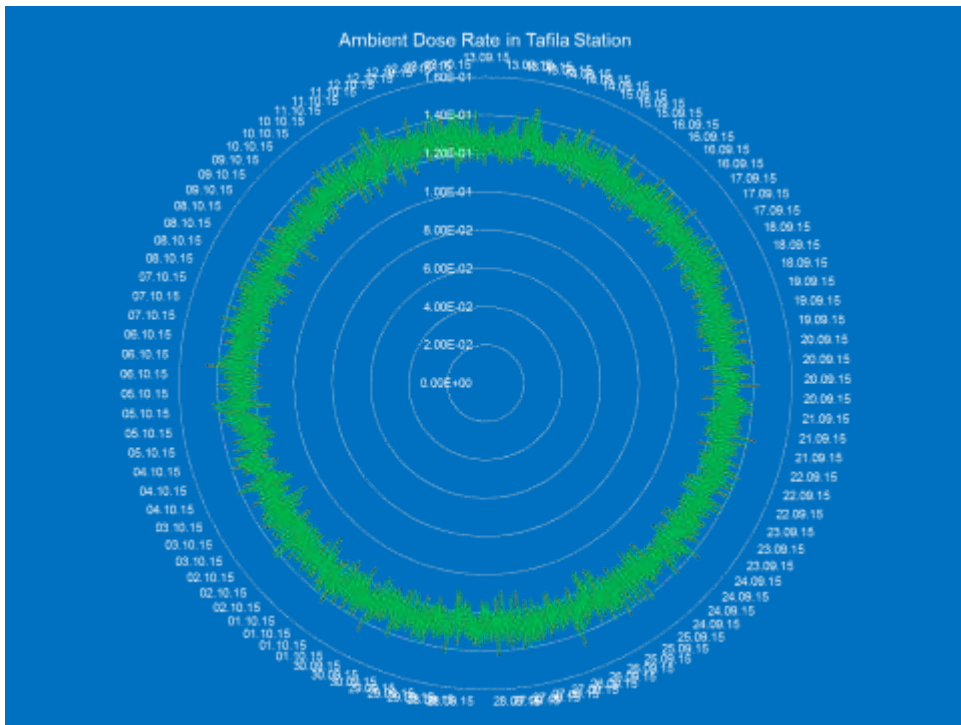
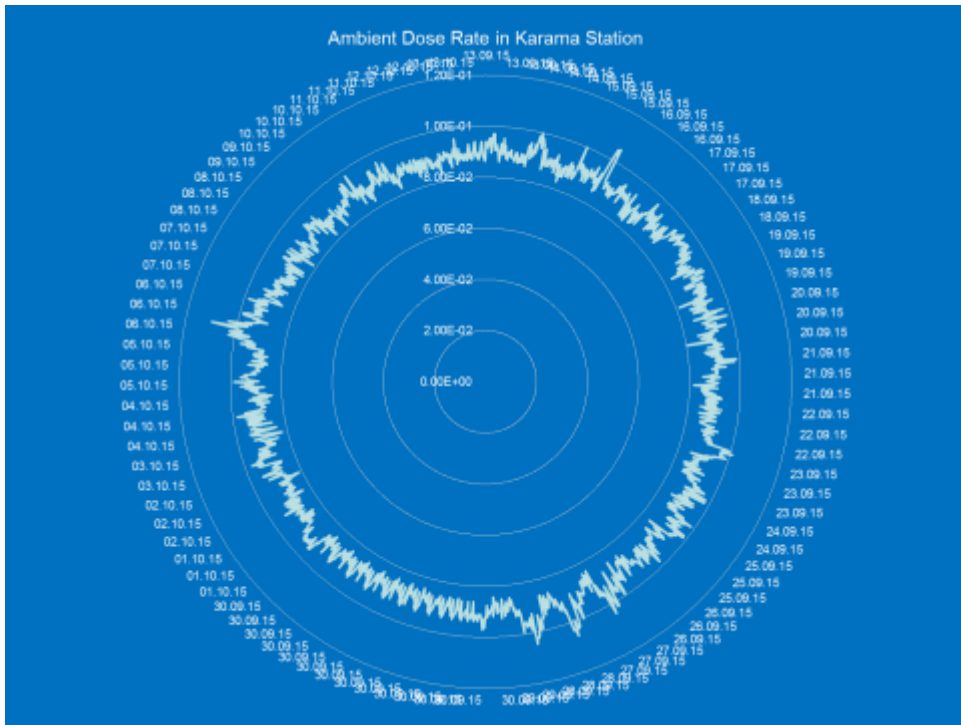
- PIPS Detector
- Continuously monitors gross alpha and gross Beta activities

- Dose rate detector









## Current Projects

Periodical Monitoring Program.

Radiological Map Project.

## Future Plan

### **Instrumentation:**

Gamma System.

25 monitoring station.

2 Mobile Labs.

### **Projects:**

Food stuff

Water.

**Thank you**