

ورشة العمل السنوية التاسعة  
لمشروع المعايرة التبادلية للقياسات الاشعاعية  
(RMCC-9)  
تطبيقات على الضمانات والامن النووية

20-22 تشرين أول 2014  
عمان - الاردن

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- ▶ Radiation measurement Lab.
- ▶ Environmental radiation monitoring Station
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## Radiation Measurement Lab.

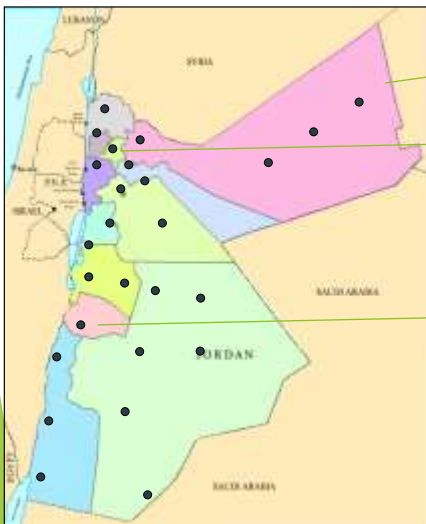
- ▶ Two Gamma Spectroscopy Systems
- ▶ Alpha Analyst.
- ▶ Liquid Scintillation Counter
- ▶ Gross Alpha / Gross Beta Counter

## Sample Preparation Lab.

- ▶ Physical sample preparation lab
- ▶ Radiochemistry lab. ( it will be ready before the end of 2014).

## Monitoring Stations

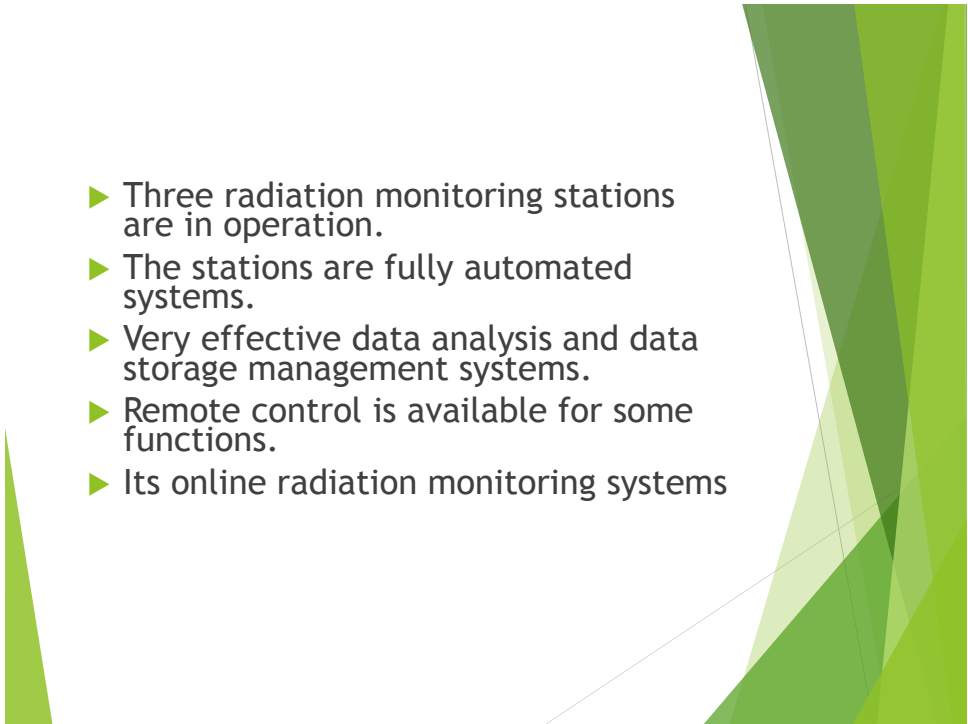
- ▶ RADOS monitoring stations.
- ▶ THERMO monitoring stations.

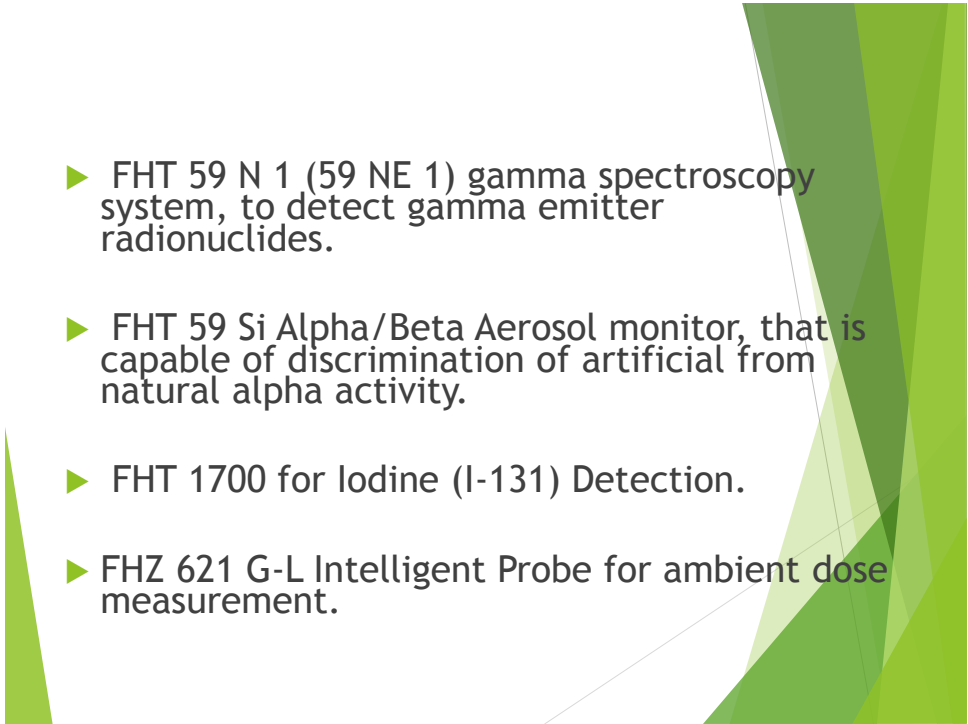


**Karama Station**

**Qarqafa Station**

**Tafila Station**

- 
- ▶ Three radiation monitoring stations are in operation.
  - ▶ The stations are fully automated systems.
  - ▶ Very effective data analysis and data storage management systems.
  - ▶ Remote control is available for some functions.
  - ▶ Its online radiation monitoring systems

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- ▶ FHT 59 N 1 (59 NE 1) gamma spectroscopy system, to detect gamma emitter radionuclides.
  - ▶ FHT 59 Si Alpha/Beta Aerosol monitor, that is capable of discrimination of artificial from natural alpha activity.
  - ▶ FHT 1700 for Iodine (I-131) Detection.
  - ▶ FHZ 621 G-L Intelligent Probe for ambient dose measurement.

- Nuclide-Specific Aerosol Monitor.

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



## FHT 59 Si Alpha/Beta Aerosol monitor

- ▶ Air samples at a flow rate of approximately  $8\text{m}^3/\text{h}$  are sucked through a special filter tape that is transported automatically every 30min, only 10% of the filter diameter (50mm).
- ▶ The Positively Implanted Pure Silicon detector (PIPS) located above the filter continuously measures the accumulated activity

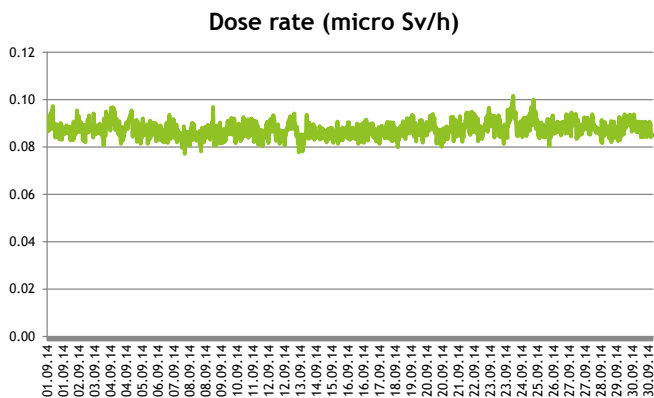


## The iodine monitor FHT1700

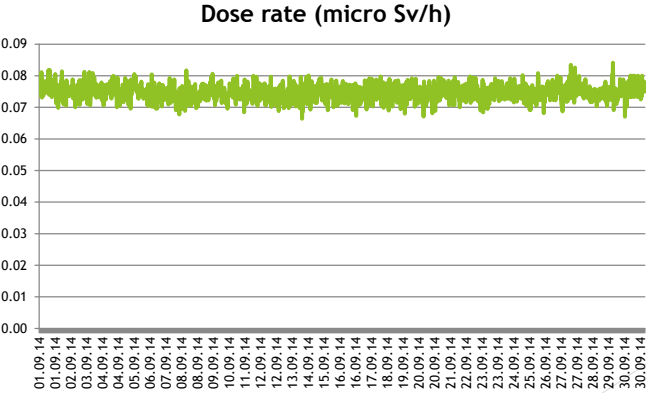
- ▶ Air samples at a flow rate of approximately 5m<sup>3</sup>/h are sucked through filter cartridge in Marinelli-beaker geometry filled with iodine adsorbent.
- ▶ A NaI(Tl)-detector located in the centre of the filter cartridge continuously measures the accumulated activity within the iodine window.



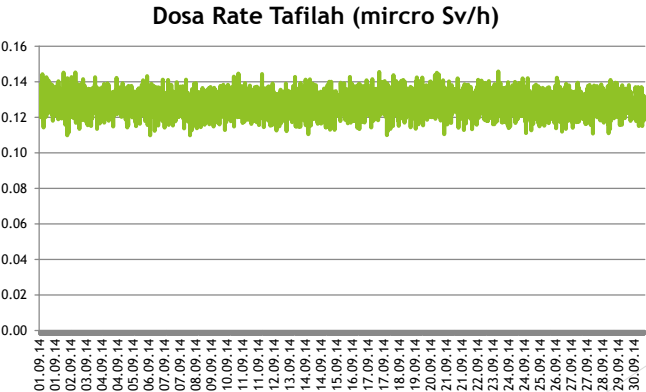
## Near Iraqi Borders

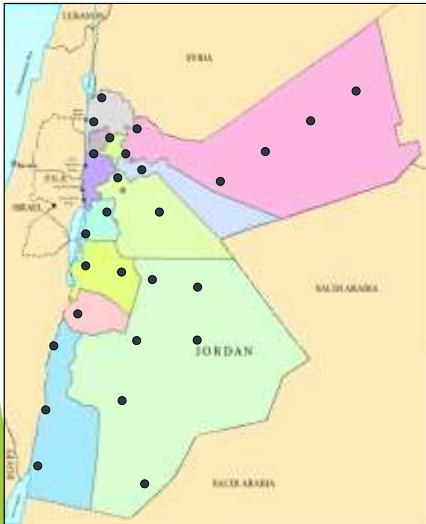


# Jarash Dose-rate



# Tafila Dose-rate





Periodic Soil sampling  
and analysis  
programme

## Problems

- ▶ Decrease of the stuff.
- ▶ The stations need maintenance permanently.
- ▶ Lack of enough funding



## Challenges and future plan

- ▶ Repair the old stations.
- ▶ Get new monitoring stations cover all governorate of kingdom and the region of interest
- ▶ We are willing to get new 40 stations before the end of 2017

Thank you