Republic of Iraq
Ministry of Environment
Radiation Protection Centre

R . P . C

Regulatory Concepts for Environmental Monitoring System

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Core Functions of the Regulatory Body
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Regulatory Safety Principles and Concepts

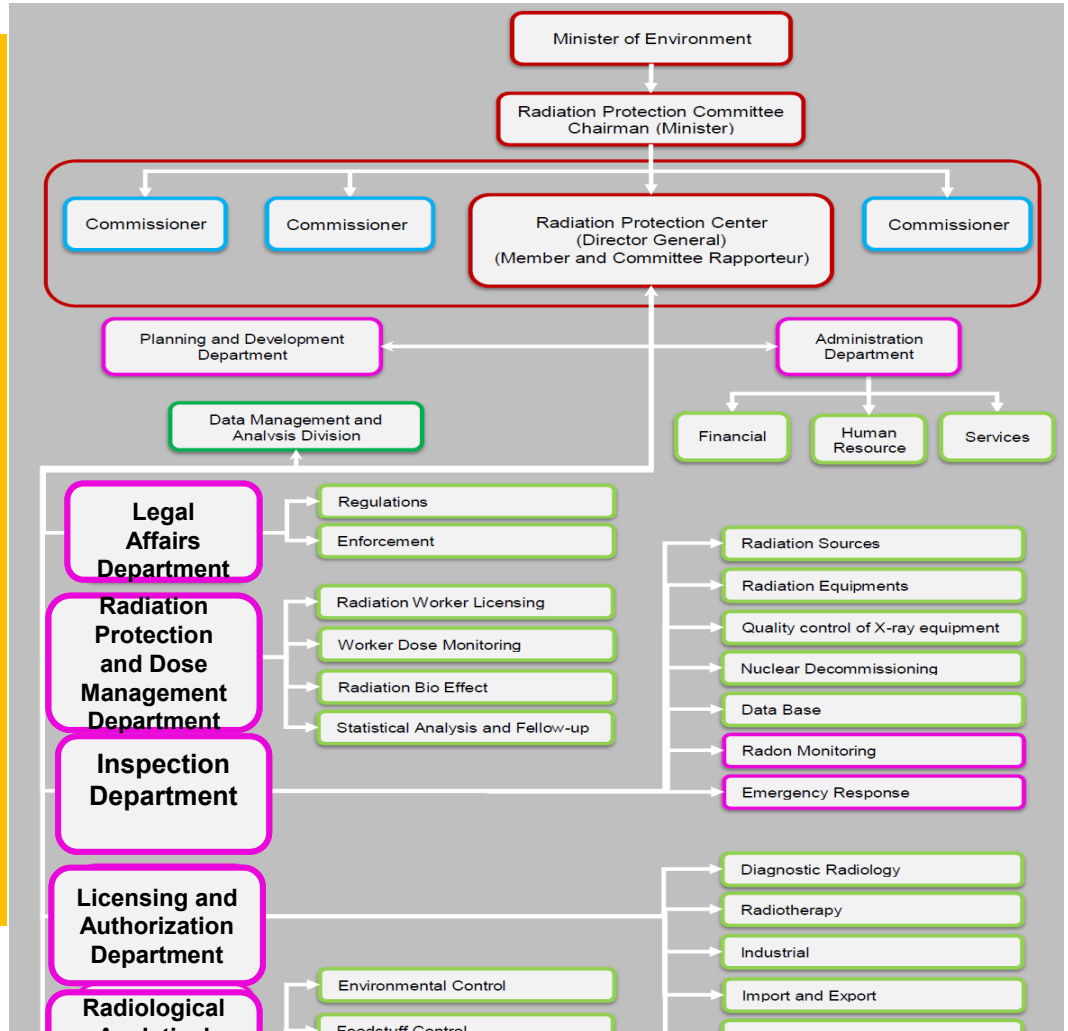
Environmental Year in Iraq 2014

Responsibility for Safety;
Establishment of Effective Legal and Regulatory Framework for Safety;
Effective Leadership and Management for Safety;
Justification of Facilities and Activities;
Optimization of Protection;
Limitation of Risks to Individuals;
Protection of Present and Future Generations;
Prevention of Accidents;
Emergency Preparedness and Response;
Protective Actions to Reduce Existing or Unregulated Radiation Risks.

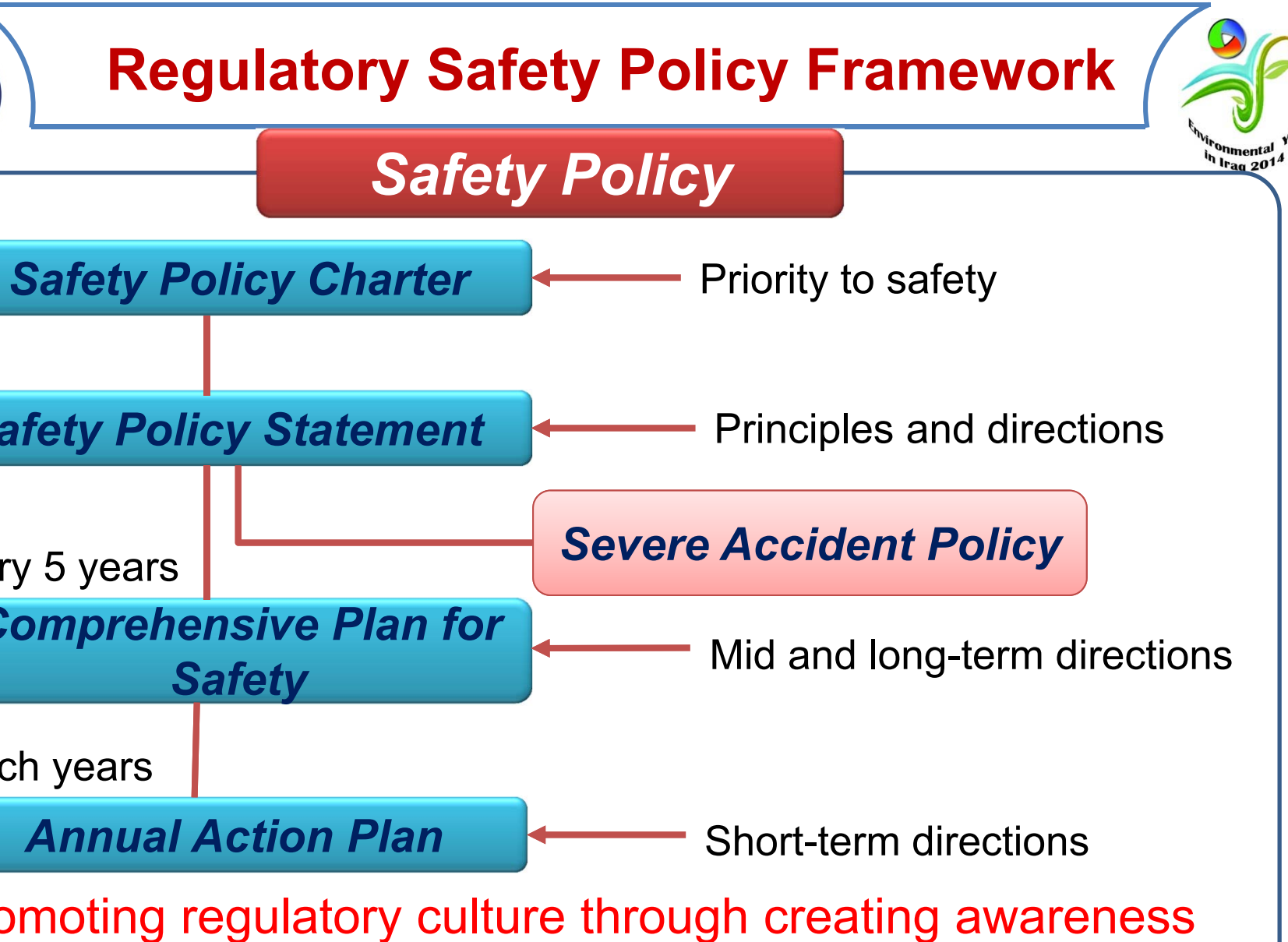
Radiation Protection Committee Organizational Structure

ation of the Regulatory Body

- e of implementation of tions
- ensurate to the facilities ivities
- e independence
- e use of technical (TSO)
- ement system
- fing and training
- sory bodies
- ations with the operators
- rnational cooperation



Regulatory Safety Policy Framework



RPC Objectives

PC main objective is to establish and build a ational competency in the regulation of all uclear and radiation activities, and to sustain at competency, consistent with IAEA Safety andard GSR Part 1: Governmental, Legal d Regulatory Framework for Safety.

Our Vision

SION

be an independent world class regulatory authority Radiation and Nuclear Safety

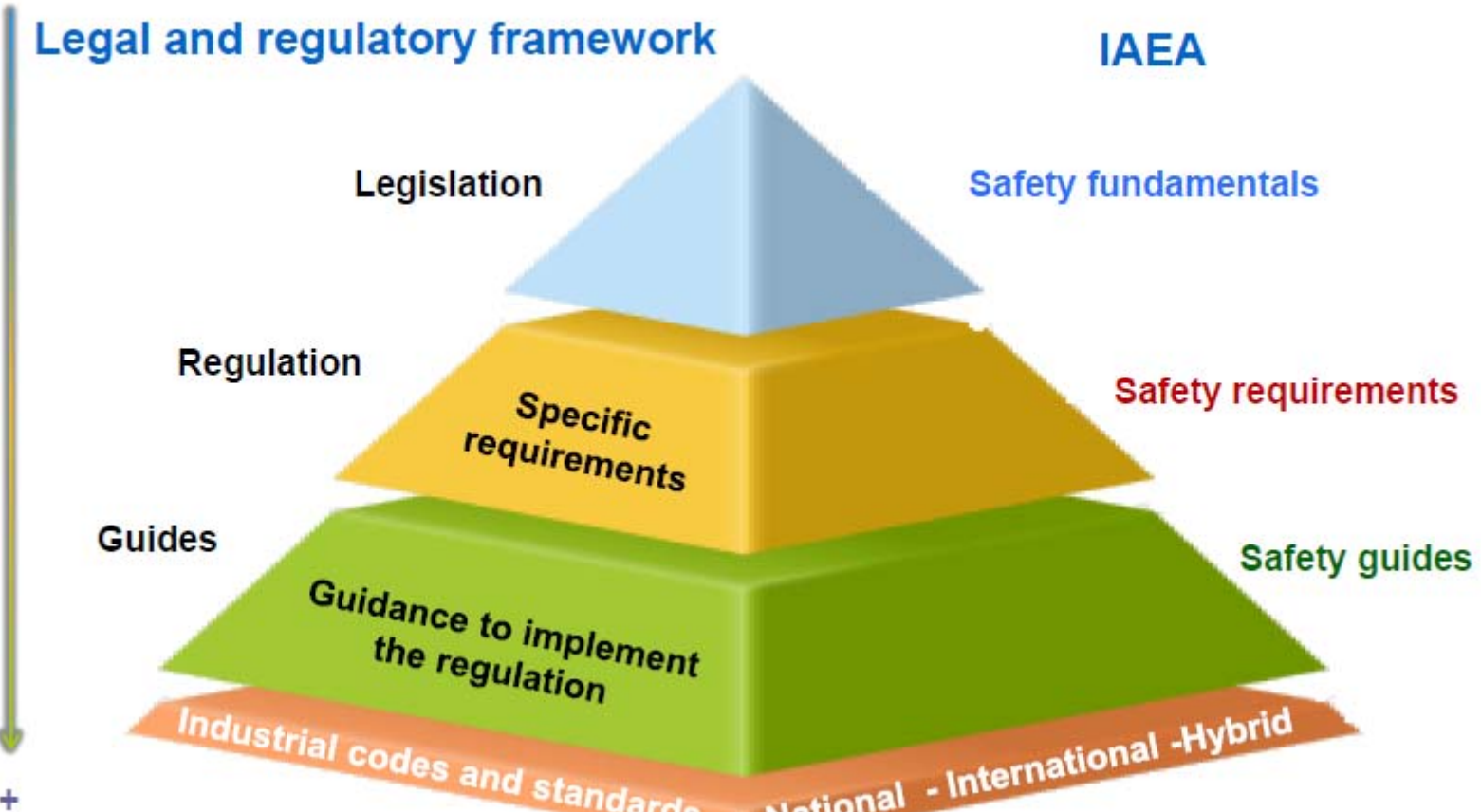
ISSION

provide and maintain an effective and efficient tional Regulatory Infrastructure in Line with the EA Safety Standards; "As the reference for nuclear, diation protection, radioactive waste and transport fety", to deliver consistent levels of safety for the otection of workers, the public and the environment.

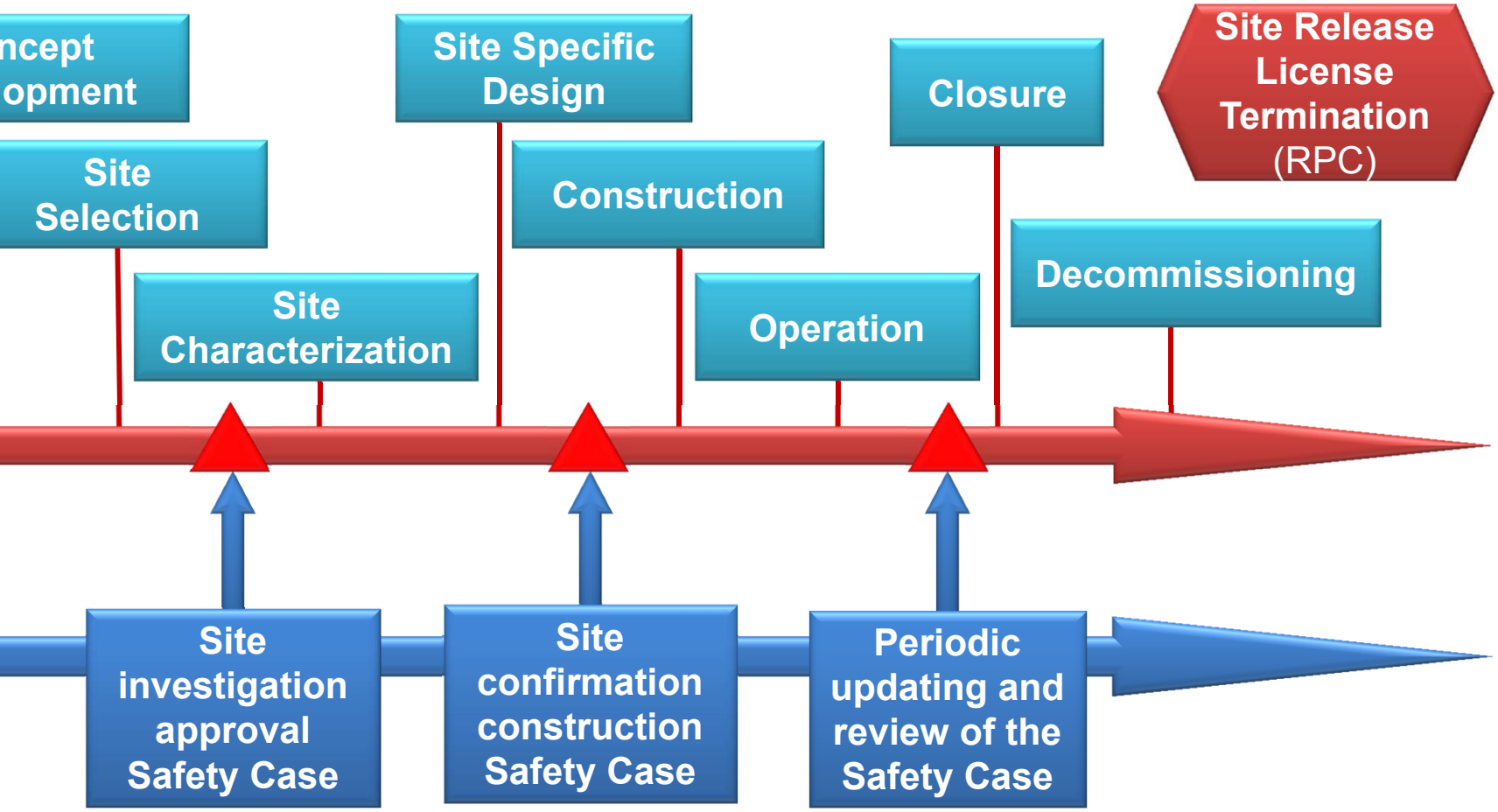
Focus on the core functions of the Regulatory Body

1) **D**rafting of **Regulations** and **Guides**;
2) **Review and Assessment** of information relevant to safety;
3) **Authorization** of facilities and activities;
4) **Inspection** of facilities and activities;
5) **Enforcement** of compliance with regulations and standards; and
6) **Termination** of authorization

Regulatory Framework

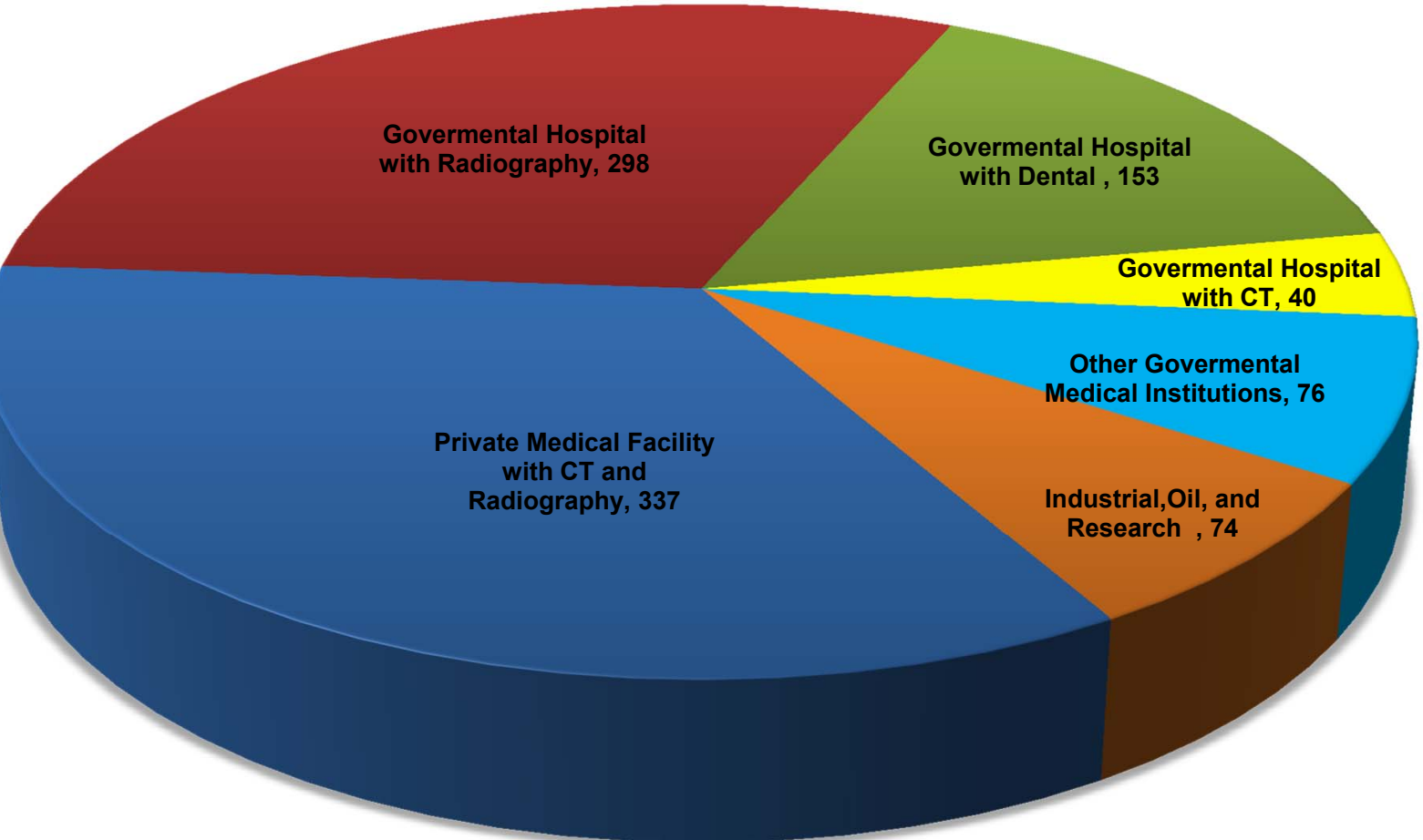


Safety Case Development

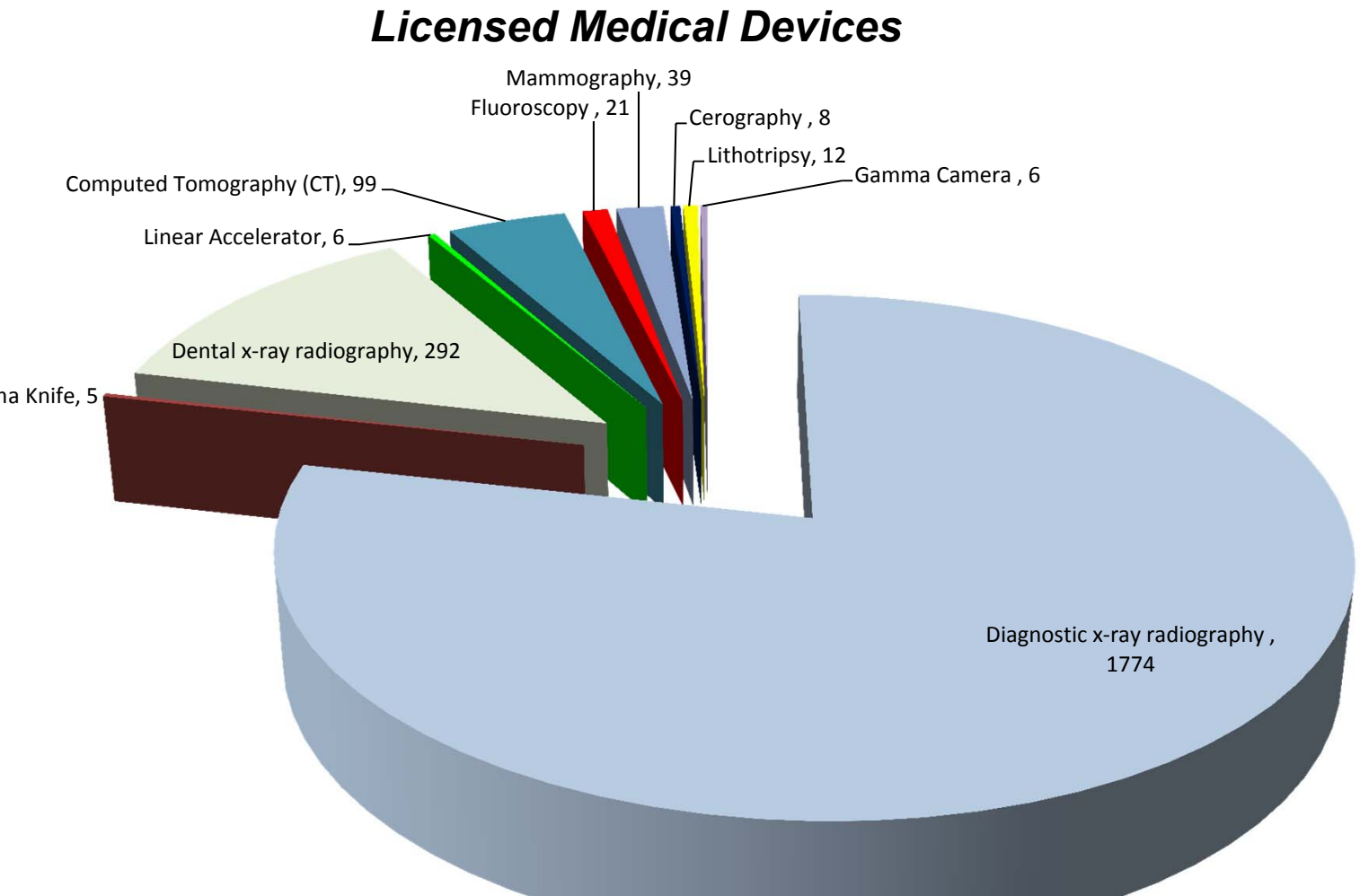


Authorization Activities

The total number of authorized institutions is (978)

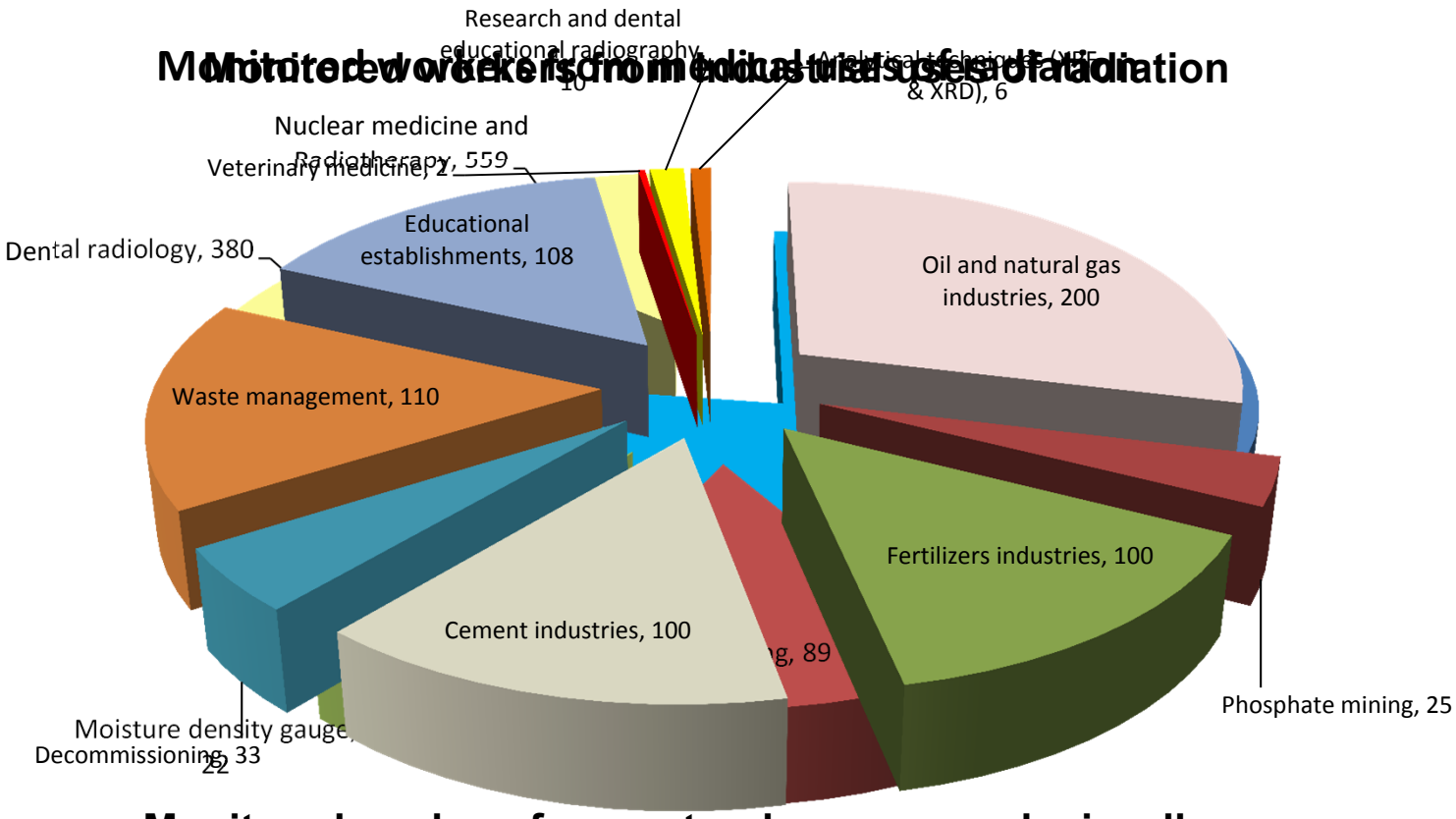


Medical Licensed Activities



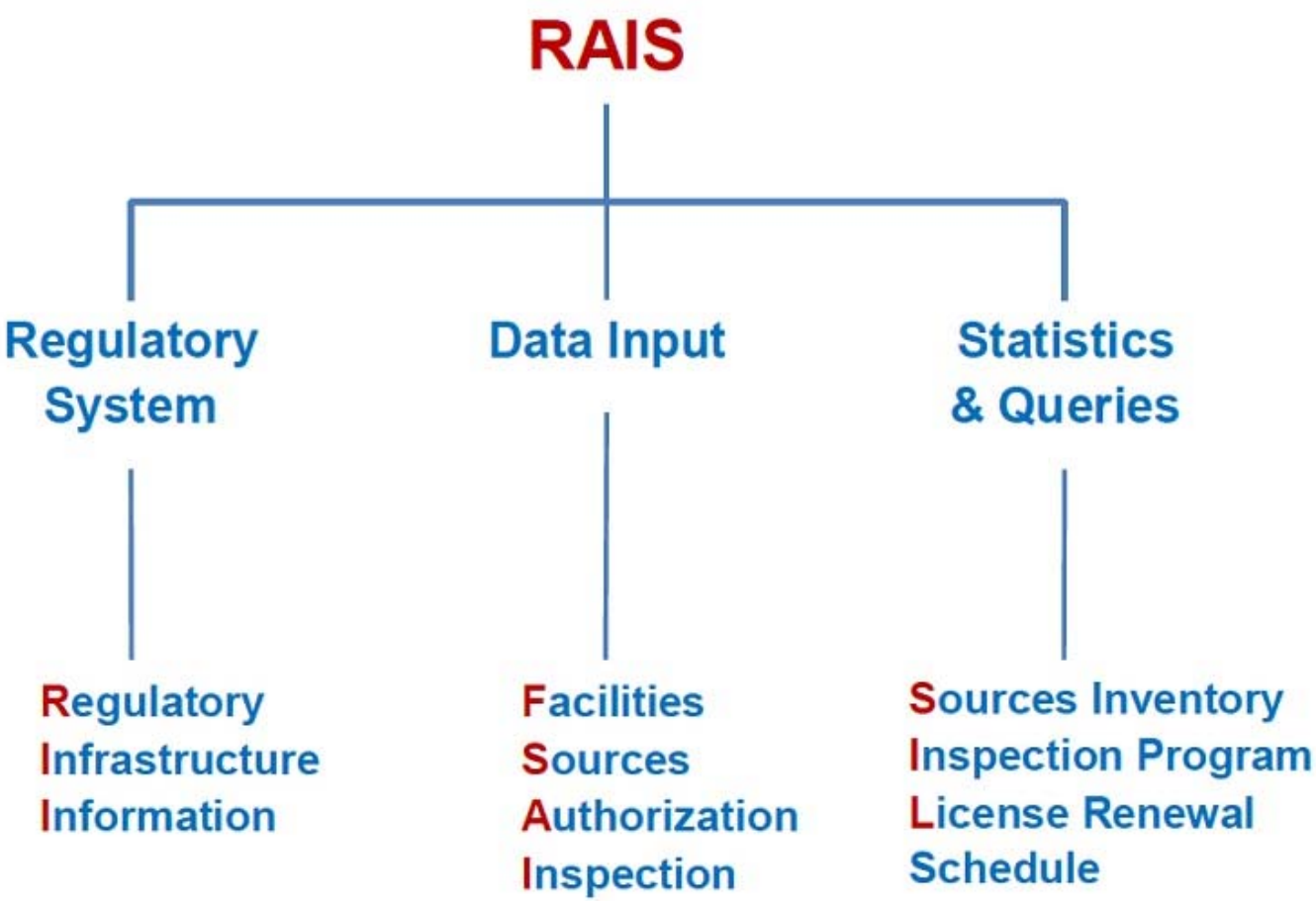
Radiation Worker Monitoring Program

Regulations on the Protection against Ionizing Radiation and the Use of Radiation Sources



Monitored workers from natural sources and miscellaneous uses of radiation

Regulatory Authority Information System (RAIS)

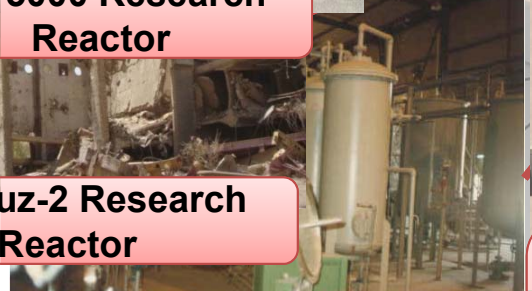


RPC Regulatory Oversight For The Iraqi Decommissioning Programme

Released Facilities

October 2011
al Naddaf: Released
or unrestricted
commercial use

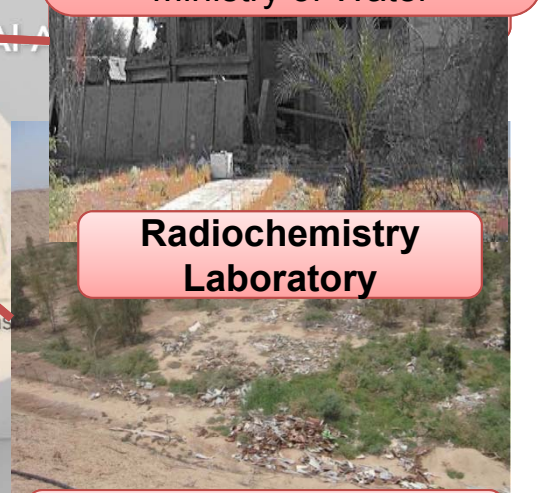
5000 Research Reactor



uz-2 Research Reactor

May 2010
Geo Pilot Plant: Released

October 2011
Rashidiya: Released for unrestricted use by the Ministry of Water



Radiochemistry Laboratory

Fuel Fabrication

Adaya Radiological and Biological Assessment

nd Al
oting

cal

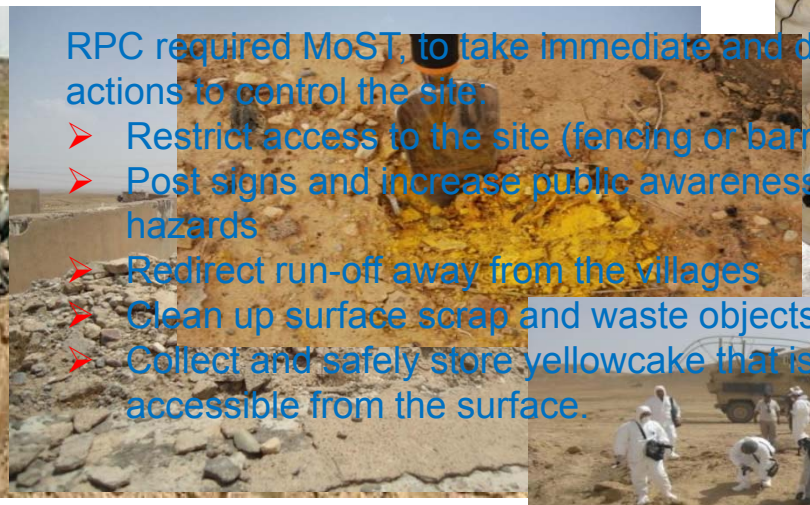
RPC supervised rebuilding the damaged concrete walls of the waste tanks and the installation of barbed wire around the area.

RPC & TTU Radiological and Biological Assessment May 2011:
102 individuals were sampled (77 from Tall ar Ragrag, 25 from Al Jesira)
(blood, buccal cells, urine, and hair)

Adaya and Al Jesira RPC Follow-up Visit, June 2012:
IAEA Adaya Remediation Plan Review Feb. and Nov 2012

Adaya Project Management Conference, Erbil 27-28 May 2013

2007 | 2011 | 2012 | 2013

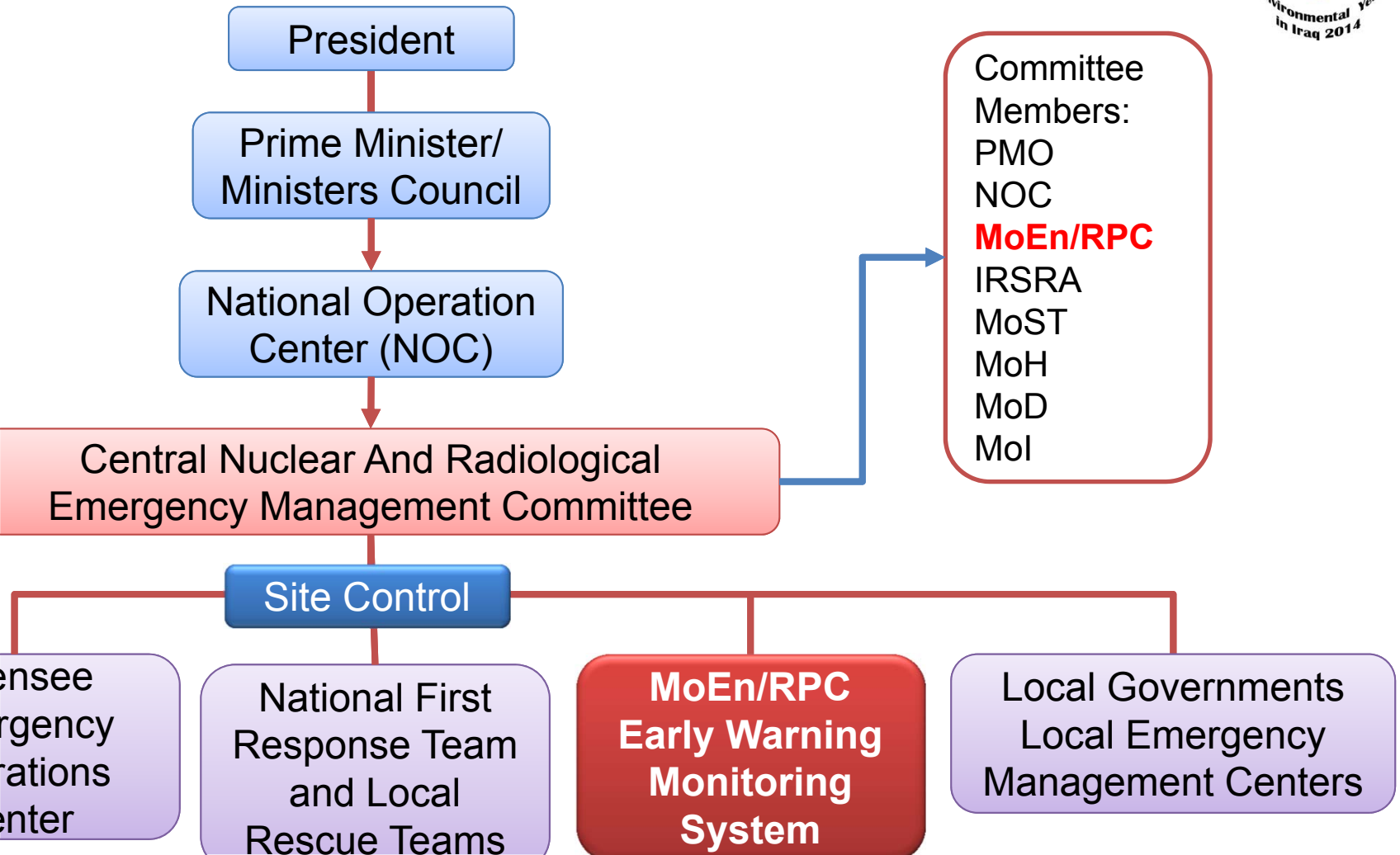


RPC required MoST, to take immediate and direct actions to control the site:

- Restrict access to the site (fencing or barriers)
- Post signs and increase public awareness of site hazards
- Redirect run-off away from the villages
- Clean up surface scrap and waste objects
- Collect and safely store yellowcake that is accessible from the surface.

urface radiation levels (0.5–70 μSv/

National Radiological Emergency Preparedness and Response Organizational Chart



Environmental Radiation Monitoring System
(Early Warning Monitoring Stations)

S IRAQ

system configuration

l:	1
ON:	BAGHDAD
REMENTS:	ALPHA/BETA AEROSOL
	GAMMA AEROSOL
	GAMMA DOSE-RATE
	ENVIRONMENTAL DATA

password login

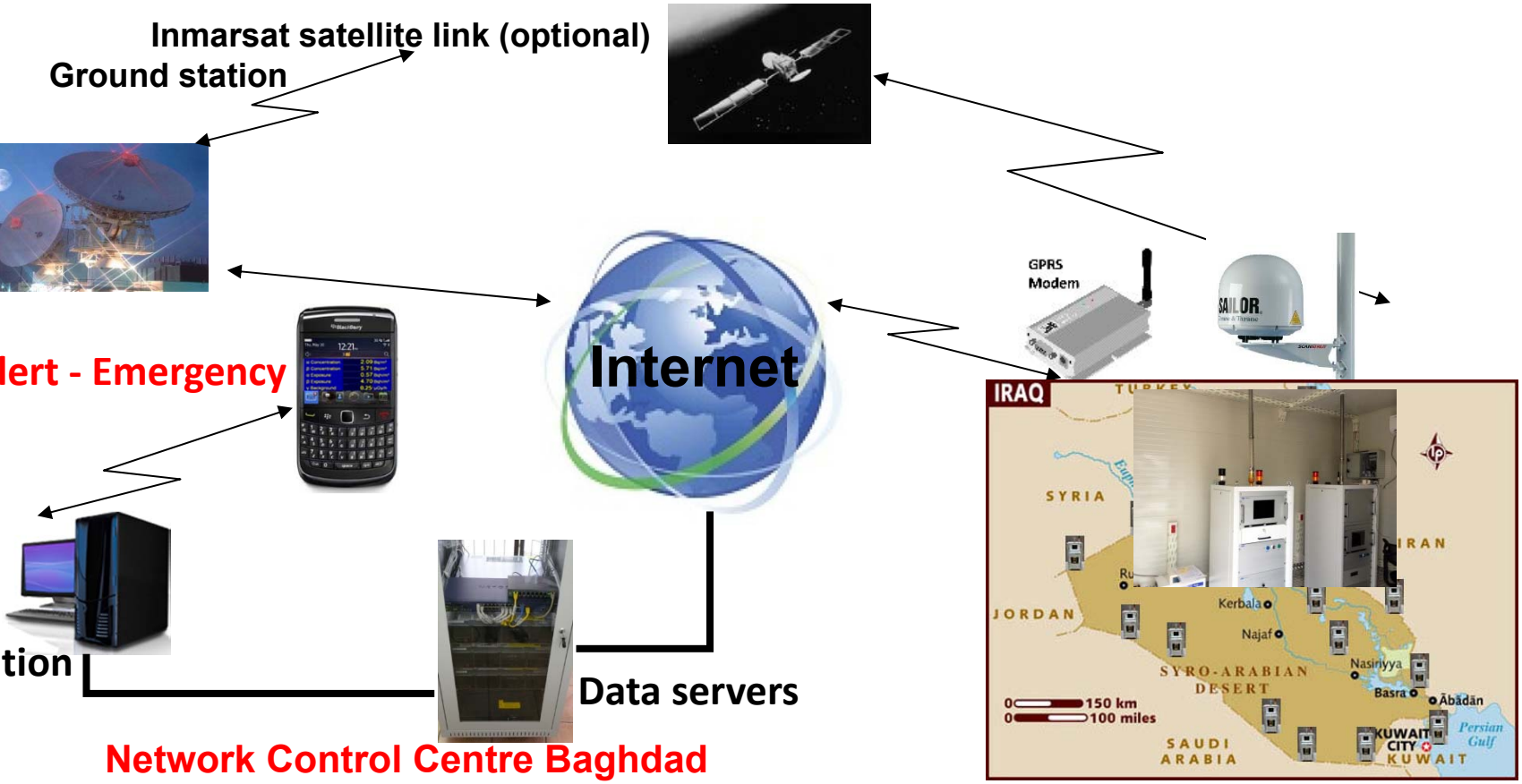
Environmental Radiation Monitoring System
(Early Warning Monitoring Stations)

ERMWS Monitoring Station with
(RAM 31 Ge Aerosol with RIM 01 Iodine Monitors)

US Robotics 56K Dial-up modems

Environmental Radiation Monitoring System
(Early Warning Monitoring Stations)

ERMWS Communication Network



ry source of data for the decision authorities should be a Monitoring and Warning System, aimed to
dionuclides released into the environment during significant or major radiological emergencies. In case

Radioactive Waste Management Framework

Policy

Objectives and principles

of radioactive waste management

Strategies

Implementation of policy

Establishment of radioactive waste management system

System of RWM

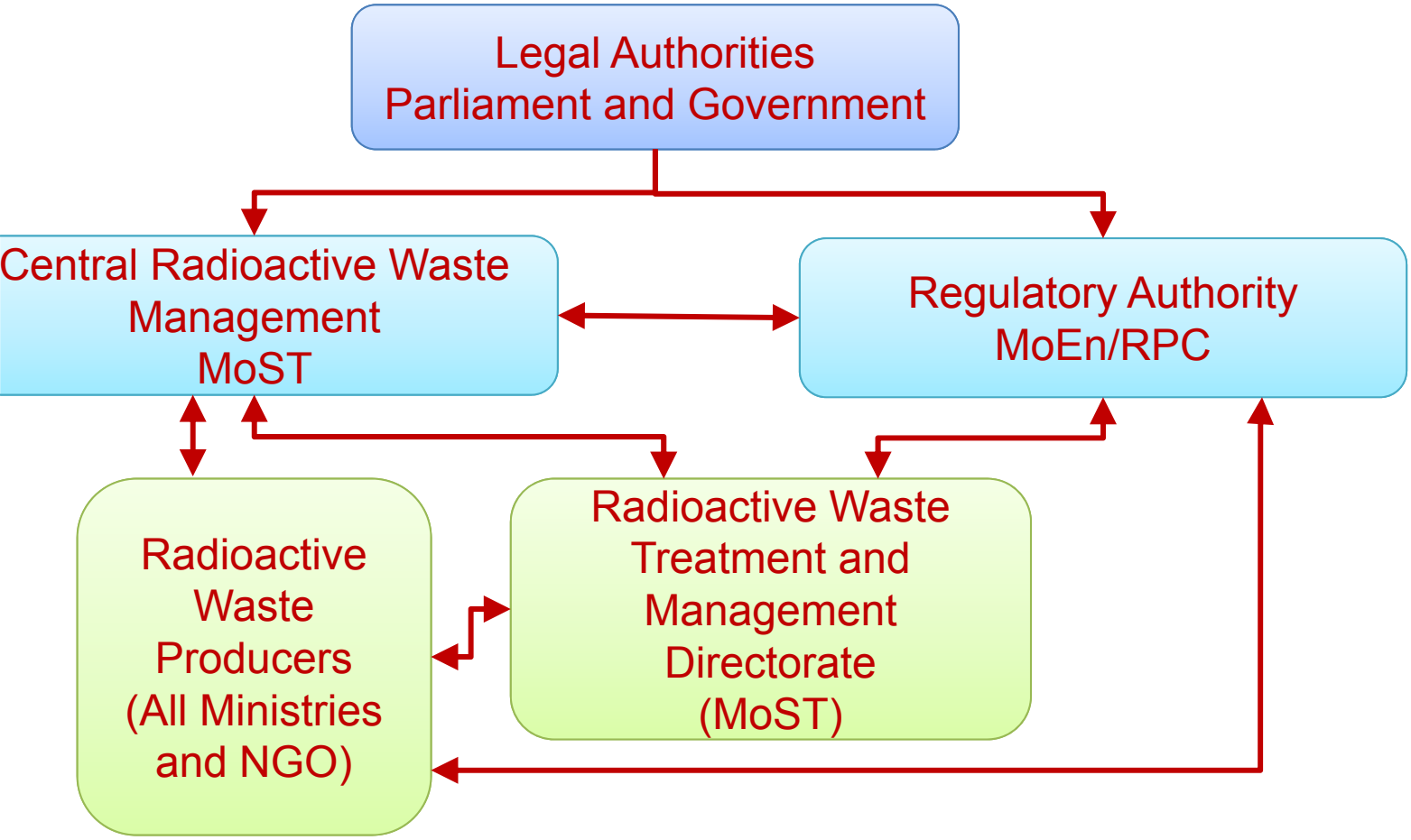
Legislative

Regulatory Capability:

Legal framework and regulatory body

Operational Capability:

Radioactive Waste Management System in Iraq



Radiation Portal Monitoring Project (RPMP)

Environmental Year in Iraq 2014

Vehicle passes through Radiation Portal Monitor

Alarm is activated YES or NO?

Vehicle is cleared, and is free to depart monitoring area

Review manifest to identify origin and/or type of shipment

Scan exterior of vehicle with survey meter. Observe radiation levels to localize source of radiation in load. Measure the radiation dose rate (μSv/h)

Isolate the load, characterize and identify the source of radiation

Record investigation information

Take Samples to Lab. Analysis

Take appropriate actions to reshipped the load to the country of origin

Radiation Safety Information Management System (RASIMS)

h of Oct. 2012, The Government of the republic of Iraq had nominated tion Protection Centre/Ministry of Environment as the new counterpart SIMS project.

dingly, RPC will be responsible for updating all milestones related to MS.

nformation in RASIMS is grouped into Thematic Safety Areas (TSA) to e that all aspects of the relevant Safety Standards are covered in a rehensive and consistent manner.

SA1 - Regulatory Infrastructure

SA2 - Radiological Protection in Occupational Exposure

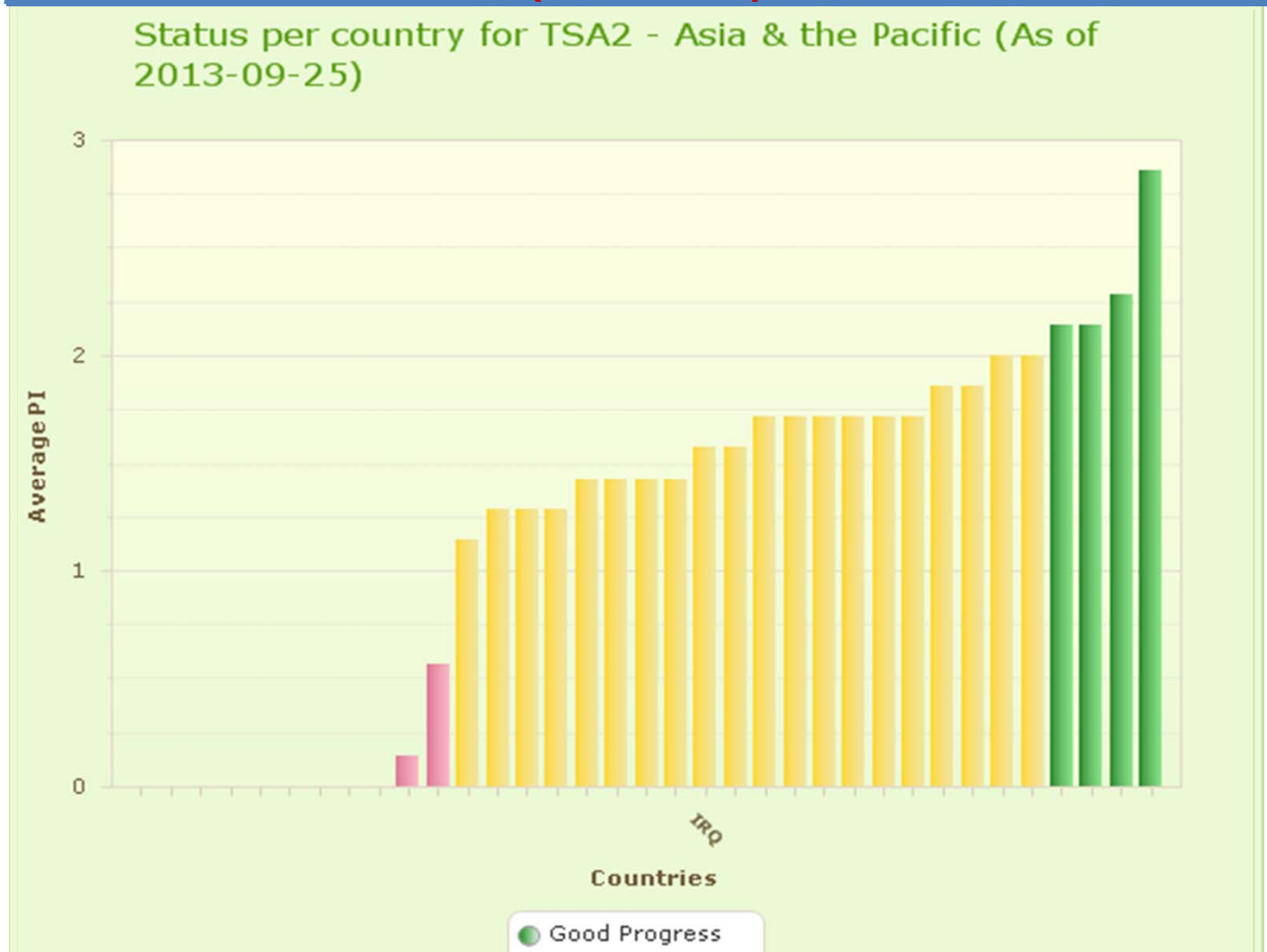
SA3 - Radiological Protection in Medical Exposure

SA4 - Public and Environmental Radiological Protection

SA5 - Emergency Preparedness and Response

SA6 - Education and Training in Radiation, Transport & Waste Safety

Radiation Safety Information Management System (RASIMS)



IAEA Technical Cooperation Projects

/9/008: **Developing Regulations to License and ontrol the Use of Radioactive Sources and aterials.** ***Regulatory Infrastructure Development roject (RIDP)***

/0/006: *Establishing a Quality Assurance and Quality ontrol Programme for Gamma Ray Spectrometry in the uclear Analytical Laboratory at the Ministry of nvironment.*

posed Project for 2016 – 2017: **Strengthening of Iraqi egulatory Infrastructure and Development of eneral Radiation Safety Regulations in Line with the**

EC Technical Cooperation Projects

.3.01/14 - *Support to the Regulatory Body of Iraq on Radioactive Waste Management, Decommissioning of Nuclear Facilities and Remediation of Contaminated Sites.*

he overall objective of the project is to strengthen the capabilities of e Iraqi Regulatory Body in the field of radioactive waste anagement; decommissioning and remediation of contaminated tes.

he project will comprise the following main activities:

- Support in the Development of a Regulatory Safety Guidance;
- Support in the Licensing of the New Near Surface Radioactive Waste Disposal Facility;
- Support in the Inspection of Radioactive Waste Disposal Facilities;
- Building Capacity of the Regulatory Body Staff in the Field of

Conclusion

- Legal, governmental and regulatory infrastructure is an essential basis for safe and long-term management of nuclear and radiological activities;
- Effective dialogue between parties is important. Dialogue between regulators and operators must start before the first formal submission
- Active commitment of both operator and regulator are necessary
- The RPC regulatory framework has been developed in line with IAEA standards; and
- Clear procedures and allocation of responsibilities as

ANK YOU FOR
OUR LISTENING