هيئة الرقابة النووية والإشعاعية

ENRRA

Egyptian Nuclear & Radiological Regulatory Authority



Managing Regulatory Review of Construction Licenses for The First Nuclear Power Plants in Egypt

RCF Plenary Meeting
30 September 2022
Vienna - Austria

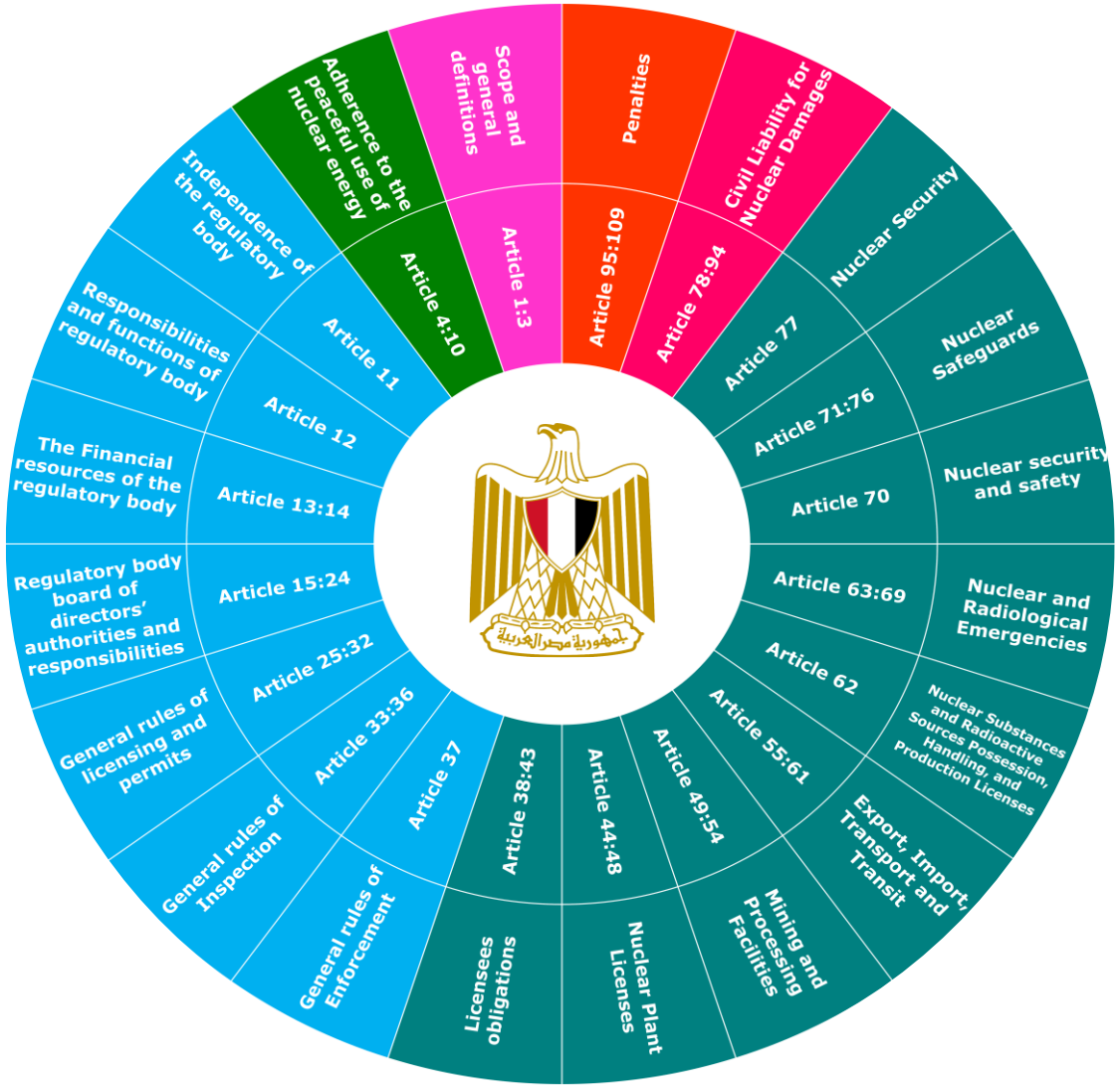
Presented by
Prof. Samy Soliman,
ENRRA Chairman

ENRRA the Egyptian Independent Regulatory Body

- In 2010 the Law Regulating Nuclear and Radiological Activities was promulgated (law NO. 7)
- Law No. 211 was promulgated in 2017 to amend Law NO. 7 to reinforce ENRRA independence and effectiveness.
- Executive regulations (No. 1326) of law No.7 were promulgated in 2011.

To be a distinguished regulatory authority at the national, regional and international levels for N&R 3Ss

ENRRA shall carry out its regulatory mandate, related to N&R activities; to ensure that atomic energy is used for peaceful purposes and to protect humans, property and the environment from the harmful effects of ionizing radiation



ENRRA & Peaceful Applications of Atomic Energy

For more than 60 years, Egypt has benefited from the peaceful applications of atomic energy

Nuclear Facilities

- VVER-1200 (4 Units)
- 1st RR ETRR-1 (2 MW)
- 2nd RR ETRR-2 (22 MW)
- Nuclear Fuel Manufacturing Pilot Plant FMPP
- Radioisotope Production Facility (RPF)

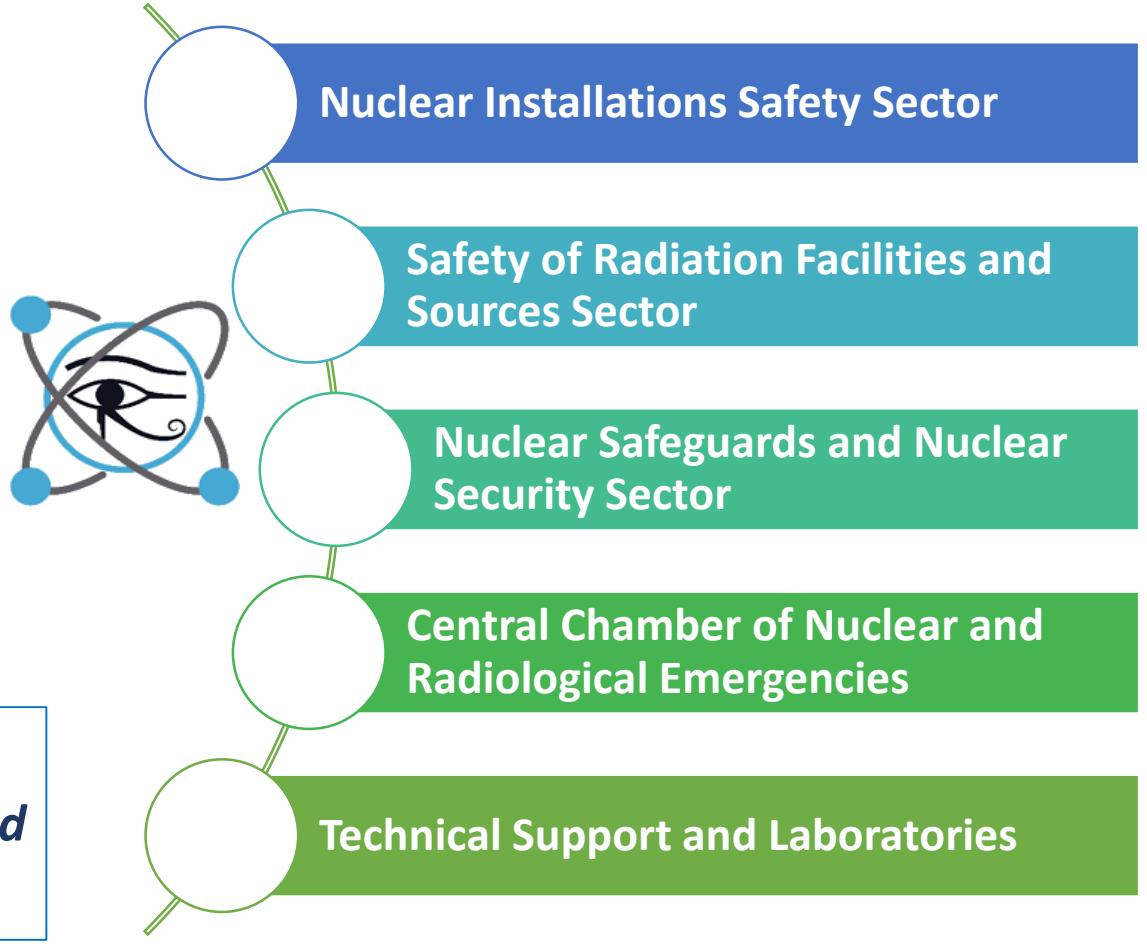
Radiation Facilities

- Two Gamma Irradiators
- Electron Beam Accelerators

Radioactive Sources

- Medical Applications
- Industrial Applications
- Oil & Gas exploration and development
- Agricultural Applications
- Research applications

Currently, over 6000 radioactive sources are used in Egypt



Number of Employees & Needed Competencies



Number of Regulated Facilities and Activities

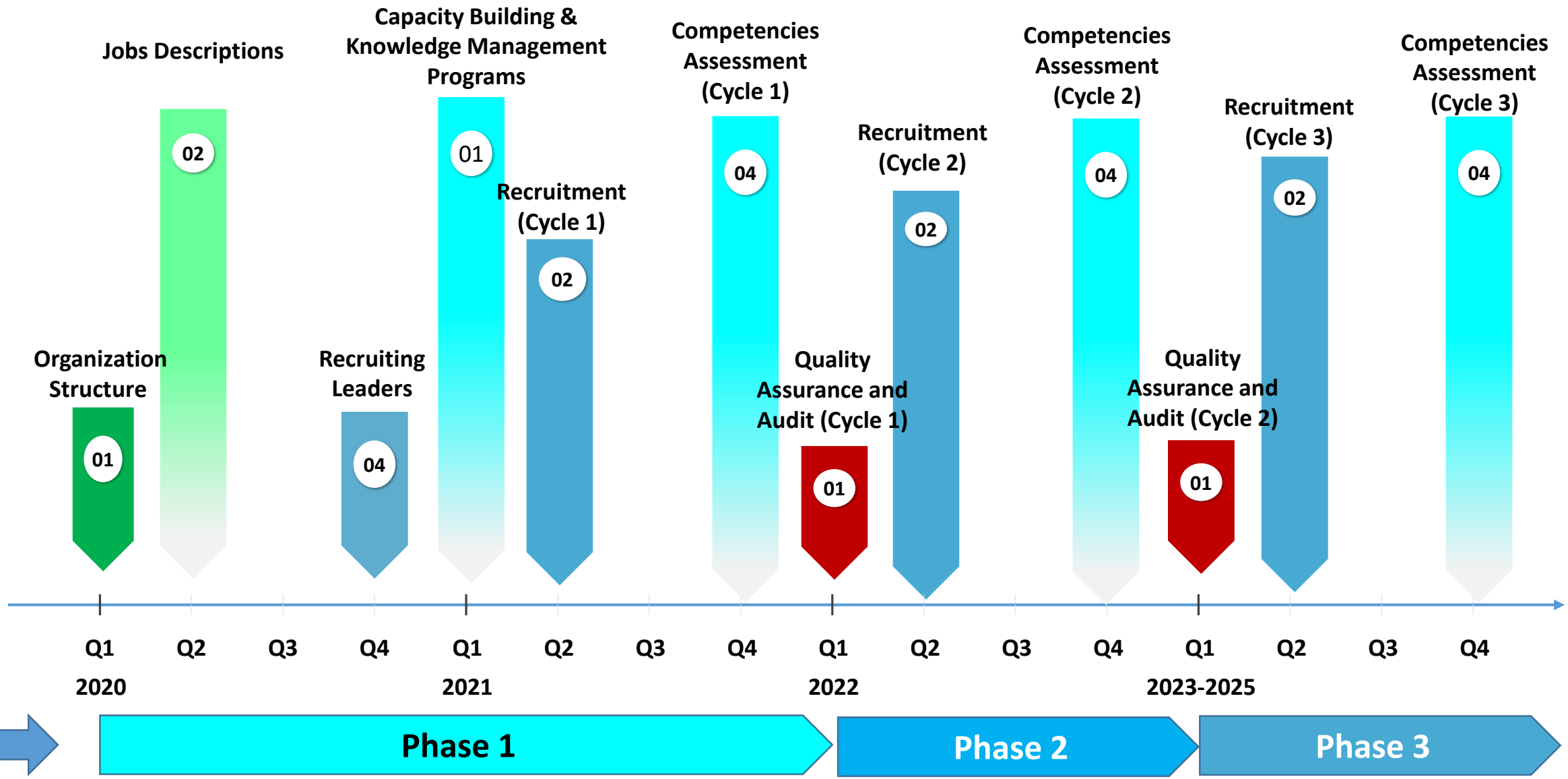
- Change in the Number of Regulated Facilities and Activities
- Change of the National and International Legal Framework
- Changes of Requirements and Best Practices

Needed Jobs and Competencies

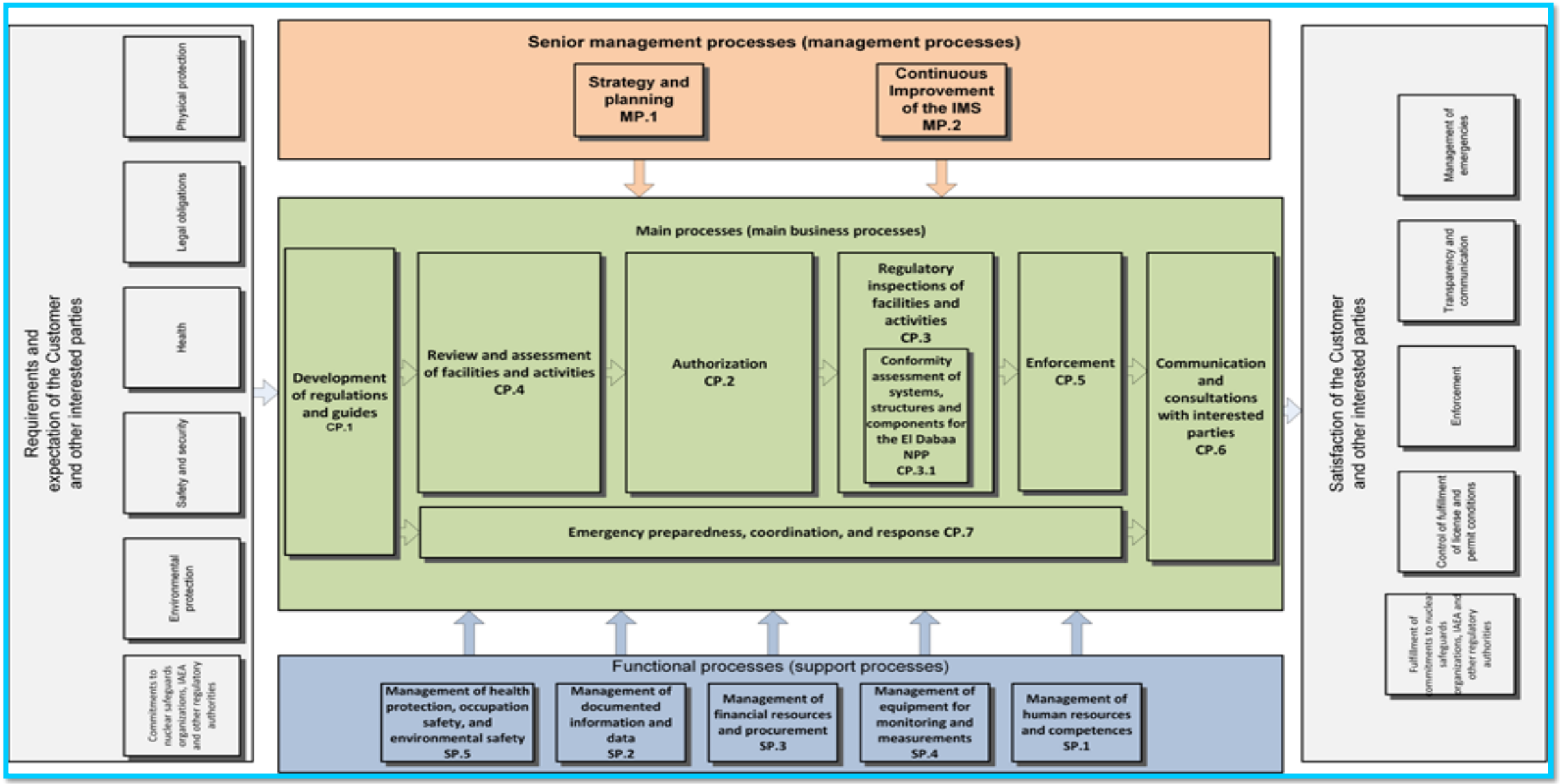
- IMS Processes and Procedures
- Efficiency of capacity building process and Knowledge management system
- Quality of EMS
- External TSOs and Experts

ENRRA Current Jobs and Competencies

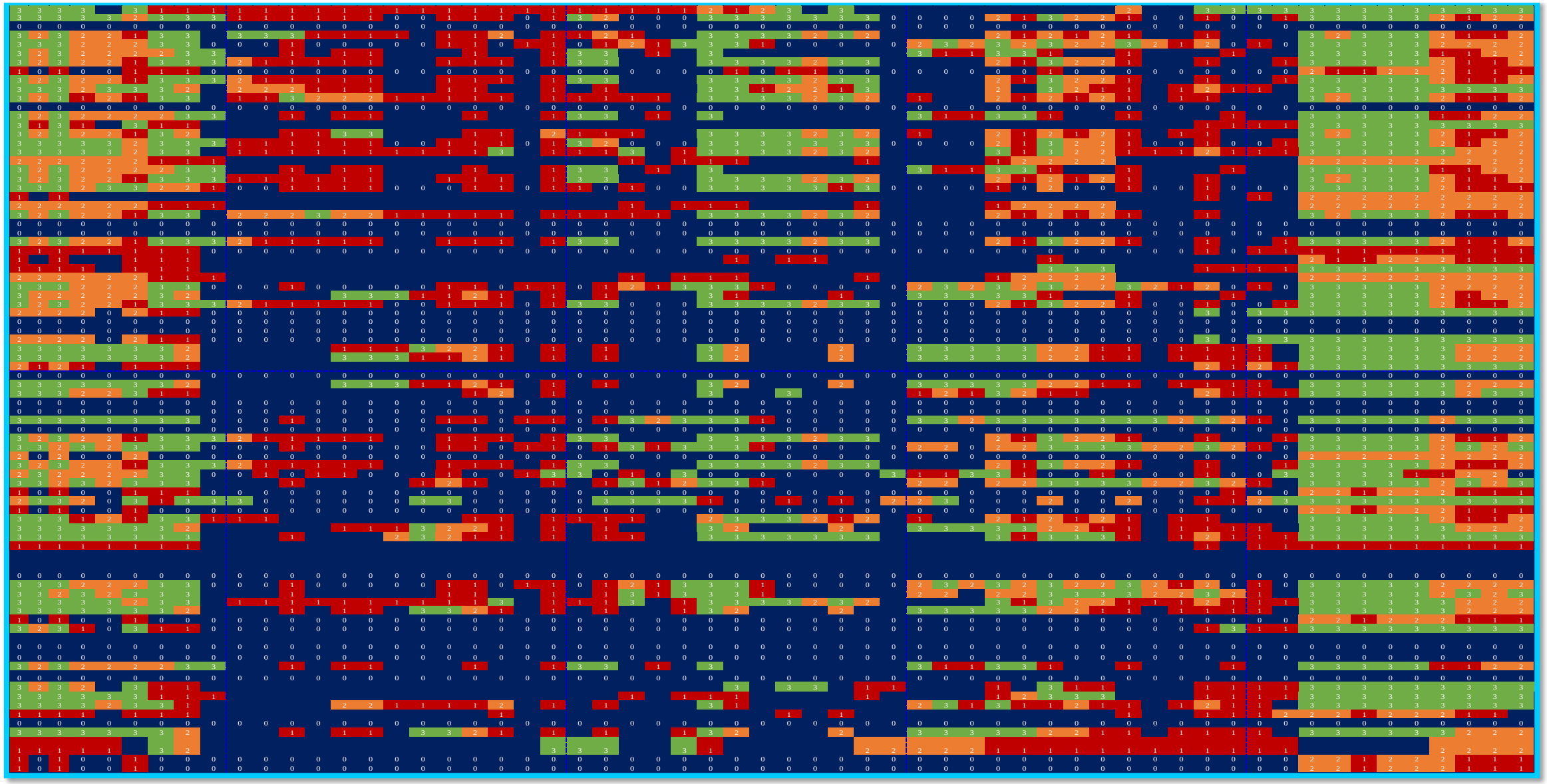
ENRRA Recruitment Phases



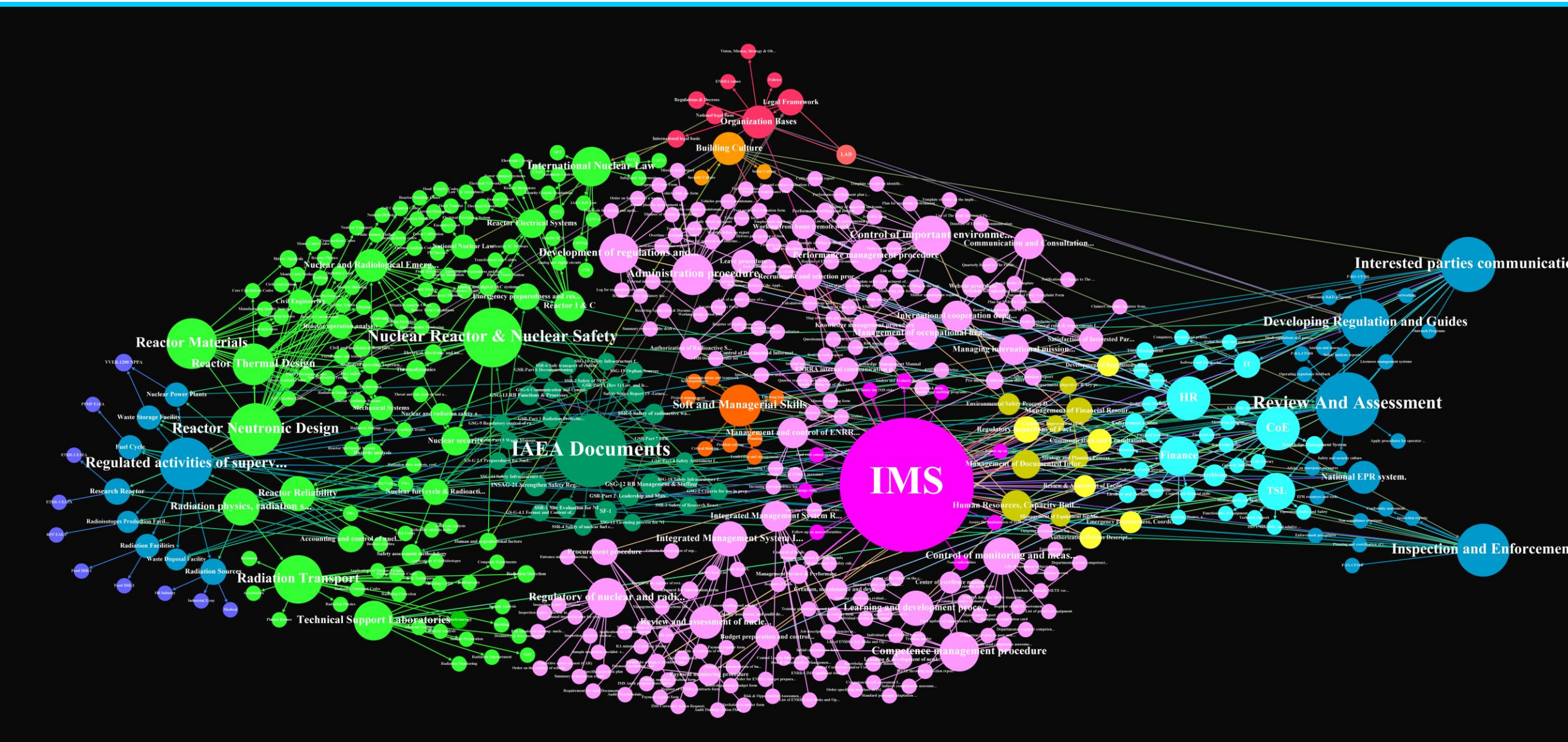
Capacity Building & IMS



ENRRA Competencies Matrix



ENRRA Knowledge Map



Needed Competencies for the Review and Assessment Procedure

Capacity Building for the Review and Assessment of PSAR

2.1.1.	2.2.1.	2.2.2.	2.2.3.	2.2.4.	2.2.5.	2.2.6.	2.2.7.	2.2.8.	2.2.9.	2.2.13.	3.1.1.	3.2.2.
2	3	3	3	0	1	1	1		1	1	2	0
0	2	0	-1	0	0	1			1	-1	0	-2
0	-1	-2	0	0	2	2	-1	-1	1	-1	0	0
2			-2	0	3	3				0	0	0
0	-2	-2	-2	0	0	0	1	-1	-1	-1	0	0
0	-1	-1	-2	3	0	1			-1	-1	0	2
2	0	1	-1	0	1	0	1	-2	-1	-1	0	0
2					3	3	3	-1	-1	-1	0	
2					1	1	1	3	2	1	2	
0					3	3	1	-1	-1	1	0	
2					1	2	0	-1	-1	-1	0	
0										-1	0	
0	1	0								1	-1	3
0					0	1	-1	1	0	-1	0	
0			-2	3			0	1	0	-1	0	0
0	-1	1	-2	0	1	1	-1	-1	-1	-1	0	0
0			-2		1	0		1	2	-1	0	
0					1	2	-1	1	1	-1	1	
1			-2		1	1		1	1	-1	0	

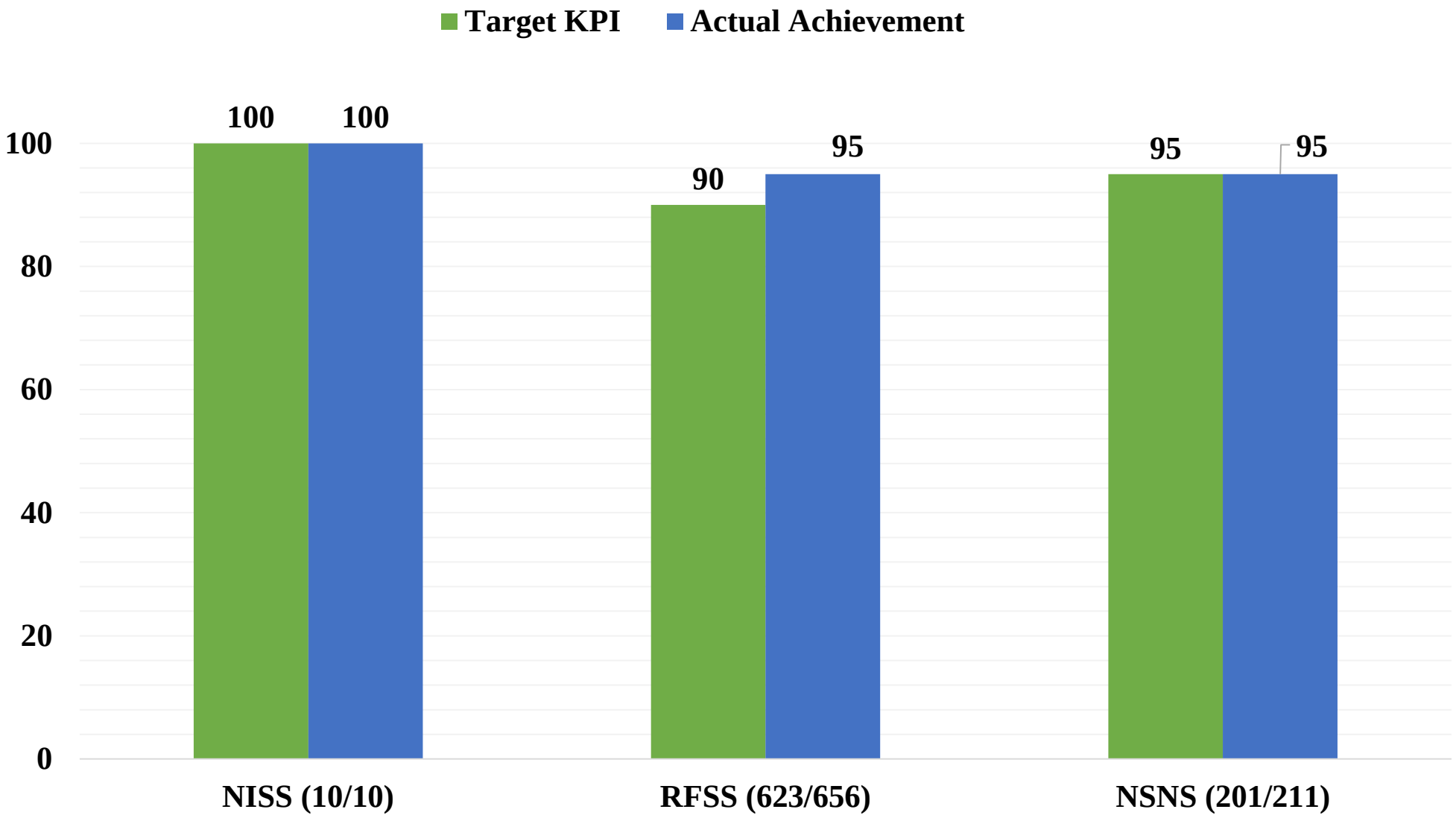
Required Competencies for the R&A Process

2.1.1.	2.2.1.	2.2.2.	2.2.3.	2.2.4.	2.2.5.	2.2.6.	2.2.7.	2.2.8.	2.2.9.	2.2.13.	3.1.1.	3.2.2.
2	3	3	3	3	1	1	1		1	1	2	3
2	2	2	2	3	1	1			1	1	2	1
2	1	1	3	3	2	2	1	1	1	1	2	3
2			1	3	3	3				2	2	3
2	1	1	1	3	1	1	1	1	1	1	2	3
2	1	1								1	2	3
2	2	2								1	2	3
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2	1	1								1	1	3
2					1	1	1	3	2	1	2	
2			1	3			2	3	2	1	2	3
2	1	1	1	3	1	1	1	1	1	1	2	3
2			1		1	1		3	3	1	2	
2					2	2	1	1	1	1	2	
3			1		1	1		3	3	1	2	

Competencies after the Capacity-Building Program

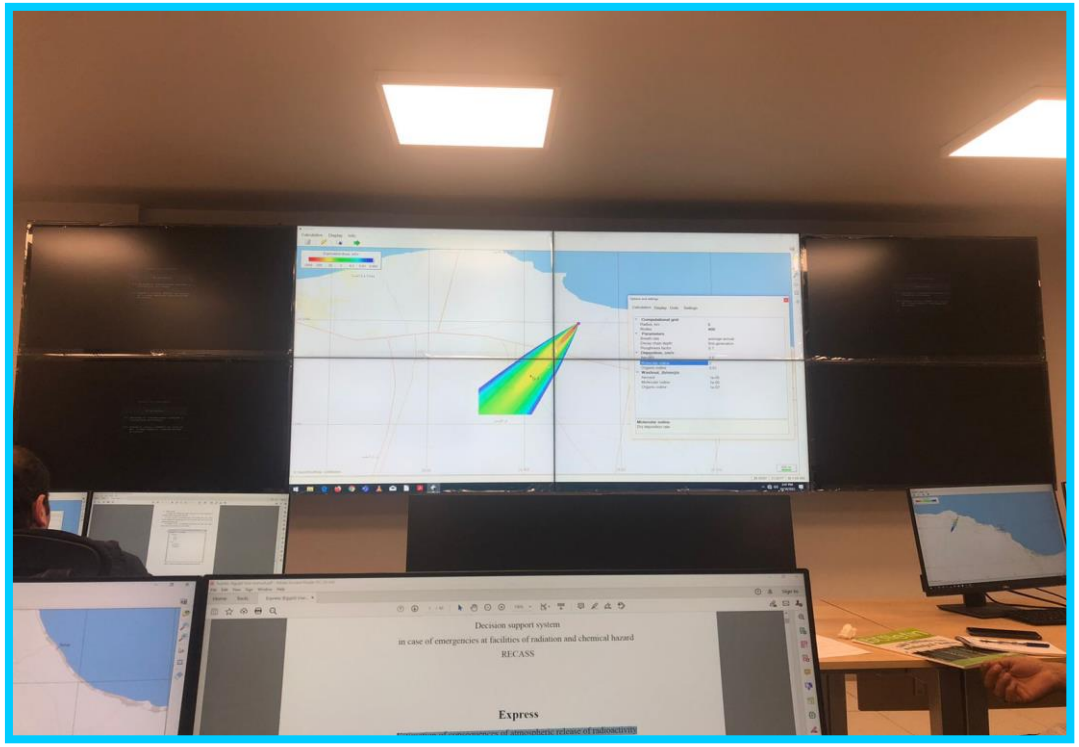
2.1.1.	2.2.1.	2.2.2.	2.2.3.	2.2.4.	2.2.5.	2.2.6.	2.2.7.	2.2.8.	2.2.9.	2.2.13.	3.1.1.	3.2.2.
				3								3
2		2	3	3	1					2	2	3
2	2	3	3	3			2	2		2	2	3
	2		3	3				2	2	2	2	3
2	3	3	3	3	1	1		2	2	2	2	3
2	2	2	3		1				2	2	2	1
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2	2											3
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2		1					2	2			2	
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2			3				2	2	2	2	2	3
2	2		3	3			2	2	2	2	2	3
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2	2	2	3					2	2	2	2	

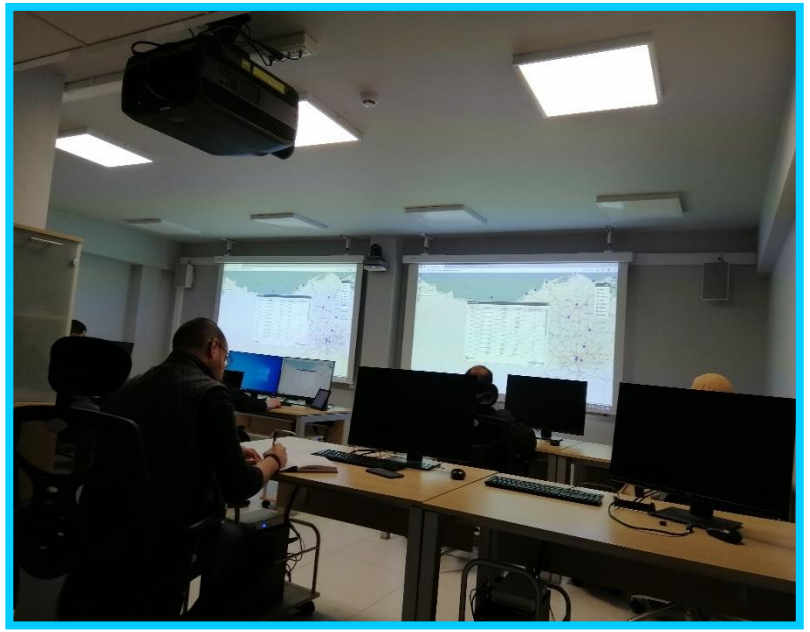
Annual Timely Successful Review & Assessment Procedures

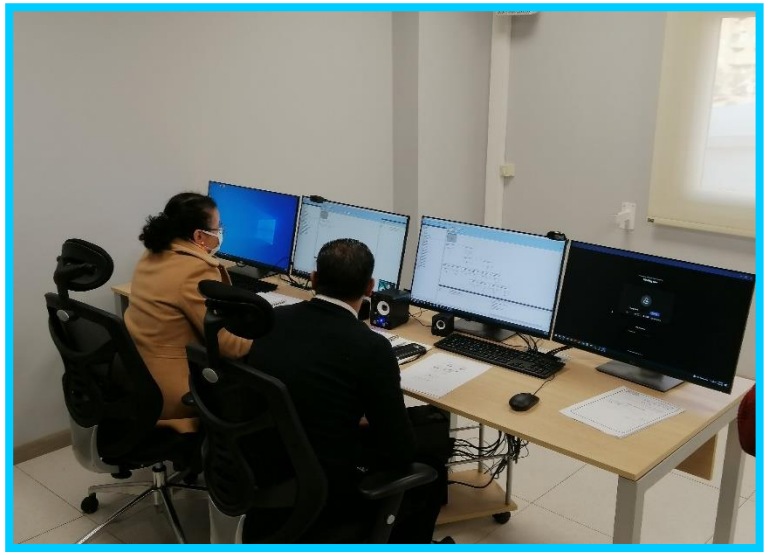


ENRRA Facilities and Activities

- Laboratories
- Situation Analysis Center
- Hosting International Actives







Updated Status and Plans of El Dabaa NPP Regarding the Licensing and Regulatory Oversight



EL Dabaa NPP Site Permit
(Stage 1)

- **El Dabaa NPP Site Permit** of El Dabaa NPP was granted on 10/3/2019.

- Regarding site activities of El Dabaa NPP,
  - *ENRRA conducted periodic inspections* **(2019, 2020).**
  - *ENRRA conducted Follow up inspection in* **June 2021**.

- Inspection that was planned for **June 2022** was to check the information provided and inspect the site readiness for NPP construction.

- A project was initiated for the review and assessment of the PSAR of EL Dabaa NPP (**according to the related IMS procedures**) using project management principles and tools.

- The project includes; planning, formation of teams with clear roles and responsibilities well defined, the needed capacity-building programs, deployment of TSOs organizations, and necessary meetings with the applicant (**NPPA**) during the review process.

EL Dabaa NPP Site Permit
(Stage 2)

- Completeness check was performed for the PSAR Introduction and Chapters 1-18 for Units 1, and 2 of the El Dabaa NPP.

- Conclusions were drawn based on the completeness check, and additional documents were requested for review.

- **Method Statements** were developed and approved for the review and assessment of PSAR Chapters for Unit 1.

- Final Review and Assessment of the PSAR, including “Introduction” and Chapters 1-18 of the PSAR for Unit 1 were completed in **June 2020**.

EL Dabaa NPP Site Permit
(Stage 3)

- Upon discussion meetings between ENRRA and the NPPA that started on the **17th of April 2022**, the result of the discussion document declares all the closed issues and the action and term of correction for the open comments.

- Drafting the Construction Permit of unit 1 and proposing permit conditions based on the Review and Assessment, and the Inspection Reports.

- On **29 June 2022** the construction permit of El Dabba NPP Unit 1 was granted by ENRRA Board.

SSC Conformity Assessment for El Dabaa NPP

- As per the Quality Plan for the **1st long-lead components,** ENRRA conducted an inspection on **25-30 July 2021** to check the readiness of the production facilities of JSC Tyazhmash for the core catcher manufacturing of the El Dabaa NPP: Casing; Filler; Bottom plate; Maintenance Platform; Cantilever Truss; Valve for water supply.

- As per the Quality Assurance Program for Manufacturing Pressure Vessel Blanks for El unit 1, ENRRA conducted an inspection on **25-29 April 2022** to check the readiness of the AEM Special Steels Branch of JSC AEM TECHNOLOGY.

- As per the Quality Assurance Program for Manufacturing the Turbine unit 1, ENRRA conducted an inspection on **28-30 June 2022** to check the readiness of General Electric.

El Dabaa NPP
SNF Storage Facility Review

- **Site Evaluation Report (SER)** was reviewed as a part of discussing permit procedures for the SNF SF sitting.
- Review and Assessment Report of the SER of SNF SF was prepared and submitted to the NPPA. The response of NPPA was received and discussed.
- A Site Inspection had been conducted to verify the information submitted by the application **(June 2021).**
- Permit conditions were developed for the SNF SF siting based on the review and inspection report.
- The **Environmental Impact Assessment Report**, as one of the requirements for permission, was approved by **Environmental Affairs Agency**.

On 28 Feb 2022, the site permit of SNF SF of El Dabaa NPP was granted by ENRRA Board.

THANK YOU!

Chairman@enrra.org

http://www.enrra.org