

Organizational and Regulatory Aspects of National Infrastructures for Physical Protection Regime

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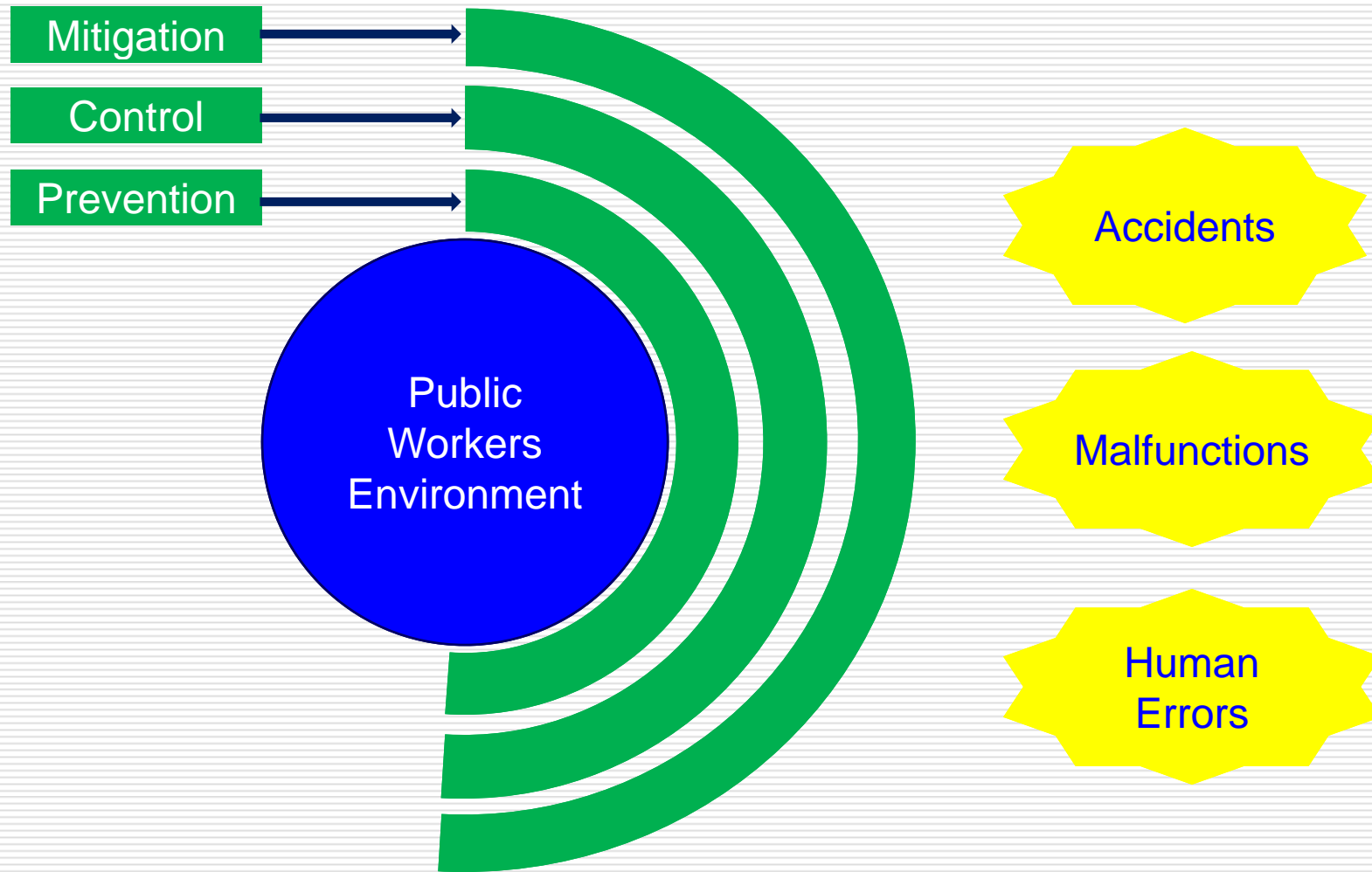


Outline

- ❑ Safety and Security: joining hands
- ❑ Objectives of Physical Protection Regime
- ❑ Organizational and Legal aspects of National Physical Protection Regimes
- ❑ PNRA's PP Framework
- ❑ Status of our national organizational and legal structure for PP regimes
- ❑ Challenges

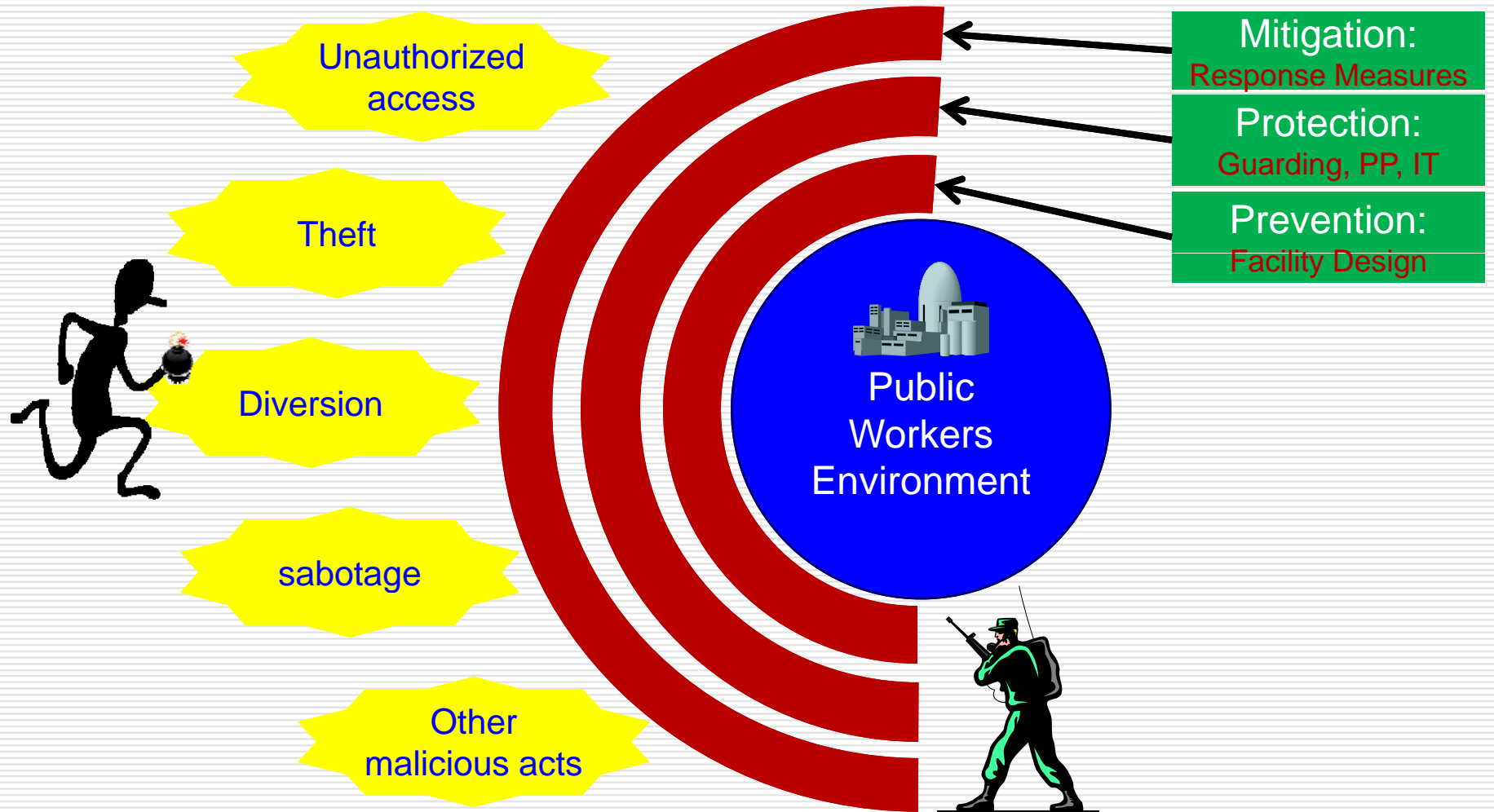


Goal of Nuclear Safety



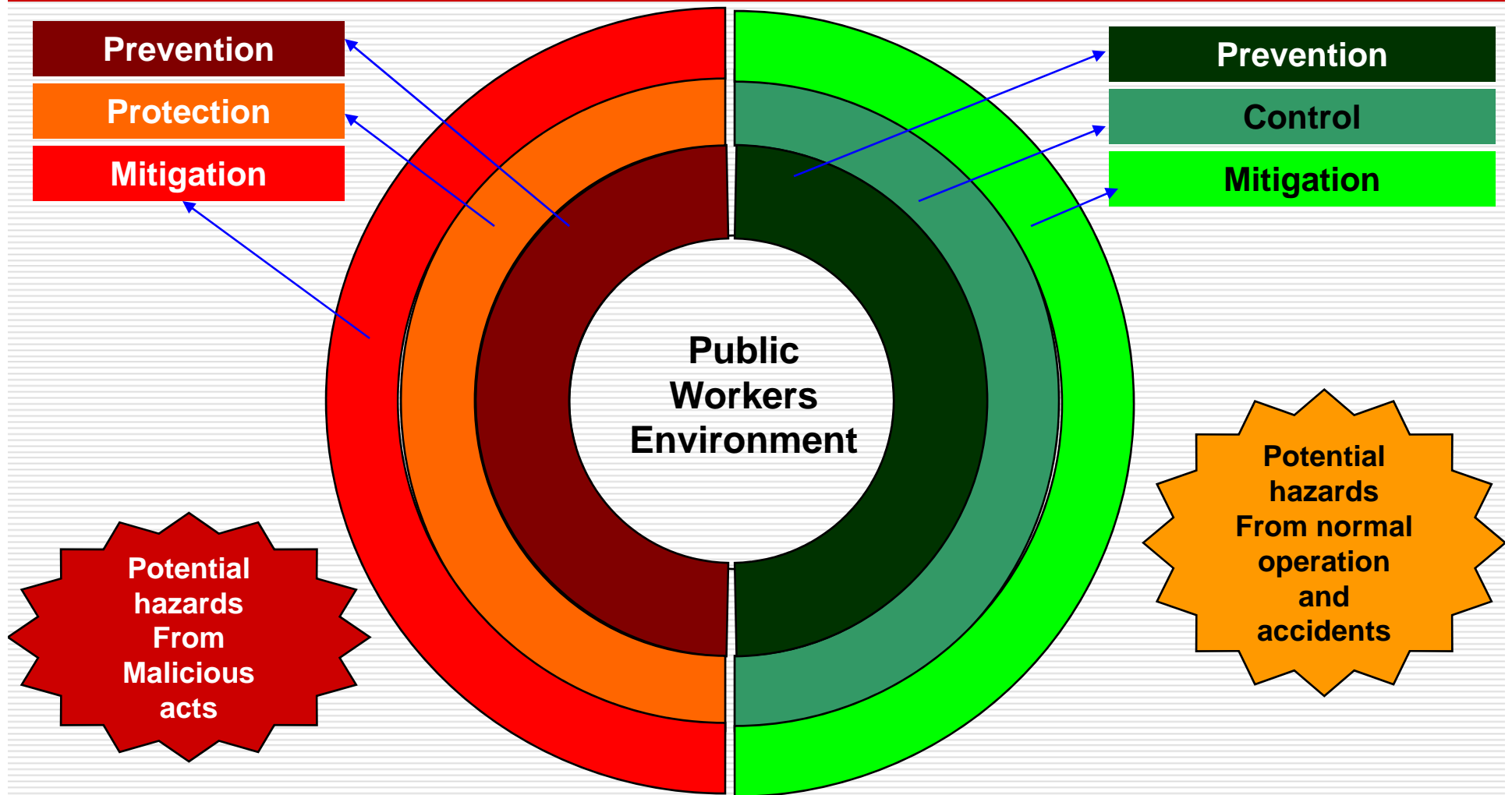


Goal of Nuclear Security





Role of Safety and Security in Protection against Undesirable Consequences





Objectives of Physical Protection Regime

According to the IAEA GOV/2001/41:

- The **PHYSICAL PROTECTION OBJECTIVES** are to establish and to maintain conditions to:
 - To protect against unauthorized removal
 - To locate and recover missing nuclear material
 - To protect against sabotage
 - To mitigate or minimize sabotage



Fundamental Principles of Physical Protection of NM and NF

- The following physical protection fundamental principles have to be considered as the basis for achieving the Physical Protection Objectives:

A: Responsibility of the State

B: Responsibilities During International Transport

C: Legislative and Regulatory Framework

D: Competent Authority

E: Responsibility of the License Holders

F: Security Culture

G: Threat

H: Graded Approach

I: Defence in Depth

J: Quality Assurance

K: Contingency Plans

L: Confidentiality



Responsibility of State

- The responsibility for the establishment, implementation and maintenance of a physical protection regime within a State rests entirely with that State.**

- However,**
 - The effectiveness of nuclear Security in one state depends on the effectiveness of nuclear security in other states.**



Legislative and Regulatory Framework

- The State is responsible for establishing and maintaining a legislative and regulatory framework to govern physical protection.**

- The framework should include:**
 - Applicable physical protection requirements and include a system of evaluation and licensing or other procedures to grant authorization.**

 - A system of inspection of nuclear facilities and transport to verify compliance with applicable requirements.**



Competent Authority

- The State should establish or designate a competent authority which is responsible for the implementation of the legislative and regulatory framework, and is provided with adequate authority, competence and financial and human resources to fulfill its assigned responsibilities.**
- The State should take steps to ensure an effective independence, between the functions of the State's competent authority and those of any other body in charge of the promotion or utilization of nuclear energy.**



Responsibility of the License Holders

- The responsibilities for implementing the various elements of physical protection within a State should be clearly identified.
- The State should ensure that the prime responsibility for the implementation of physical protection of nuclear material or of nuclear facilities rests with the holders of the relevant licenses or of other authorizing documents (e.g., operators or shippers).



Int'l Framework of Nuclear Security

- ❑ Convention on Physical Protection of Nuclear Material (CPPNM)
- ❑ The Convention applies to nuclear material used for peaceful purposes while in international nuclear transport.

Pakistan is party to CPPNM since Sep. 2000

- CPPNM amended in 2005 & ratification is in process

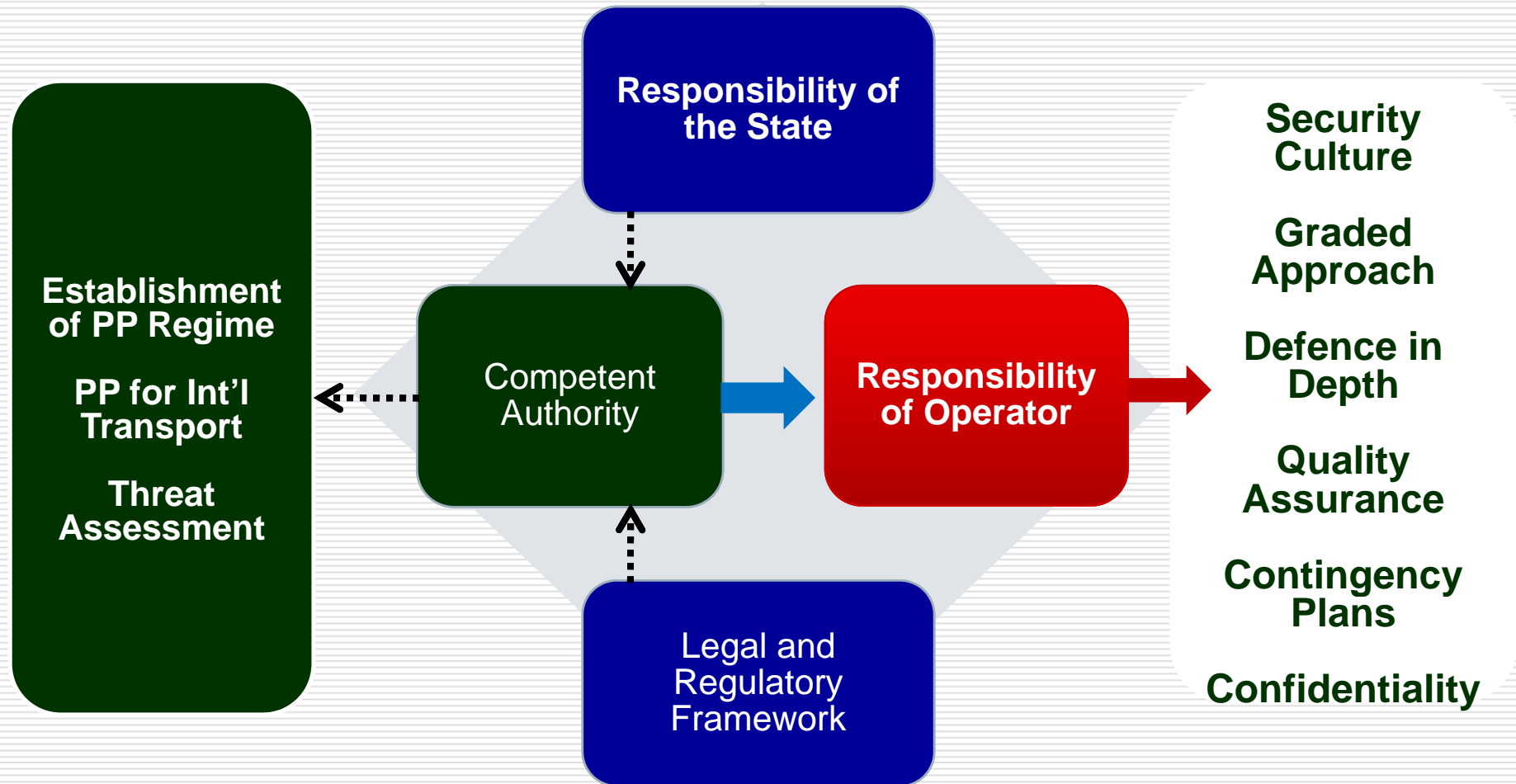


Int'l Framework of Nuclear Security

- Convention on suppression of acts of nuclear terrorism**
- UN Security Council Resolution 1540 etc.**
- Code of Conduct on Safety and Security of Radioactive Sources (Political binding)**
- Global Initiative on Combating Nuclear Terrorism**
- Nuclear Security Summit USA**
- Etc.**



Organizational and Legal Structure of National PP Regime



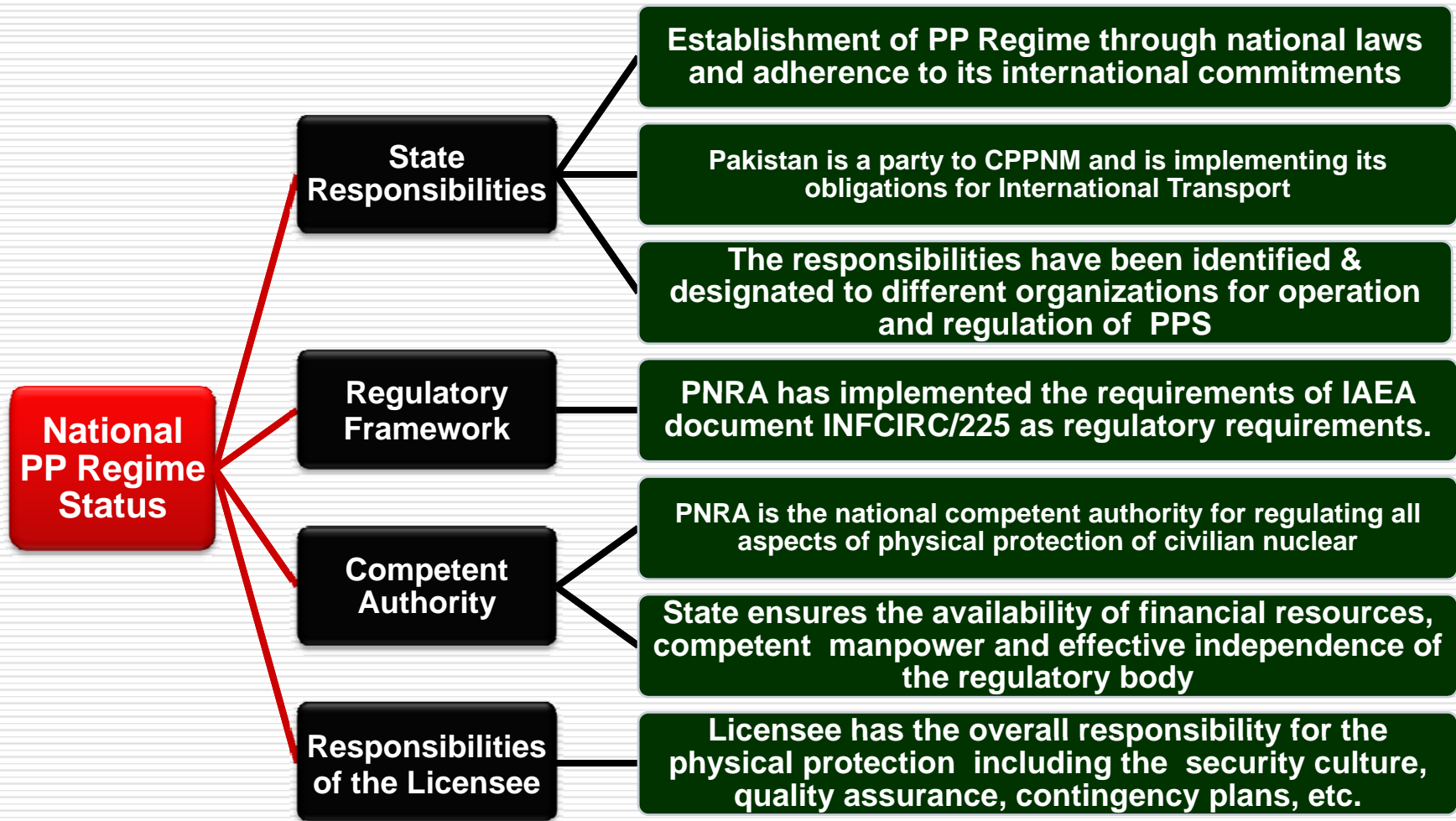


PNRA Physical Protection Framework

- PNRA Ordinance 2001, under section 16.2 dictates that**
 - “PNRA is to ensure that appropriate measures for the physical protection of nuclear installations and nuclear materials are taken by the licensee”**



Organizational and Regulatory Infrastructure in Pakistan





National Nuclear Security Action Plan

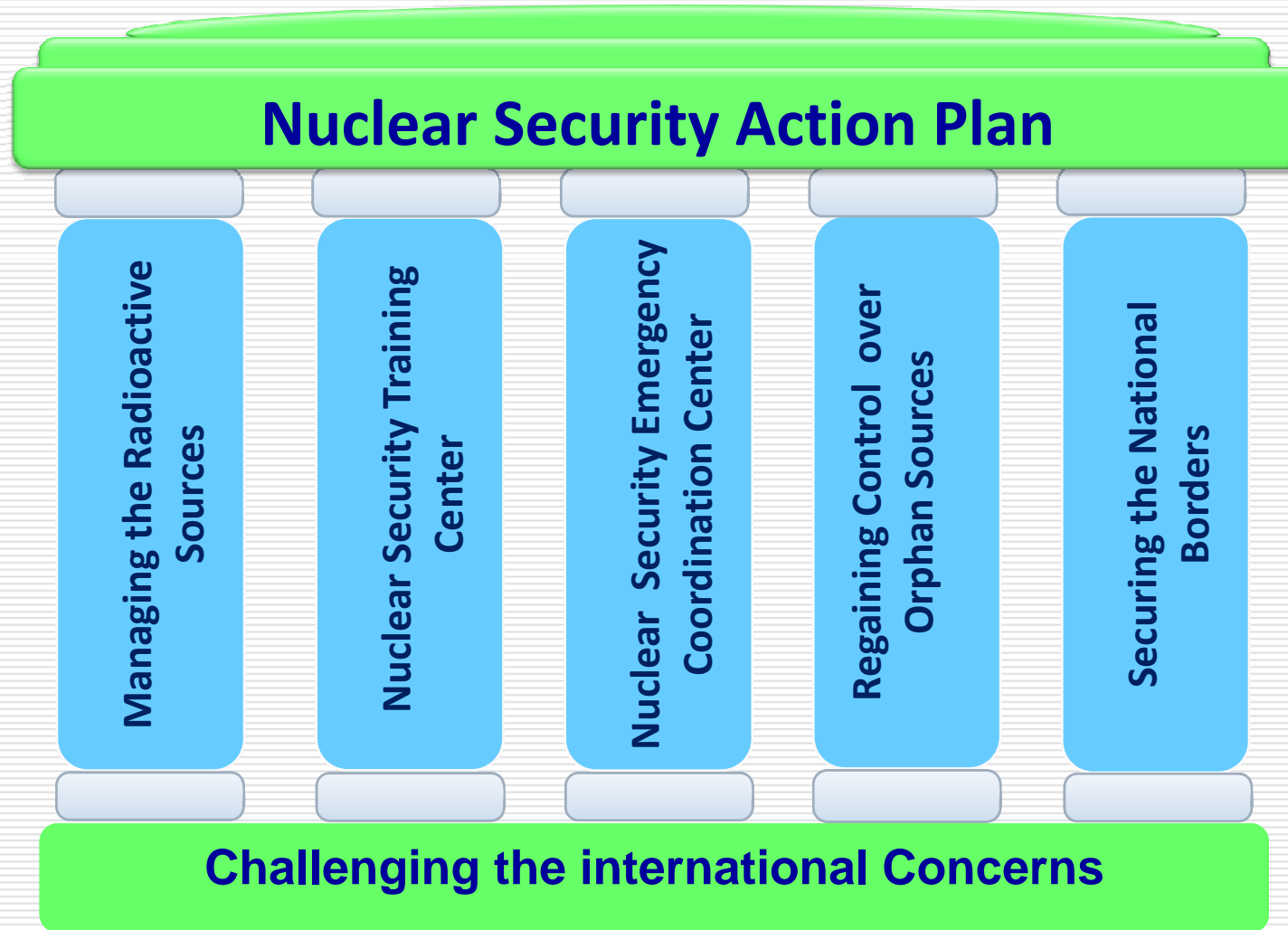
- 1st national project on Nuclear Security with the objectives

“development of a sustainable system for nuclear security with assured response and recovery capabilities, and integrated with applicable national and international laws”

- Project has enjoyed **04 successful years** of implementation



Pillars of NSAP- Project





Challenges

- ❑ To imagine beyond the Design Basis accidents & incidents:
 - Identify the weak links
 - Standardize the systems to have a unified global PP systems

- ❑ Adopting an integrated approach for safety and security during Siting, design, Construction, Operation, Modifications, and emergency response.

- ❑ Security through design