

# **Pakistan Nuclear Regulatory Authority**

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## **Licensing Process of Physical Protection System of Nuclear Material & Facilities in Pakistan**

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# Scheme

- **Nuclear Regulatory Body in Pakistan**
- **Overview of Regulatory Framework**
- **Main functions of PNRA**
- **Licensing Process**
- **Review and Assessment Process**
- **Elements of Physical Protection Program**
- **Security for different phases of Nuclear Power Program**



# History of Nuclear Safety in Pakistan

- 1984 Promulgation of Pakistan Nuclear Safety and Radiation Protection Ordinance**
- 1990 Promulgation of PNSRP Regulations**
- 1994 Convention on Nuclear Safety signed**
- 1994 Creation of Pakistan Nuclear Regulatory Board (PNRB)**
- 2001 Establishment of Pakistan Nuclear Regulatory Authority (PNRA)**



# Main functions of PNRA

**Make & Enforce  
Regulations**

**Issue Licences /  
Authorizations**

**Perform Review &  
Assessment**

**Conduct  
Inspections**

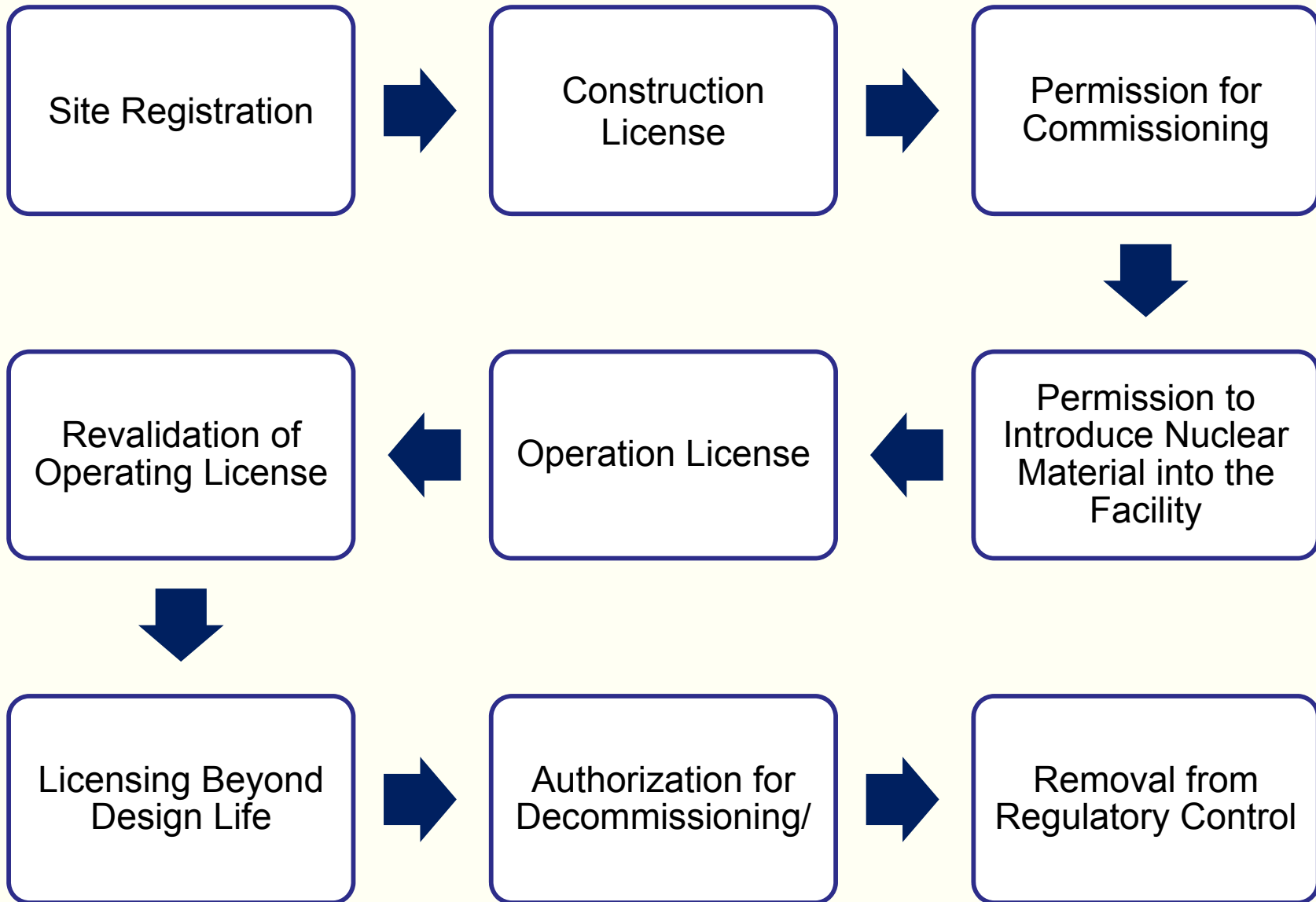
**Take Enforcement  
Actions**

**Coordinate  
National programs  
for environmental  
Surveillance and  
Emergency plans**

**Fix the extent of  
Civil liability**



# Licensing Process during Life Cycle of NPPs





# Legal and Regulatory Framework

- **PNRA Ordinance 2001, 16.2(f) empowers PNRA “to ensure that appropriate measures for physical protection around nuclear installation are taken”**
- **Interoffice Memorandum was issued that “INFICRC 225/rev.4 was adopted as a regulation for the evaluation of Physical protection system”**



# Regulation for Licensing of Nuclear Installation(s) in Pakistan (PAK/909)

- **Clause 8(6) (b) Permission to Introduce Nuclear Material into the Installation:**
  - **On approval of the safety related documents(FSAR, QA RP Program etc) as mentioned in PAK/909 and demonstration of the implementation of Emergency Preparedness Plans and Physical Protection Program in drills/exercises, permission to introduce nuclear material into the systems of nuclear installation may be granted by the Authority to complete nuclear commissioning and perform subsequent operation until the issuance of Operating License subject to the availability of the required number of licensed/ authorized operating personnel.**



# Regulations on the Safety of Nuclear Power Plants Operation (PAK/913)

- **Clause 9:**
  - **(1) The licensee shall take measures for physical security and physical protection to prevent or deter unauthorized access to, intrusion into, theft of, surface attack on and internal or external sabotage of safety related systems and nuclear materials**
  - **(2) All reasonable precautions shall be taken to prevent individuals from deliberately carrying out unauthorized actions that could jeopardize safety.**
  - **(3) The licensee shall have plans and procedures in place to provide for physical protection of the site in the event of civil disturbance.**





# **Draft Regulations on Physical Protection of Nuclear Installations and Nuclear Material**

- **Detailed Regulations on Physical Protection of Nuclear Installations and Nuclear Material are in the process of development and are mainly based on IAEA, INFCIRC-225 Rev.5 (NSS-13).**

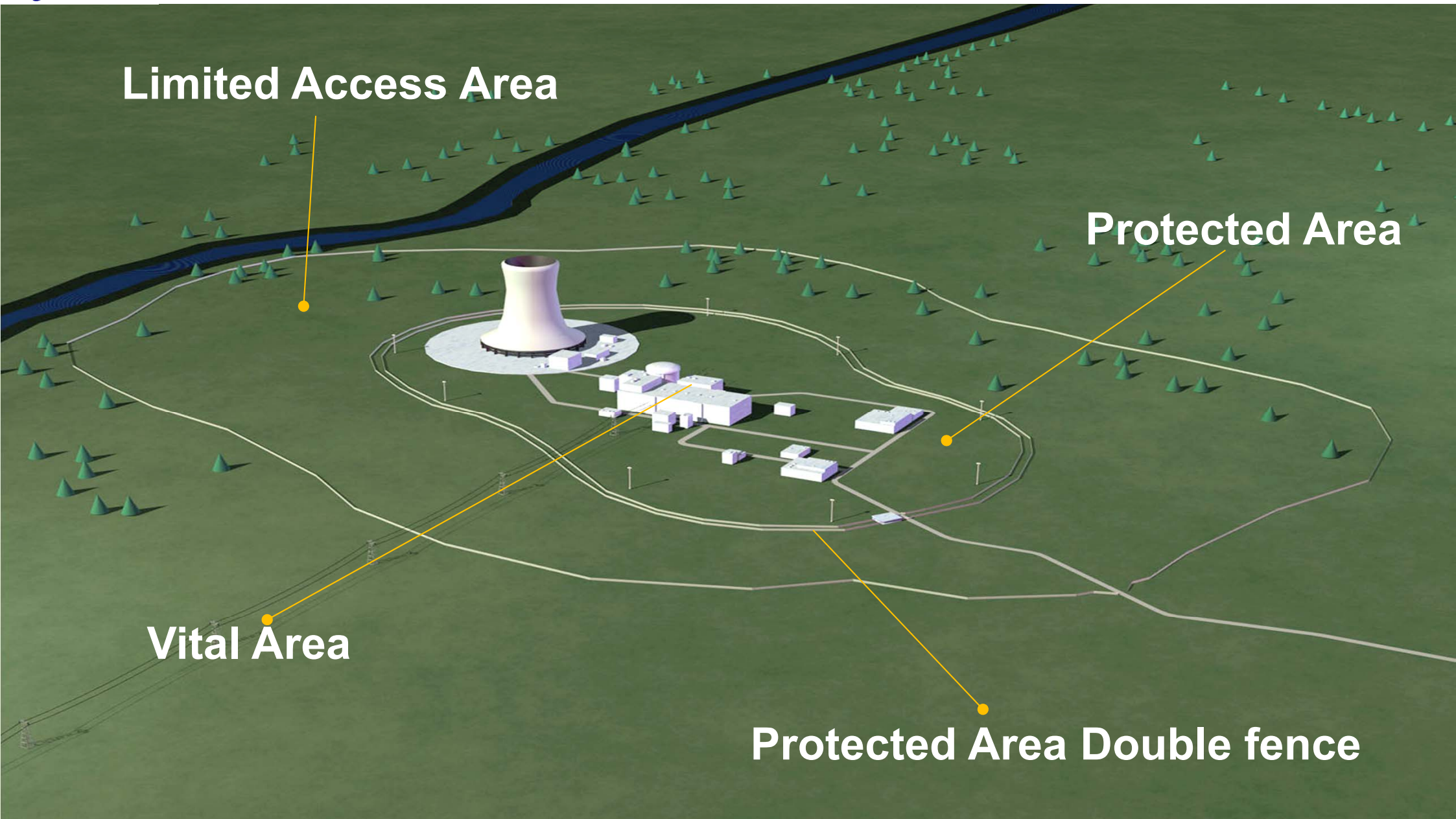


# Review & Assessment of the Physical Protection Program

- **PNRA requires the licensee to establish and implement physical protection program in different stages :**
  - **Construction License: PNRA reviews and approves the plan before awarding the Construction licensee to the facility.**
  - **Permission to Introduce Nuclear Material into the Installation: On approval and demonstration of the implementation of Physical Protection Program in drills/exercises, PNRA gives permission to introduce nuclear material into the systems of nuclear installation.**



# Concentric Security Circles





# Inspection and Enforcement

- **PNRA conducts inspections to verify that:**
  - **The information submitted relating to physical protection is in conformity with the actual conditions;**
  - **The activities related to physical protection comply with national regulations, licensing submissions approved by PNRA and/or the terms and conditions of the authorization/license.**
  - **In case of non-compliances, PNRA is empowered to take enforcement actions, ranging from issuance of directives for necessary corrective actions, curtailing activities and, in case of serious violations, suspension or revocation of license.**
  - **PNRA recommends the facilities to take necessary enhanced security measures to cope with the threat levels.**
  - **PNRA has substantially enhanced oversight at the nuclear power plants through increased frequency of inspections.**



# Conclusion

- **Pakistan is responsible Nuclear State and our nuclear materials, facilities and assets are safe and secure.**
- **Pakistan's nuclear security regime is anchored in the principle of multi-layered defense for the entire spectrum –insider, outsider or cyber threat.**
- **We have been running a safe, secure and safeguarded civil nuclear programme for more than forty years. We have the expertise, manpower and infrastructure to regulate civil nuclear energy**



# Question/Answer

