

Saudi Arabia Nuclear and Radiological Regulatory Commission NRRC



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Nuclear and Radiological Regulatory Commission

Content



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Brief Informative Background



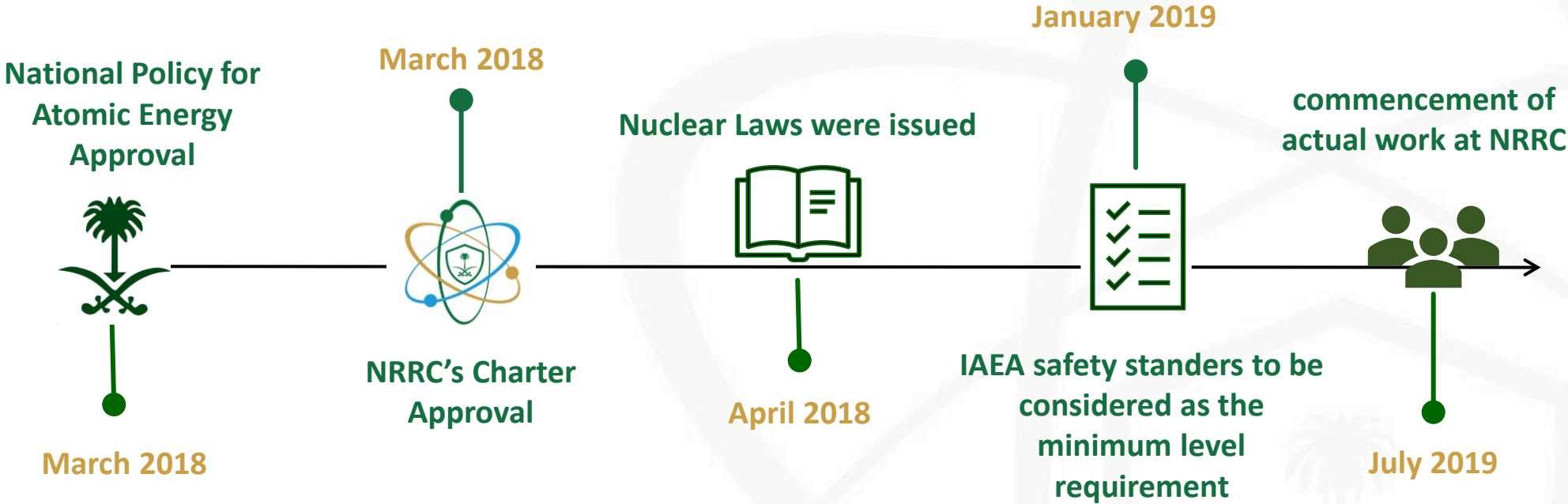
Nuclear Oversighting Practices



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International Instruments



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International Treaties, Agreements, Conventions, and Instruments that KSA complies with

1. Treaty on the Non-Proliferation of Nuclear Weapons (1988) - UN.
2. Convention on Early Notification of a Nuclear Accident (1989) - IAEA.
3. Convention on Assistance in Case of a Nuclear Accident or Radiological Emergency (1989) - IAEA.
4. International Convention for the Suppression of Acts of Nuclear Terrorism (2007) - UN.
5. Comprehensive Safeguards Agreement-SQP (2009) - IAEA.
6. Convention on the Physical Protection of Nuclear Material and its Amendment (2009) - IAEA.
7. Convention on Nuclear Safety (2010) - IAEA.
8. Vienna Convention on Civil Liability for Nuclear Damage (2011) - IAEA.
9. Protocol to Amend the Vienna Convention on Civil Liability for Nuclear Damage (2011) - IAEA.
10. Joint Convention on the Safety of Spent Fuel and on the Safety of Radioactive Waste Management (2012) - IAEA.
11. UNSC Resolutions under chapter VII of UN Statute (such as UNSC Resolution No 1540)

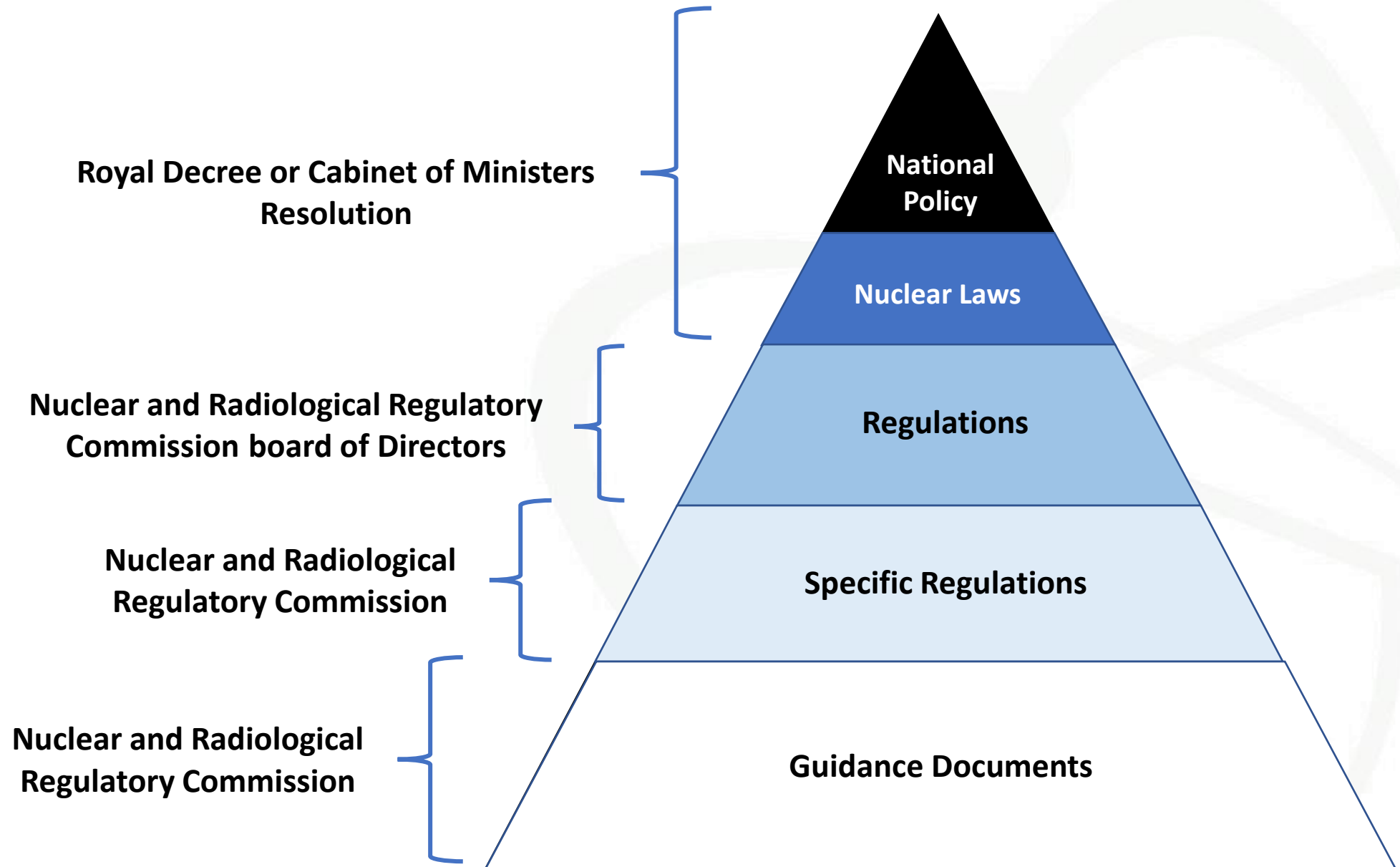


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Legal Components of the Nuclear Regulatory Framework



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Regulatory Regulations



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NRRC Regulations 2022

<p>هيئة الرقابة النووية والإشعاعية Nuclear and Radiological Regulatory Commission</p> <p>Regulation</p> <p>Radiation Safety</p>	<p>هيئة الرقابة النووية والإشعاعية Nuclear and Radiological Regulatory Commission</p> <p>Regulation</p> <p>Leadership and Management for Safety</p>	<p>هيئة الرقابة النووية والإشعاعية Nuclear and Radiological Regulatory Commission</p> <p>Regulation</p> <p>Safety Assessment of Nuclear Facilities</p>	<p>هيئة الرقابة النووية والإشعاعية Nuclear and Radiological Regulatory Commission</p> <p>Regulation</p> <p>Decommissioning of Nuclear Facilities</p>	<p>هيئة الرقابة النووية والإشعاعية Nuclear and Radiological Regulatory Commission</p> <p>Regulation</p> <p>Nuclear Facilities Radioactive Waste and Spent Fuel Management</p>
<p>هيئة الرقابة النووية والإشعاعية Nuclear and Radiological Regulatory Commission</p> <p>Regulation</p> <p>Notification on and Authorization of Facilities and Activities With Radiation Sources</p>	<p>هيئة الرقابة النووية والإشعاعية Nuclear and Radiological Regulatory Commission</p> <p>Regulation</p> <p>Site Evaluation of Nuclear Facilities</p>	<p>هيئة الرقابة النووية والإشعاعية Nuclear and Radiological Regulatory Commission</p> <p>Regulation</p> <p>Construction and Commissioning of Nuclear Facilities</p>	<p>هيئة الرقابة النووية والإشعاعية Nuclear and Radiological Regulatory Commission</p> <p>Regulation</p> <p>Nuclear Security</p>	<p>هيئة الرقابة النووية والإشعاعية Nuclear and Radiological Regulatory Commission</p> <p>Regulation</p> <p>Nuclear Facilities Emergency Preparedness and Response</p>
<p>هيئة الرقابة النووية والإشعاعية Nuclear and Radiological Regulatory Commission</p> <p>Regulation</p> <p>Licensing and Regulatory Oversight of Nuclear Facilities</p> <p>NRRC-R-03</p>	<p>هيئة الرقابة النووية والإشعاعية Nuclear and Radiological Regulatory Commission</p> <p>Regulation</p> <p>Design of Nuclear Facilities</p> <p>NRRC-R-06</p>	<p>هيئة الرقابة النووية والإشعاعية Nuclear and Radiological Regulatory Commission</p> <p>Regulation</p> <p>Operations of Nuclear Facilities</p> <p>NRRC-R-09</p>	<p>هيئة الرقابة النووية والإشعاعية Nuclear and Radiological Regulatory Commission</p> <p>Regulation</p> <p>Nuclear Safeguards</p> <p>NRRC-R-12</p>	<p>هيئة الرقابة النووية والإشعاعية Nuclear and Radiological Regulatory Commission</p> <p>Regulation</p> <p>Safe Transport of Radioactive Material</p> <p>NRRC-R-15</p>



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Specific Regulations and guidance



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Specific Regulations and guidance

- NRRC is developing several and specific regulations and guides in areas relevant to its mandates prescribed under the Law.
- The guides consist of regulatory guidance for the authorized person, the workers and the person responsible for ensuring compliance to the requirement of the Law.
- The provision of the guides is with the goal to ensure achievement of optimum safety and security developed based on international best practices.



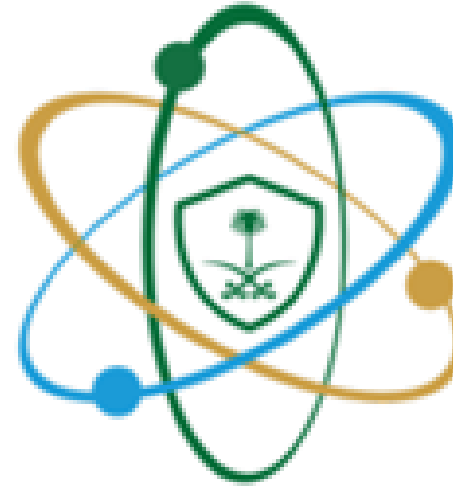
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NRRC Web Site



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Have a look



WWW.NRRC.GOV,SA



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NRRC Strategy



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NRRC Core Values

Mission

To provide effective nuclear regulatory services to protect people and the environment from radiation

Vision

To be recognized as a highly competent, transparent, and accountable nuclear regulator

1

OPENNESS

Openness to collaboration, to new ideas, and information, and willingness to share information

2

TRANSPARENCY

Disclosing and explaining the reasoning behind decisions, and letting others see what actions are performed and why

3

INDEPENDENCE

Making decisions, especially regarding safety, free from external pressures

4

COMMITMENT

Commitment to performing its mission, commitment to safety and commitment to continuous improvement

5

CONSISTENCY

Making decisions in a consistent and fair manner based on science and law



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NRRC Strategy



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NRRC Mandate

NRRC's statute assigns **four major mandates** to the Commission.

The strategy is designed to enable NRRC to organize itself in the most efficient manner and fulfil these mandates.

1

regulating activities, practices and facilities involving peaceful use of nuclear energy and ionizing radiation

2

controlling and ensure the safety and security of Peaceful uses of nuclear energy and ionizing radiation compliance with nuclear safeguards

3

protecting humans and the environment against any actual or potential exposure to radiation, including exposure to natural radiation

4

implementing the Kingdom's obligations under relevant treaties and conventions



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NRRC Oversight



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Nuclear Applications

1

NPP Siting

2

NPP Technology Selection

3

NPP Design

4

NPP Operation

5

Uranium mining

6

Nuclear Waste

7

NPP Services

Radiological Applications

1

Water

2

Oil & Gas and Mining

3

Material

4

Health and Medicine

5

Agriculture

6

Environment

7

R&D

8

Food

9

Pets Control

10

Sterilization

11

NDT

12

Security & Custom

13

Nuclear Gauges

14

Nuclear Safety and Security

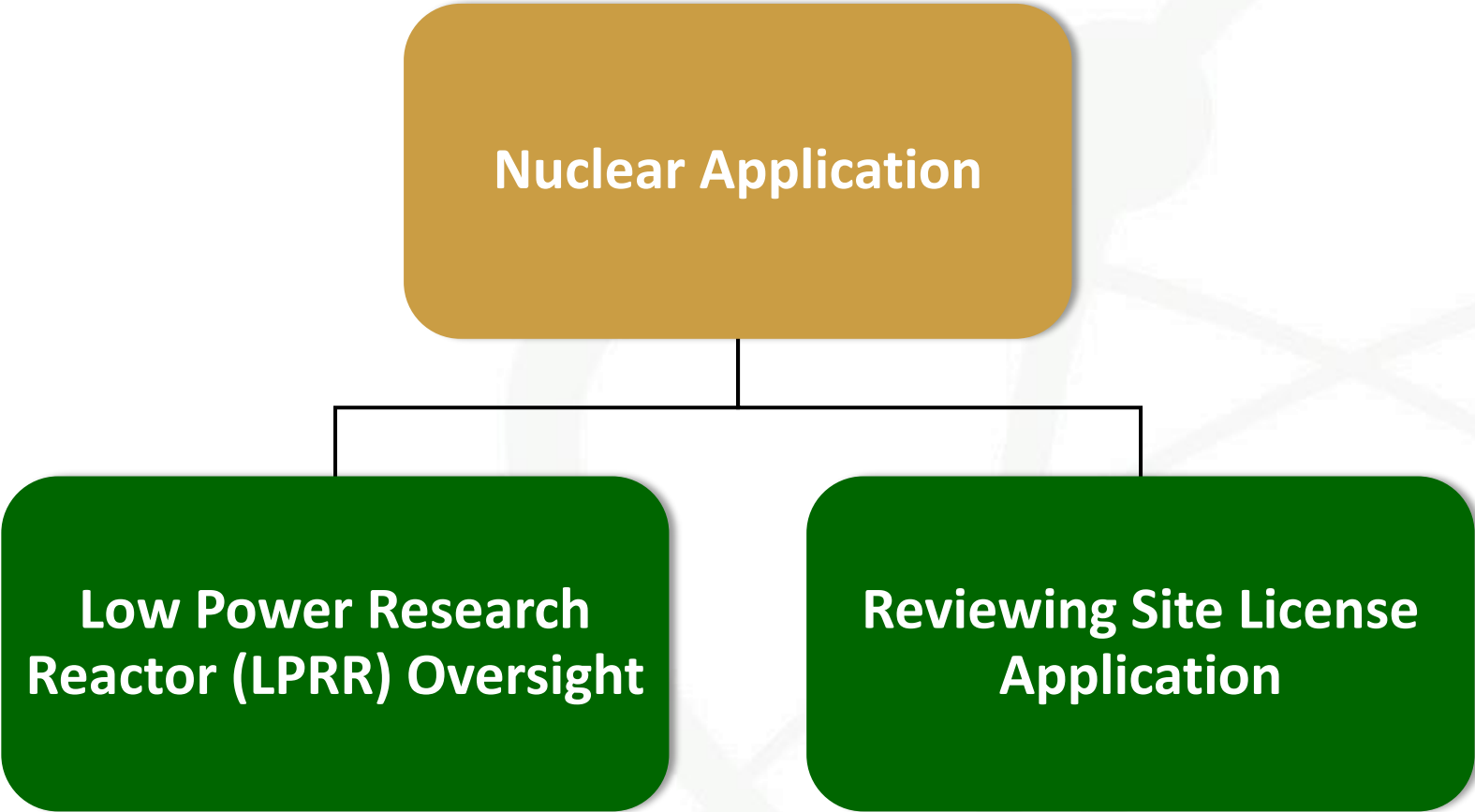


Nuclear Oversighting Practices

Nuclear Facilities Oversighting



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Nuclear Oversighting Practices

Nuclear Facilities Oversighting



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Reviewing Site License Application

- Currently the NRRC in the process of reviewing site license application for the first NPP in Saudi Arabia



Nuclear Oversight in
Practices



First nuclear research reactor in Saudi Arabia



Power: 30-100 kW(th)

LPRR Overview



Open pool reactor



**Fuel rods design similar to commercial
nuclear power plants (PWR)**



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LPRR Overview



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Low Power Research Reactor

- **Nuclear facilities:** Low Power Research Reactor (LPRR) under construction.
- **Site:** Riyadh – King Abdul-Aziz City for Science and Technology.
- **Power:** 30 – 100 kW(th)

- **Applications**

- **Education and Training**

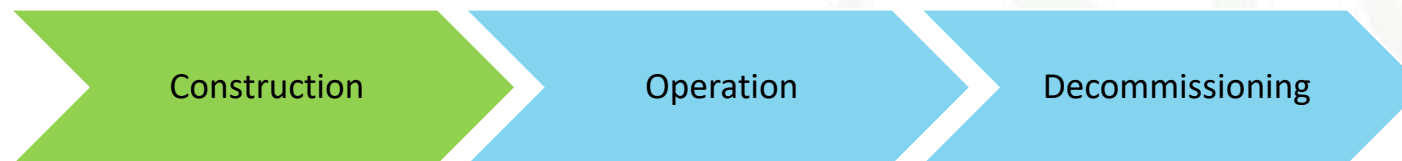
- Two control rooms (one is dedicated for educational purposes)
- Simulator

- **Nuclear Research Application**

- Neutron activation analysis NAA
- Radiochemistry Labs
- Radioisotopes Production

- **Regulatory Oversight Activities on Low Power Research Reactor**

- Licensing Stages



Thank you



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