



**Nuclear Regulatory Licensing
Process**

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A Case for Regulatory Framework

- To ensure high levels of safety and institutionalisation of a ***safety culture*** in nuclear energy, a viable and independent regulatory infrastructure is required



A Case for Regulatory Framework

Other factors

- Anticipated nuclear expansion with possible introduction of new nuclear technologies
- Public Perceptions and anxieties
- Fukushima Daichi Incident
- International commitments by South Africa



The Regulator : Purpose

- Independent, efficient and effective oversight of the nuclear industry providing assurance that nuclear facilities are operated without undue radiological risk to the people, property and the environment



NNR Mandate

- Section 5 & 7 of the National Nuclear Regulator Act 47 of 1999 confers the mandate on the NNR to provide for the protection of persons, property and the environment against nuclear damage
- Mandate is executed through the establishment of safety standards and regulatory practices



NNR Mandate

- NNR issues or grants nuclear authorizations and manages enforcement processes to ensure compliance with the set standards
- Approach of the NNR is not prescriptive but operators are required to satisfy the NNR of the safety case within the parameters of set standards



Licensing

- Licensing requirements contained in Regulations issued in terms of S36 and 47 of the Act (Safety Standards and Regulatory Practices - SSRP)
- SSRP addresses such issues as risk criteria addressing mortality risk to the public, radiation dose limits to the public and workforce



Licensing

-fundamental safety principles including defence in-depth and ALARA; general safety principles to comply with international norms and principles and requirements for emergency planning
- Analysis of a safety case must demonstrate that the proposed design will comply with the NNR licensing requirements



Licensing

- Section 5(b) and 20(1) – oversight over design of nuclear installations and manufacture of components or parts important to nuclear safety through the granting of nuclear installation licences.
- Siting, design, manufacturing, construction, operation to decommissioning fall under NNR regulatory control



Licensing

- Phased approach is adopted requiring a detailed safety case per each phase
- Nuclear Installation Licence may be issued per stage where a safety case has been demonstrated and can be varied with each phase of development
- Application typically covers siting, design, construction, manufacturing, operation and decommissioning



Licensing

- Introducing Regulations relating to the siting of new nuclear installations
- Enable assessment that relevant siting factors including external hazards have been appropriately characterized for both design assessment and for risk analysis leading to a conclusion that the site is appropriate for choice of technologies



Licensing

- Construction licence required for a plant specific safety analysis
- NNR Regulatory documents articulating requirements and processes to be followed in lodging an application
- NNR reviews and determines whether to grant a licence (NIL) or not



Time Line

- Factors affecting timeline would relate to quality of the submission (application), availability of competent and adequate capacity within the NNR; regulatory support from Technical Support Organizations where needed etc



Time Line

- 40 Months – Construction Licence



Time Line

- Early preparation including familiarization of staff with choice of technology (12 months)
- Safety review
- Public Engagement (24 months)
- NNR CEO decision
- NNR Board Decision (4 months)



NNR Preparedness

- Conducted Self Assessment of Regulatory Infrastructure using the IAEA Self-Assessment Tool (SAT) to identify gaps between NNR legislative and regulatory frameworks and the IAEA Safety Standards
- Implementation Plan developed to address gaps



NNR Preparedness

- NNR input to the Integrated Nuclear Infrastructure Review (INIR) initiated to evaluate South Africa's readiness to implement the nuclear build programme as stipulated in the IRP 2010



NNR Preparedness

- NNR currently undergoing restructuring process to position itself for the expansion
- Resource constraints/ requirements will continue to pose challenges
- NNR commitment to facilitate licensing unquestionable and early involvement is proposed



NNR Licensing

Thank You

