



The Role of FANR in the Quality Assurance of Supply

IFNEC

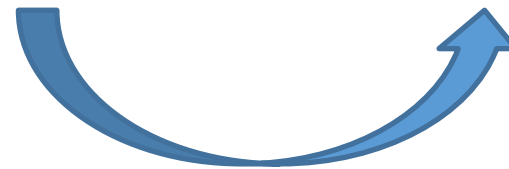
Global Supply Chain and Localization Issues and Opportunities Conference
7&8 November 2017



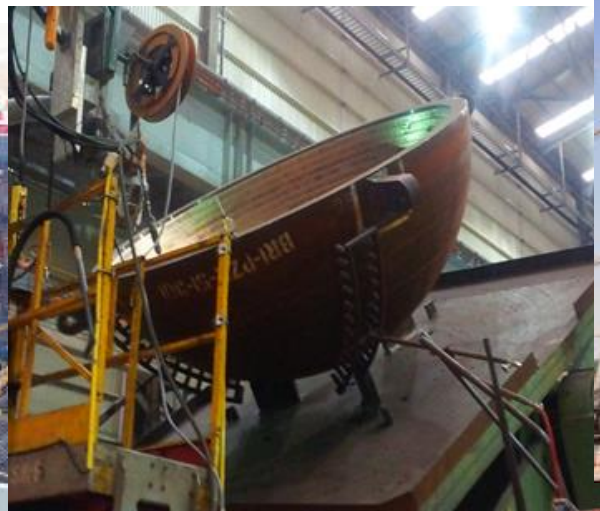
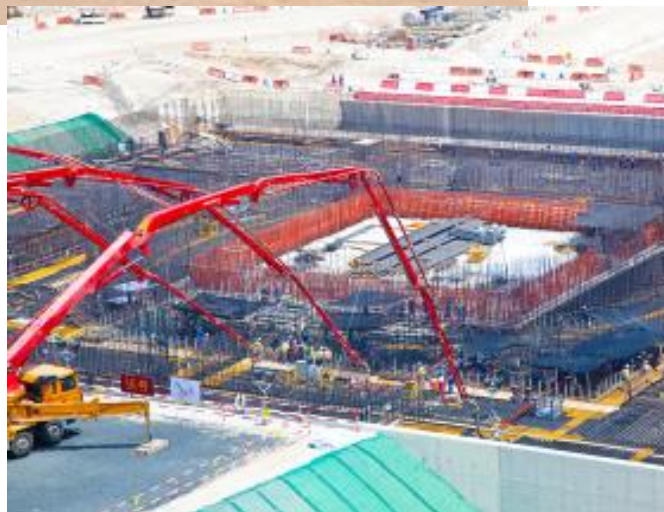
Progress at Barakah NPP



2009



2017





UAE Policy on the Evaluation and Potential Development of Peaceful Nuclear Energy

- Complete operational transparency
- Highest standards of non-proliferation
- Highest standards of safety and security
- Close cooperation with the IAEA
- Partnership with governments and firms of responsible nations
- Long-term sustainability





Legal and regulatory framework

- Federal Law by Decree No 6 of 2009 Concerning Peaceful Uses of Nuclear Energy
- Legal framework for regulated activities in the UAE nuclear sector
- Establishes FANR as the national regulatory body responsible to ensure safety, security and exclusively peaceful purposes
- Empowers FANR regulatory functions:
 - Setting standards through regulations
 - Safety assessment, authorisation and licensing
 - Inspection and enforcement





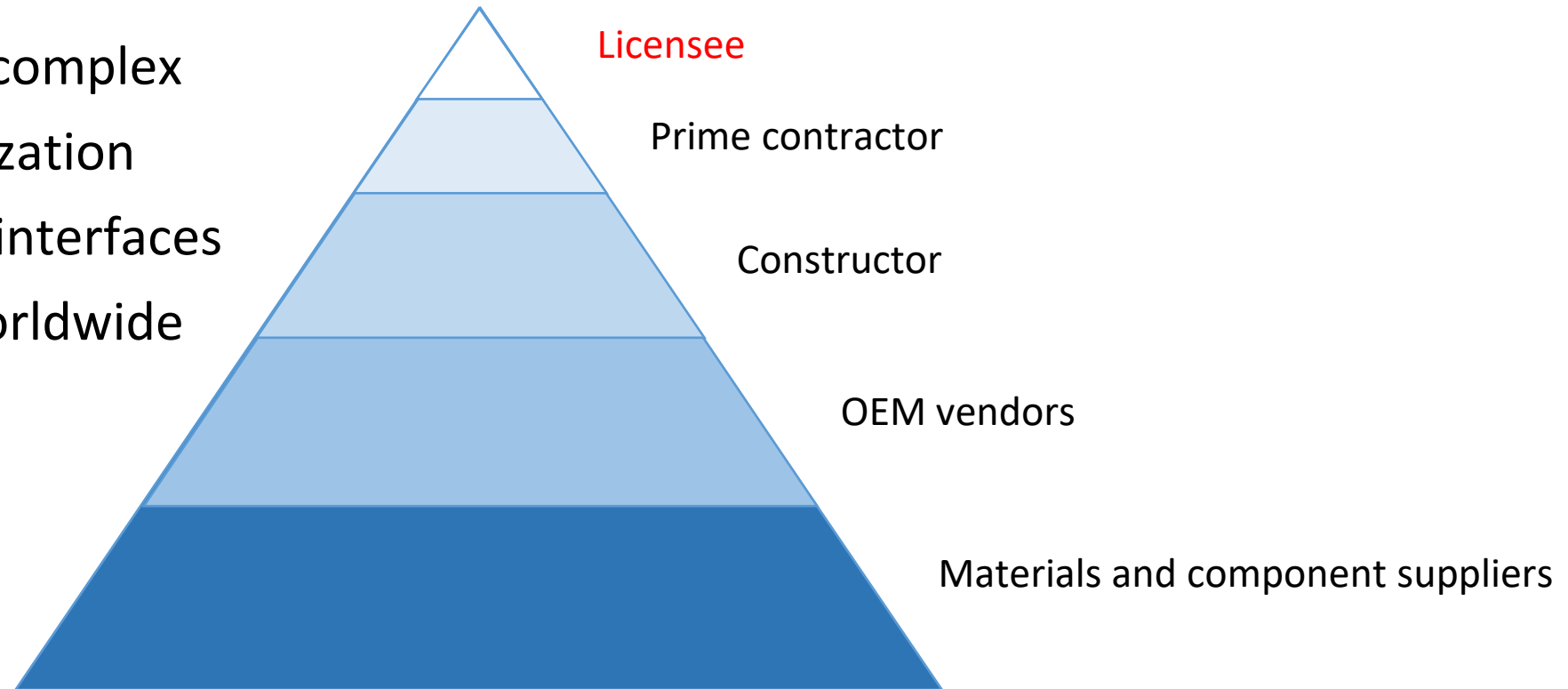
Licensee's responsibility

- Under UAE nuclear law:
 - The licensee has the primary responsibility for the safety of its activities
 - The licensee may contract all or a material part of the regulated activity but remains responsible before the Authority even if certain activities are performed by contractors
 - Regulatory inspections do not diminish the licensee's responsibility for safety nor substitute for its control supervision and verification activities



The reality of the nuclear supply chain

- NPP supply chain is complex
- Large project organization
- Multiple actors and interfaces
- Various locations worldwide



(With acknowledgements to Greg Kaser of WNA)



Inspection objectives

- Trust, but verify!
- Verification of:
 - conformance with UAE law, FANR regulations and licence
 - the licensee's management system and quality assurance programme provide adequate oversight and control
 - facilities, equipment and work performance meet all necessary requirements
 - the as-built facility can be operated safely in accordance with the assumptions and safety goals described in the safety analysis report and FANR's safety evaluation and regulatory requirements
 - personnel possess the necessary competence
 - the licensee's operating organisation is ready to commence operation



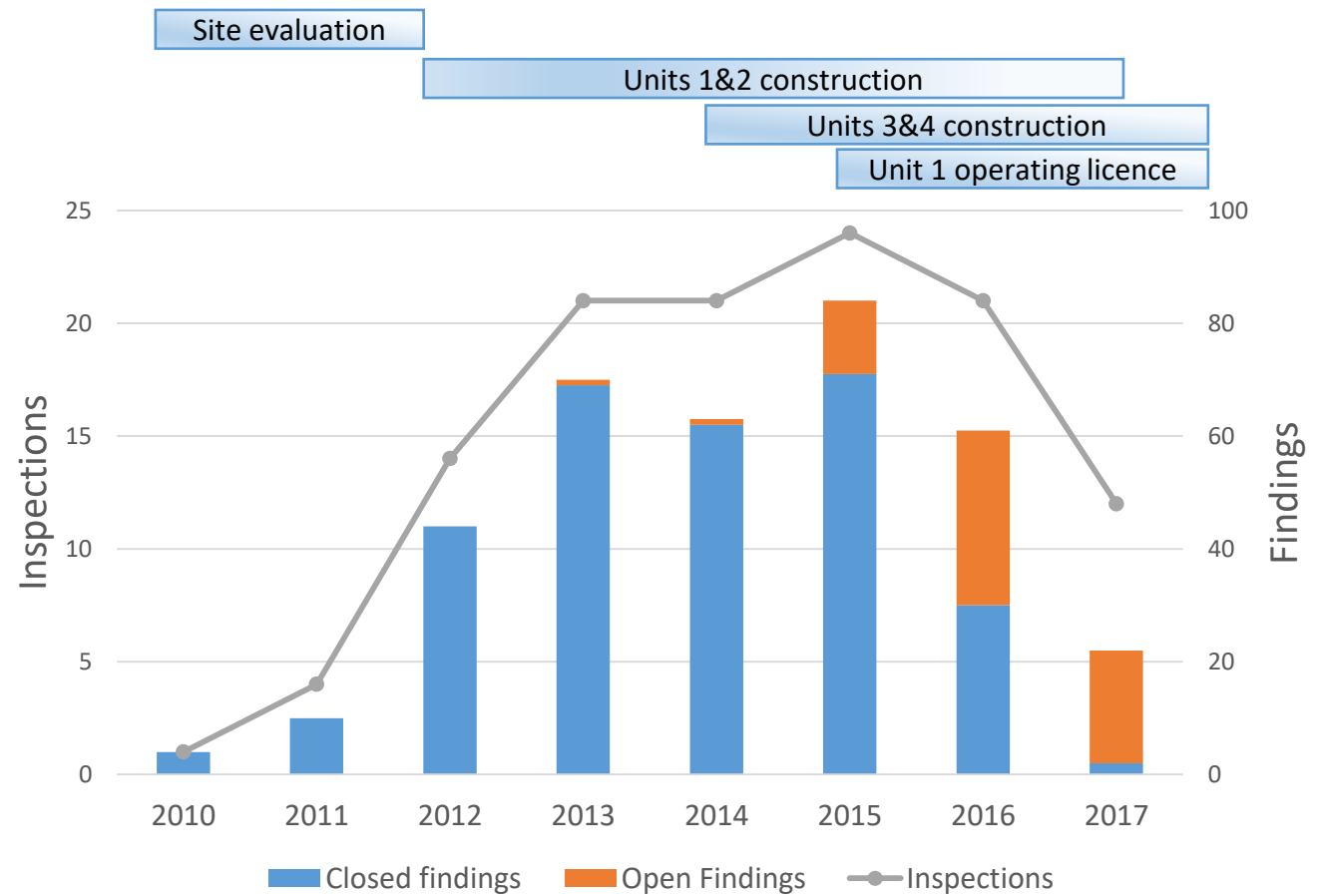
Inspection Programme Scope

- Licensee QA and oversight
- Prime contractor
- Vendors
- Site characterization
- Construction
- Commissioning
- Operating organization
 - Facility constructed in accordance with requirements
 - Operator ready to commence operation



Implementation

- 112 Inspections to date
 - Siting
 - Construction
 - Vendors/procurement
 - Commissioning
 - Operating organisation
- 358 findings
- 1000s of person-hours





Some Reflections

- Adequacy of licensee oversight of vendors and construction
- Different expectations between regulator, licensee and country-of-origin vendors
 - E.g. control of modifications
- Vendor and construction quality cannot be taken for granted
 - CFSI
- Value of cooperation with the regulatory body in the country of origin
 - And international cooperation generally
- Commissioning organisation, procedures and reporting to demonstrate facility built in accordance with requirements
- Operating organization—a challenge for a newly embarking country



Thank you

