

Nuclear Regulation in the UAE

Presentation to ARPANSA Licence
Holder Forum

16-17 March 2016

The UAE



Federal Authority for Nuclear Regulation (FANR)

- Regulates nuclear facilities and use of radiation sources in all the UAE
 - Scope includes safety, security and safeguards
- Siting, construction, operation and decommissioning of nuclear facilities
- Possession, use or handling; import/export; transport of radiation sources.
- Also required to advise government entities on relevant matters

Structure of FANR

- Board of Management
 - Not less than 7 qualified UAE citizens
- Board is the regulatory decision-maker as well as overseeing management of FANR
- Director General
 - Appointed by the Board to manage the authority's business and oversee its affairs under the Board's control
- FANR funded:
 - licence fees (90% from ENEC)
 - Government allocation
- Around 180 staff; budget round \$A100 million

Licensing of Barakah NPP (Units 1-4)

- Four APR 1400 reactors: ENEC, KEPCO
- Early licences: Site Selection Licence; Site Preparation Licence; Limited Construction Licence
- Construction (and related Regulated Activities) Licence for Units 1 & 2 (July 2012); Units 3 & 4 (Sept 2014)
- Licence for Possession and use of nuclear material for Units 1-4 in accordance with State system of accountancy and control (October 2015)
- Application for an Operating Licence for Units 1&2 on 26 March 2015
- Application(s) for import, transport and storage of nuclear fuel – prior to operating licence

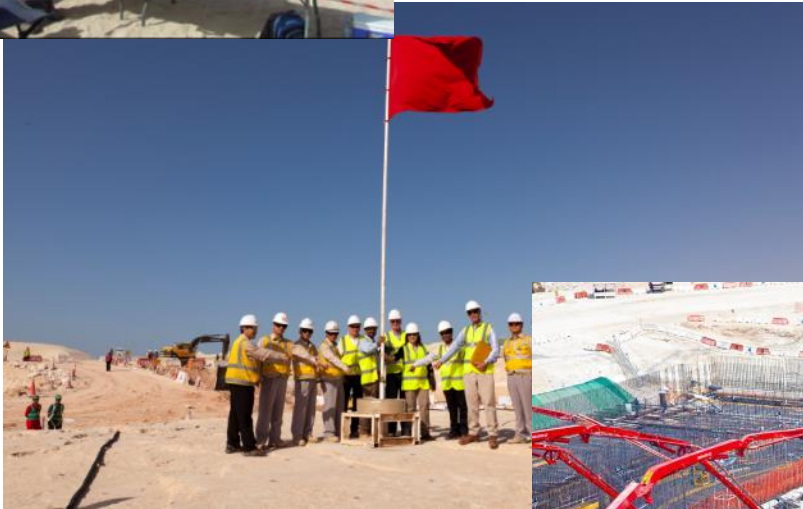
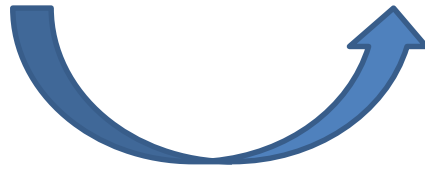
Review and Assessment of Barakah Licence Applications

- Review led by in-house staff
- Supported by 'TSO' contracts with consortiums in Europe and United States
- For some aspects, draw upon assessment by KINS
- Conditional acceptances employed in construction licence
- Fukushima review

Progress at the Barakah site

2009

2015



Licensing of Radiation Sources

- Over 1400 licences issued: 3/4 medical (including dental); and 1/4 industrial
- Medical: radiotherapy; nuclear medicine; diagnostic radiology (medical and dental)
- Industrial: industrial radiography; well-logging; gauges; research and education.

FANR Regulations

- FANR has power to make regulations that are binding on the licensee.
- Regulations are based upon and compliant with IAEA safety standards and IAEA security guidance
- Drafting process includes Government agency comment and public comment
- Regulatory guides issued to support regulations
 - Often adopting international or US NRC guidance documents

FANR Regulations

- **Nuclear Facilities:** management system; siting; design; content of construction and operating licence applications; operational safety; certification of operators; radiation protection and radioactive waste management; security; emergency response; decommissioning (in preparation).
- **Radiation Sources:** ‘basic safety standards’; security; transport; waste management.
- **Nuclear material and technology:** import/export; accountancy and control.

Inspections

- **Nuclear Facilities:** inspections at Barakah site, including resident inspectors; headquarters inspections of management systems; vendor inspections in ROK and US.
- **Radiation Sources:** inspection programme based upon hazard
 - Safety, security and safeguards inspections
 - Not yet integrated

Other Activities

- Licensing of ADNOC NORM treatment facility
- Administration of nuclear liability law – applying Vienna Convention
- Decommissioning Trust Fund
- Radioactive Waste Management Strategy

International Involvement

- Participation in IAEA safety and security committees
- IAEA assistance through TC programme
- Peer reviews: INIR (2011); IRRS (2011 and 2015); ISSAS (2014); EPREV (2015); IPPAS (2016).
- Participation in review meetings of the CNS and JC
- Hosted international conference on safety and security of radioactive sources

What I Learnt

- Vital importance of global nuclear safety and security regime
 - For standards to support regulation
 - For peer review
 - For expertise
- Importance of regulator-operator interaction and respect
- Need for national infrastructure: emergency response, security, health sector

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Thank You