

Role and Experience of FANR as National Regulator  
Designated as Competent Authority under the Emergency  
Conventions  
“Senior Regulators’ Meeting”  
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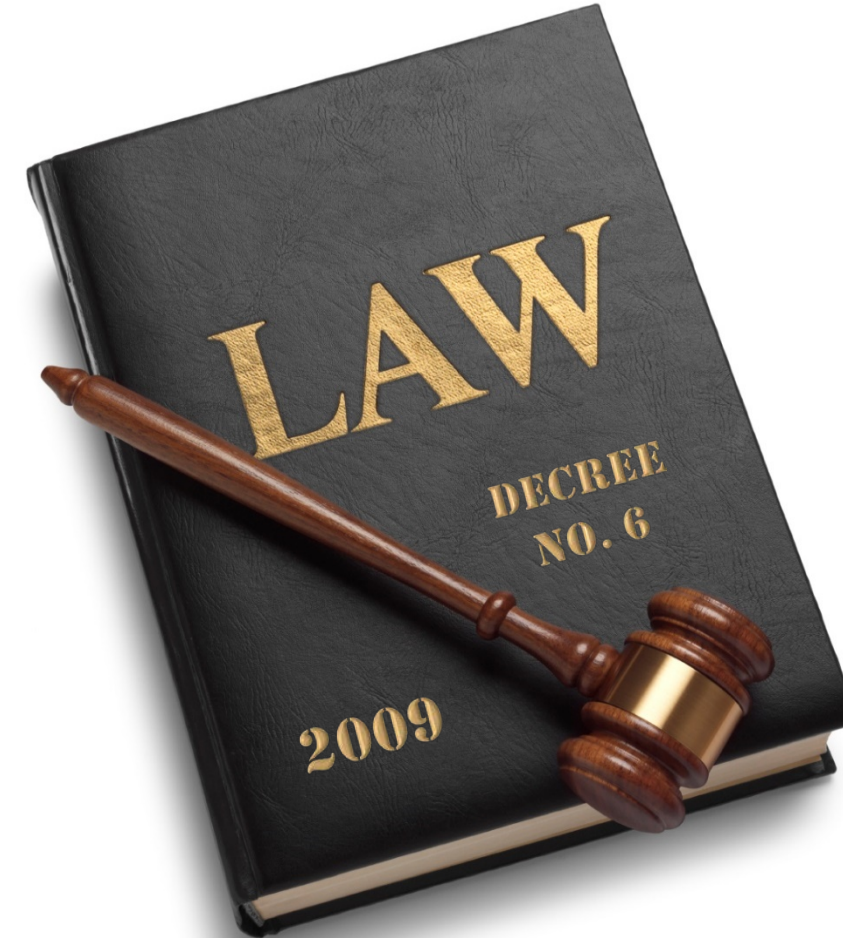
## Outline

- UAE Nuclear Emergency arrangements
- Role of FANR
  - Regulator
  - Advisor and response organization
  - Competent Authority
- FANR experiences
- Cooperation with the IAEA



## Planning Basis

- White paper: “Policy of the UAE on the Evaluation and Potential Development of Peaceful Nuclear Energy”
- Law No. 6 (2009): “Concerning the Peaceful Use of Nuclear Energy”
- Law No. 2 (2011): “In Respect of the Establishment of the National Emergency, Crisis and Disasters Management Authority (NCEMA)”
- Other planning basis documents:
  - FANR regulations
  - IAEA requirements (**GSR Part 7**)
  - International best practices



# UAE Nuclear Emergency arrangements



## UAE Nuclear Emergency Arrangements: Response Related Documents

- General Framework on National Response
- General Framework for Nuclear and Radiological Emergency Response
- Plan for dealing with Nuclear or Radiation accidents occurring more than 300 km from UAE boundaries
- Barakah Nuclear Power Plant: On-Site, Off-Site Plan and Media Plan
- Mechanism for Requesting Assistance
- MOI CBRN Plans
- Supporting entities plans and procedures (e.g. health, environmental, food control, foreign affairs)
- Other than nuclear facilities' Emergency Plans



الإمارات العربية المتحدة  
المجلس الأعلى للأمن الوطني  
الهيئة الوطنية للإدارة الطوارئ والأزمات والكوارث



شركة نواة للطاقة  
Nawah Energy Company

**The UAE Nuclear Emergency Arrangements was successfully demonstrated to the EPREV Mission in 2015.**

# Planning basis documents

- White paper: UAE policy
- Federal Law No. 6 of 2009: FANR Law
- Federal Law No. 2 of 2011: NCEMA Law
- IAEA requirements
- International best practices
- FANR-REG-12:Emergency Preparedness for Nuclear Facilities
- FANR-REG-15:Requirements for Off-Site Emergency Plans for Nuclear Facilities
- Other FANR-REGs

# Response documents

- General Framework on National Response
- General Framework for Nuclear and Radiological Emergency Response
- 300 km from UAE boundaries Plan
- CBRN Plans
- Barakah NPP On-site Plan
- Barakah NPP Off-site Plan
- Barakah NPP Media Plan
- Mechanism for Requesting Assistance
- Response Entities' Plans and Procedures
- Other than Nuclear Facility's Emergency Plans

### Main entity responsible for the document

- FANR document
- Ministry of Interior Document
- NCEMA document
- Licensee document

### Scope of the document

- Conventional emergencies
- Nuclear emergencies
- Radiological emergencies
- Nuclear and radiological emergencies

## As Regulator

- Review and develop regulations and regulatory guidance
- Perform inspections on emergency preparedness arrangements
- Assessment of licensee arrangements
  - Approve on-site plan
  - Evaluate national exercises



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### REGULATION

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#### Regulation for Emergency Preparedness for Nuclear Facilities (FANR-REG-12)

Version 0

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## As advisor and response organization

- Implement emergency conventions
- Provide governmental bodies, national and international organizations and the public with information on incidents and abnormal occurrences
- Cooperate with relevant entities, advise them and provide information on emergency planning and preparedness
- For Barakah emergencies:
  - Activate its EOC and liaise with licensee's facilities (TSC and EOF)
  - Provide technical support to first responders
  - Provide liaison officers to the National Operations Centre
  - Provide technical recommendations
  - Liaise with IAEA to notify emergency situations and request assistance if needed

## FANR Internal Arrangements related to Nuclear and Radiological Emergencies

- EPR is included in one of the core processes of FANR's Integrated Management System
- Preparedness documents describing programmatic arrangements
- Response arrangements with current 24/7 capabilities in place
- Training and qualification of FERO members
- Specific arrangements for interacting with IAEA

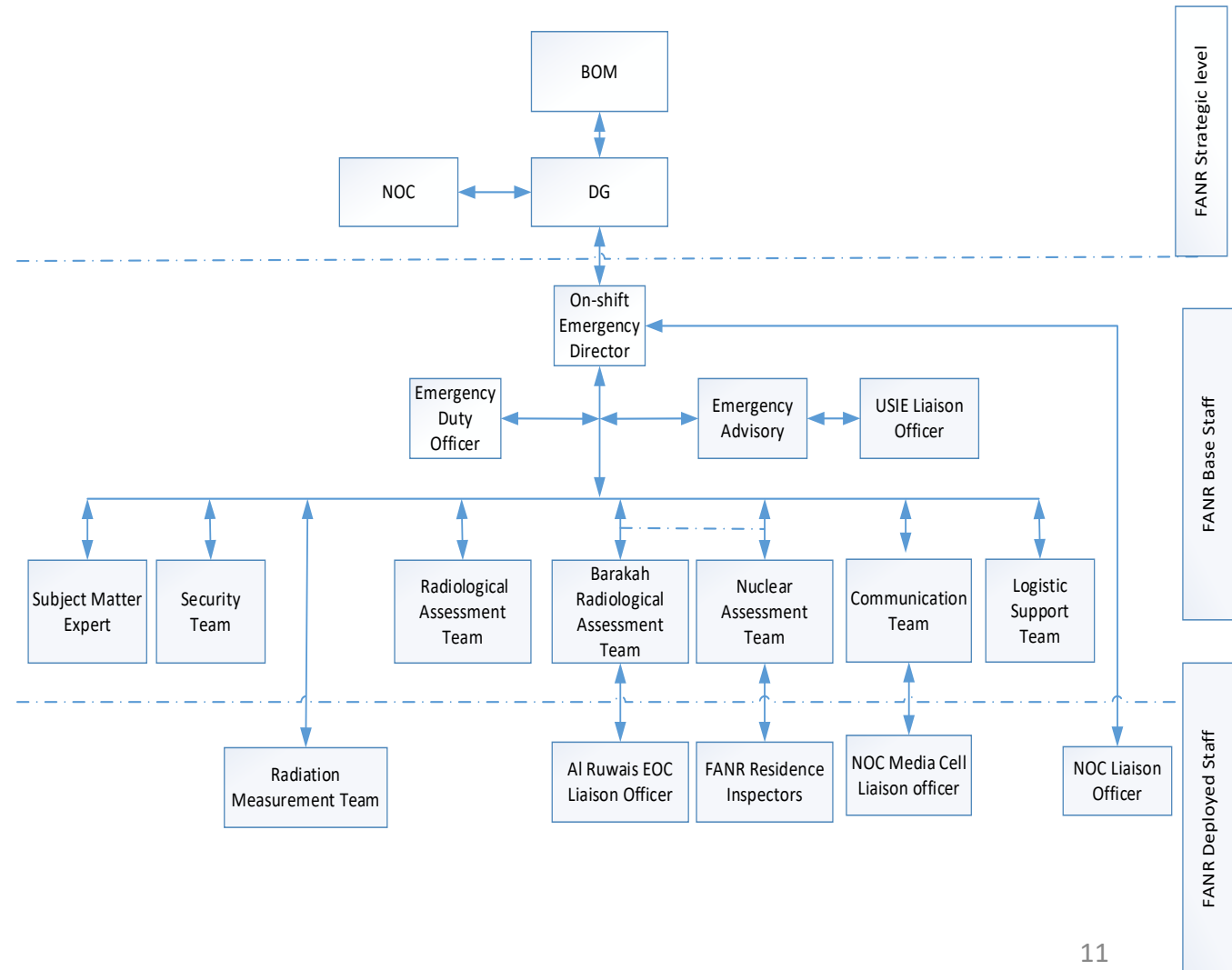




# Role of FANR

## FANR Emergency Response Organization (FERO)

- Strategic level
- FANR based staff
  - Led by an emergency director
  - Support from a number of supporting teams and positions
- Deployed staff
  - Liaison Officers with other entities
  - Other deployed teams



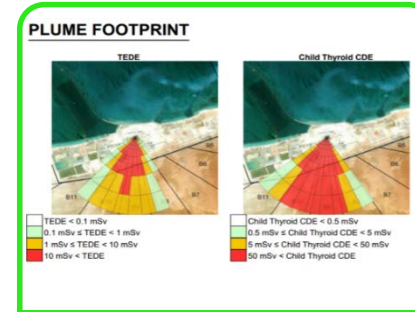
## FERO Tools and Operational Arrangements




FANR Emergency Management System (FEMS)



Safety Parameters Display and Evaluation System (connected to the operator)



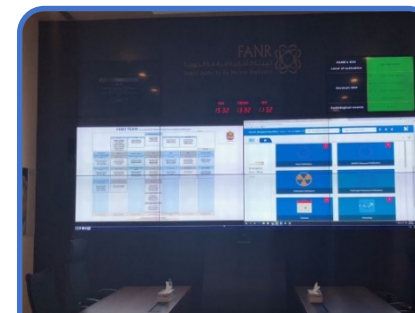
Radiological Assessment Systems (RASCAL-BARAM)



Live radiation monitoring system (NMC)



IAEA systems (USIE, IRMIS & EPRIMS)



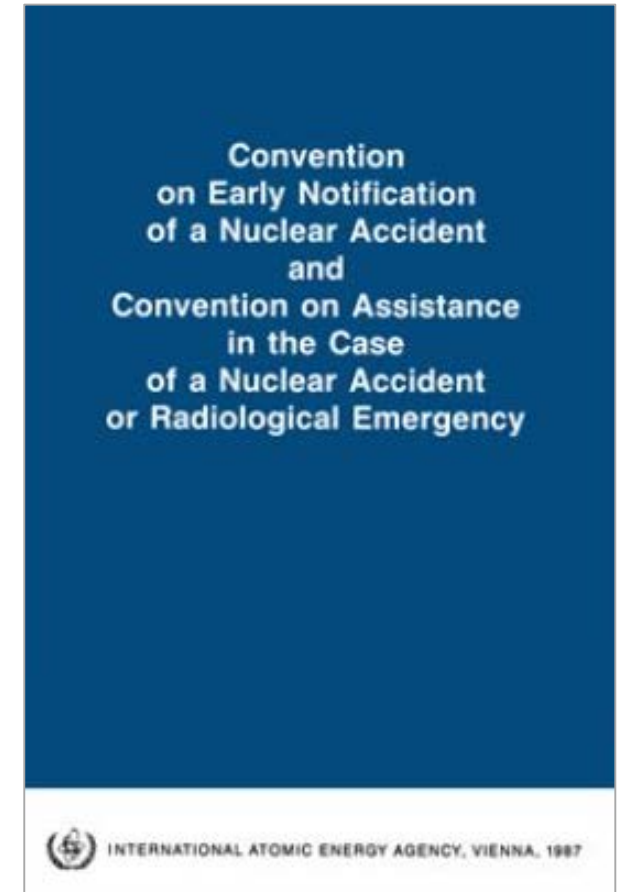
Others

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## As Competent Authority

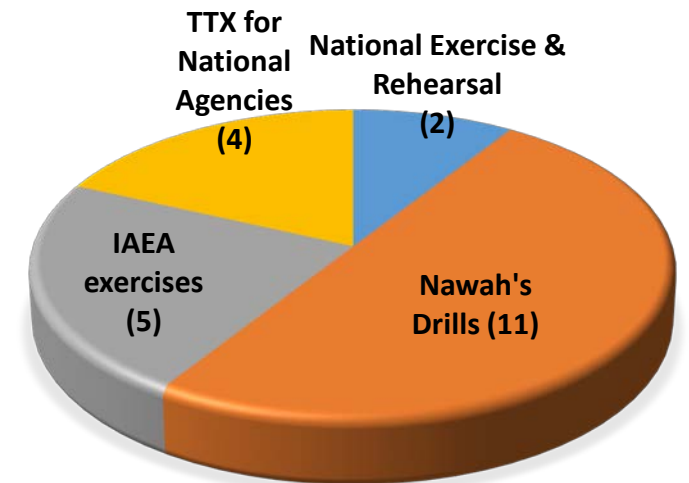
- Under the Emergency Conventions, FANR acts on behalf of the UAE as the:
  - National Competent Authority Domestic (NCA-D)
  - National Competent Authority Abroad (NCA-A)
  - National Warning Point (NWP)



## Exercises, Drills and Table Tops

- IAEA exercises
  - FANR participated and coordinated UAE participation in:
- Drills organized by Nawah
  - FANR participated to test internal FANR arrangements
- Full-scale National Exercises
  - Two Full-Scale Exercises (Feb. 2016 and Oct. 2017)
- Table-top exercises for other entities
  - FANR organized sessions on Criteria for Protective Actions in Response to a Nuclear or Radiological Emergency

### NATIONAL EXERCISES, REHEARSALS AND TABLE TOP EXERCISES (2017-JAN TO 2018-AUG)



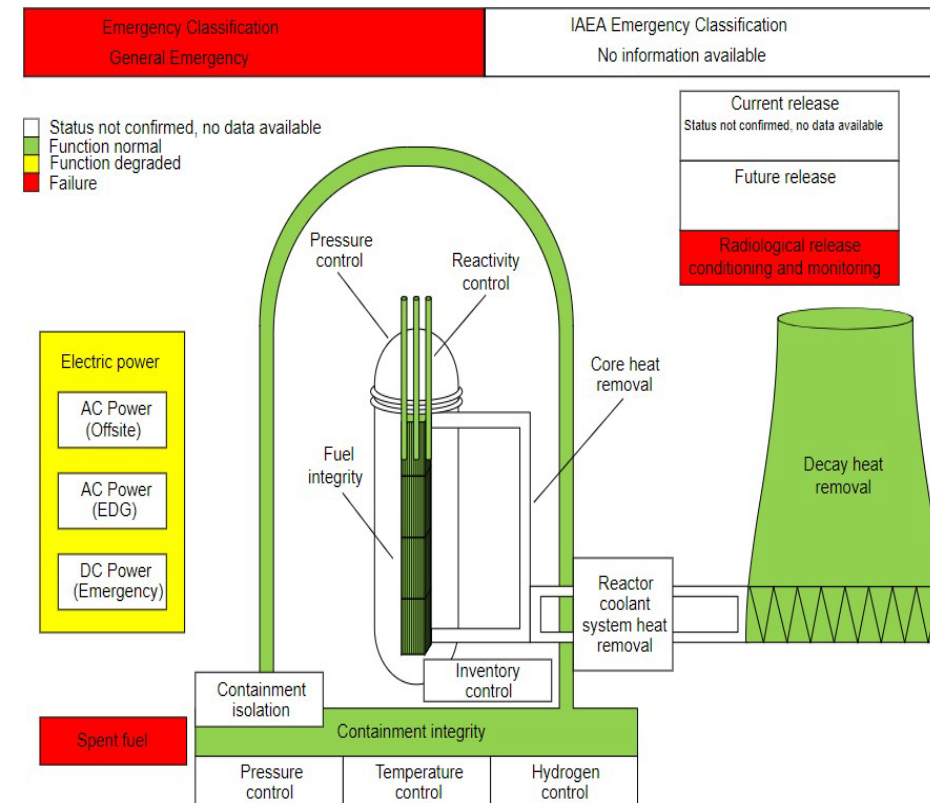
## Challenges and opportunities as Competent Authority

- **Coordination** with other entities in different fields (e.g. monitoring, request of assistance, protection strategy, guidance levels)
- **Reporting** events to the international community (e.g. INES and USIE forms)
- **Simultaneous roles** (i.e. regulator, response organization and competent authority under IAEA conventions)
- **Public communication** are well defined at national level for conventional emergencies. For nuclear and radiological emergencies every entity's mandate is to be considered
- The **experience** gained by FANR may be shared with other countries

## Cooperation with the IAEA in Prognosis and Assessment

FANR considers IAEA tools in the topic very useful to ease communication with the IAEA.

- Priority for FERO and for the assessment team is on assessing licensee specific-technology-parameters
- FANR uses the tool for benchmarking purposes



- There is a **well established system** to respond to emergencies in the UAE
- The UAE system for responding to **nuclear and radiological emergencies** in the UAE is built on international requirements and best practices for nuclear and radiological emergencies and FANR has a very important role:
  - As Regulator: following licensees actions
  - As advisor and response organization: providing advice to national entities (during preparedness and response) and responding as requested by national entities
  - As Competent Authority interacting with the IAEA
- FANR will continue **applying** IAEA's requirements, systems and tools as benchmark of UAE arrangements
- UAE is **willing** to share their experience on utilising IAEA tools on EPR





# Thank you

