

Feedback experience from the IAEA missions with respect to Nuclear Security of Barakah NPP in the UAE¹

This paper presents the benefits, to the development of the nuclear power programme in the United Arab Emirates (UAE), of the different missions performed by the International Atomic Energy Agency (IAEA) in regards to nuclear security for nuclear power plant. At the very beginning of the implementation of the nuclear power programme, the IAEA, on demand of the UAE, conducted an Integrated Nuclear Infrastructure Review (INIR) in January 2011. This INIR mission has a broad scope than nuclear security, to check the completion of the nuclear infrastructure for each of three phases (Phase 1: before the decision to launch a nuclear power programme is taken; Phase 2: before to invite bids for the first nuclear power plant; Phase 3: before the commissioning and operating of the first nuclear power plant). The INIR mission was initiated for the first two phases and the UAE has prepared, before, a detailed self-evaluation report on the activities they have already done. Chapter 15 –security and physical protection –described the legislative and regulatory framework for nuclear security developed and to be developed, and the design basis threat (DBT) to be established as well as the protection of sensitive information. During this mission, the exchange between the IAEA team and the security team in both FANR, ENEC and CNIA was really fruitful for the development of the programme. The INIR 3 mission was conducted in July 2018 and, as a result, for the Chapter 15 –nuclear security -, IAEA proposed suggestions for ENEC and good practice for FANR to be detailed in the present paper. In March 2014 at the Nuclear Security Summit (The Hague, the Netherlands), the UAE stated in its progress report that an International Physical Protection Advisory Services (IPPAS) mission will be provided to the UAE by the IAEA in 2016. The UAE requested by letter to the IAEA dated 3 February 2015 that the IAEA arrange an IPPAS mission in 2016 to assess the nuclear security programme of the UAE. From 29 October to 10 November 2016, the IAEA performed an IPPAS in the UAE. IPPAS is a peer review by IAEA expert on implementing relevant international instruments, in particular the CPPNM, its 2005 Amendment, and IAEA Nuclear Security Series publication, in order to assist member state in the establishment and maintenance of their national nuclear security regime. It was the first time at the AIEA that such mission is conducting during construction of unit. In this case, the scope of the mission was relatively narrowed to only focus on module 1 –national review of nuclear security regime for nuclear material and nuclear facilities; module 2 - nuclear facility review and module 4 - security of radioactive material and associate facilities and associated activities. The construction of Unit 1 & 2 of Barakah NPP was reviewed regarding these items. The UAE provided an Additional Information Package (AIP), which included relevant legal and regulatory documents, licensing and inspection procedures, facility specific information and a list of all documents relevant to nuclear security one month prior to the mission. The package was prepared involving all stakeholders in the nuclear security domain. The IAEA final report contained recommendations, suggestions and good practices, which will be used for the enhancement of the nuclear power programme in regards with the nuclear security. The IAEA, on demand of the UAE, has also performed other missions in the UAE such as Integrated Regulatory Review Service (IRRS), International SSAC Advisory Service (ISSAS), Emergency Preparedness Review (EPREV), which have little input in nuclear security. However, the IAEA advised and helped the UAE to build its nuclear security programme for nuclear power plant, by implementing the Integrated Nuclear Security Support Plan (INSSP) as well as the Integrated Master Work Plan (IWP) covering the nuclear sector. These plans provided national trainings and activities to be implemented in the security domain of the nuclear power plant. From 2011 until this year, the UAE, with the help of the IAEA nuclear security division, has worked in nuclear security and finally achieved this task with the issuance of the licence of Unit 1 of Barakah Nuclear Power Plant.

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