

## **The Role of the Moroccan Research Reactor in the Development of a National Infrastructure Needed for a Nuclear Power Programme and Regional Aspects**

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The National Centre of Nuclear Energy, Sciences and Technologies (CNESTEN) was created in 1986 to support the development of a nuclear power program, promote the use of nuclear techniques in different socio-economic fields et play a role of a Technical Support Organization (TSO) for the State for nuclear safety.

CNESTEN has constructed a Nuclear Center called Centre d'Etudes Nucleaires de la Maamora (CENM). This Center includes a 2 MW research reactor, radioactive waste treatment, conditioning and interim storage facilities, and radiation protection labs.

The main use of the reactor is Radioisotope Production, Neutron Activation Analysis, Training, Basic and Applied Research and Non Destructive Testing. CNESTEN got the operation license in January 2009.

Through the construction and operation of the CENM facilities (mainly the research reactor), Morocco has developed capabilities and capacity building that are essential to the development of a Nuclear Power Program, according to the requirements specified in IAEA safety standards GSR1 in terms of legal and regulatory framework, establishment of an independent and competent safety authority, emergency preparedness and response framework and technical services for safety. The main achievements in this regard are related to the following:

- Development of a legal and regulatory framework establishing a licensing process, inspection provisions, and nuclear civil liability requirements. This legal and regulatory framework is being improved by a new law, in compliance with the international obligations of Morocco, mainly those related to the conventions on nuclear safety, safety of spent fuel and radioactive wastes, early notification and assistance, physical protection, and safeguards. Under this new framework, the establishment of an independent safety authority is planned for 2012;
- Enhancement of emergency preparedness and response capabilities to face a radiation emergency at the national level;
- Development of capabilities for radiation protection technical services (dosimetry, calibration, and measurements of radioactivity, training, expertise);
- Development of TSO capabilities.

CNESTEN is also recognized as a regional training center for nuclear safety and nuclear security.