

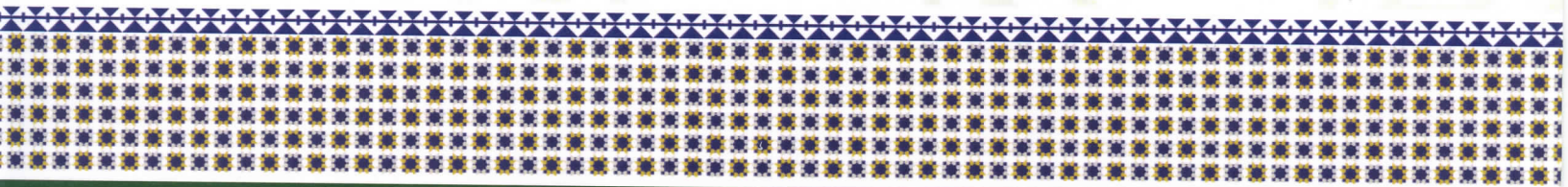


KINGDOM OF MOROCCO

**SHARING MOROCCO'S EXPERIENCE IN DEVELOPING NUCLEAR TECHNIQUES
IN A SAFE, SECURE AND SUSTAINABLE MANNER**



**INDUSTRIAL APPLICATIONS OF NUCLEAR
SCIENCE AND TECHNOLOGY**



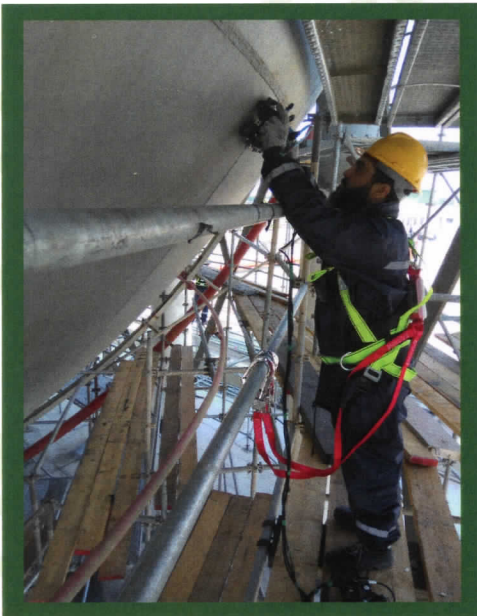
ESTABLISHMENT OF A NATIONAL CERTIFICATION SYSTEM FOR NON-DESTRUCTIVE TESTING (NDT)

Morocco established a national system for certification in NDT according to the Moroccan standard "MN ISO 9712", and a dedicated national Centre for training and examination. Indeed, these capabilities enhanced the applications of nuclear technology at national level for:

- Quality control of industrial products and assembling.
- Enhancing productivity and reliability of industrial processes.
- Ensuring quality control of industrial production systems.

Since 2000, an average of one hundred NDT- operators is trained and/or certified each year by COMEND "the Moroccan NDT personnel Certifying System" and CNESTEN. This has favored the creation of more than fifty NDT private companies in Morocco.

In addition, CNESTEN is considered as the national reference laboratory in NDT field, it is requested by end users and private NDT companies for solving specific cases.



NON-DESTRUCTIVE TESTING FACILITIES OF CNESTEN

The main NDT facilities of CNESTEN consist of:

- X and Gamma Conventional and Digital Radiography laboratory;
- Conventional NDT Techniques laboratory (Magnetic Testing, Penetrant testing, ultrasonic testing, ...);
- Advanced NDT techniques laboratory (UT-TOFD and Phased Arrays equipments).

CNESTEN is planning to install in 2019 a neutron imaging station around the research reactor.



Ultrasonic Testing Laboratory



X and Gamma Radiography Laboratory

CONTRIBUTION OF CNESTEN TO REGIONAL CAPACITY BUILDING IN THE FIELD OF NDT

CNESTEN : AFRA Regional Designated Centre (RDC) in the field of NDT:

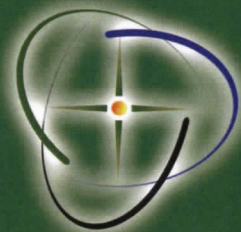
Under, the regional cooperation framework with IAEA and AFRA, CNESTEN contributes to the regional capacity building by:

- Hosting education and training activities;
- Certifying NDT operators;
- Assisting MSs to initiate the establishment of their national NDT certification system.

CNESTEN contributes to the implementation of many IAEA Triangular Arrangements under TCDC modalities:

- 38 African operators awarded level 1 and 2 certificates in different NDT techniques.
- 6 African operators awarded level 3 certificates.





CNESTEN

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