



**INTERNATIONAL ATOMIC ENERGY AGENCY
DIVISION OF RADIATION, TRANSPORT AND WASTE SAFETY**



EduTA
EDUCATION AND TRAINING APPRAISAL MISSION

IN
MOROCCO
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COMPOSITION OF THE IAEA APPRAISAL TEAM

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PERSONS MET DURING THE APPRAISAL MISSION

Name	Designation
Centre National de l'Energie, des Sciences et des Techniques Nucléaires (CNESTEN)	
Khalid EL MADIOURI	Directeur Général
Abdelmajid ÇAOUI	Secrétaire Général
Latifa ZIDI	Attachée de Direction - Affaires juridiques
Ahmed BOUFRAQECH	Chef Projet réalisation CENM
Ali JIBRE	Responsable du pôle valorisation de la recherche
Bouchra NASRI	Directeur PGEC
Boujamaa ZENZOUNI	Chef de service de coopération
Tayeb MARFAK	Responsable de communication
Abderrahim ALLACH	Attaché de qualité et de sécurité
Ibrahim OUBELAID	Chargé de la radioprotection et sécurité
Hamid GHAZLANE	Responsable d'unité de dosimétrie et étalonnage UDER
Karim MRABIT	Cadre Supérieur - unité UDER
Nabil DEHBI	Cadre - unité d'environnement
Rachad ALAMI	Responsable de Division Instrumentation et Application industrielle
Kamal SHAIMI	Responsable du centre de certification en contrôle non destructif
Abdesalam BENSITEL	Unité techniques de contrôle industriel

Brahim ZOUBIR	Responsable de division des applications aux sciences du vivant (DASV)
Aziz FELLAOU	Responsable de la Production radiopharmaceutique
Abderrahim BOUIH	Responsable unité collecte, traitement et stockage des déchets radioactifs
Ecole Mohammadia d'Ingénieurs (EMI)	
Driss BOUAMI	Directeur
Mohammed TAHIRI	Directeur adjoint (Directeur des études)
Aziz BACHIR	Professeur (Directeur UFR - SQSE)
Lahcen BELFAS	Professeur
Loubna BERBICH	Docteur en Physique
Centre National de Radioprotection (CNRP)	
Mohammed TAZI	Directeur du centre de radioprotection
Abdelkader BENDIR	Responsable du département du contrôle des installations radiologiques
Lakbir EL HALI EL HADI	Responsable du département de dosimétrie
Ministère de l'Energie et des Mines (MEM)	
Abderrahim EL HAFIDI	Directeur - 'Electricité et Energies Renouvelables, Ministère de l'Energie et des Mines
Abdelaziz HAJJANI	Chef de service - Applications et Sûreté Nucléaire
Institut de Formation aux Carrières de Santé de Rabat (IFCS)	
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Nadia CHRAIBI	Conseillère juridique

BACKGROUND

The existing legislation governing the use and control of radiation sources in Morocco, establishes two regulatory authorities. The licensing and the regulatory control of nuclear installations is assigned to the Ministry of Energy and Mines (MEN). The “Centre National de Radioprotection “(CNRP) has the responsibility delegated by the Ministry of Health (MOH) for the main regulatory functions of all the other radiation practices and sources. The National Council for Nuclear Energy (CNEN) is advising the Government on all ionizing radiation practices including nuclear sector.

The National Centre for Nuclear energy, Sciences and Technology (CNESTEN) was established in 1986 to prepare for a nuclear energy programme and to provide radiation and waste safety services. Since its introduction, CNESTEN has been collaborating internationally with INSTN (France) and IAEA for the implementation of its radiation protection training activities. Since 2002 CNESTEN has organized, on a regular basis, the IAEA Post Graduate Educational Course (PGEC) course and is a Regional Training Centre for francophone African countries.

The Principal Agency standards used as a basis for the appraisal were:

- the Education and Training Appraisal in Radiation Protection and the Safety of Radiation Sources (EduTA) (Working Material, July 2005);
- the International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources (SS No. 115);
- the Safety Guide, Building Competence in Radiation Protection and the Safe Use of Radioactive Sources (RS-G-1.4);
- Safety Report, Training in Radiation Protection and the Safe Use of Radioactive Sources (SRS-20);
- Standard Syllabus Postgraduate Educational Course in Radiation Protection and the Safety of Radiation Sources;
- Standard Syllabus for the Training of Radiation Protection Officers.

TERMS OF REFERENCE OF THE APPRAISAL

The terms of reference for this appraisal were:

- To evaluate the national infrastructure for education and training in radiation protection including:
 - legislative and regulatory framework with particular reference to education and training;
 - guidance material relevant to education and training;
 - the education and training program for Regulatory Body staff (qualifications, training received to date and planned for future);
 - the national training program in radiation safety or similar document;

- approved /accredited training course providers /centers and /accredited training courses, if approval/accreditation procedures/systems exist;
 - annual reports from accredited training course providers/centers;
 - recognition/approval/accreditation procedures for education and training providers;
 - courses held in the past calendar year and the numbers of participants attending;
 - education and training programs for the five thematic safety areas;
 - list of education and training events planned;
 - feedback from the conduct of EduTA with emphasis on self assessment.
- To identify the training needs;
 - To prepare an assessment report including conclusions and recommendations for strengthening the national infrastructure for radiation protection training in Morocco.
 - To examine the possibility of concluding a Long Term Agreement with IAEA

CONDUCT OF THE APPRAISAL

The first step in the appraisal was the completion of a preliminary questionnaire by CNESTEN and CNRP. CNESTEN prepared a document covering inter alia:

- Country information;
- Documentary support information ;
- Number of facilities and devices;
- Existing regulatory provisions for education and training;
- Information on the existing qualified personnel and other radiation workers.

During the mission, numerous documents were provided to the team. A list of all these documents provided to the EduTA team.

The approach used to the assessment of the radiation safety infrastructure was based on the Education and Training Appraisal in Radiation Protection and the Safety of Radiation Sources (EduTA) (Draft revised document July 2005).

Director General of CENM (Dr K. El Mediouri) welcomed the EDUTA team. He stated that experience of hosting the IAEA PGEC from 2002 to 2007 has helped them to develop a large pool of trainers in radiation protection. He informed that a new Law on nuclear and radiological safety and security law is in the process of finalization. He indicated that Morocco desires to conclude a long term agreement (LTA) with the IAEA.

During the first introductory meeting at Maâmora Nuclear Center (CENM), missions and activities of the Ministry of Health (MoH) including the CNRP as technical support, the Ministry of Energy and Mines (MEM) and its technical support the CNESTEN were presented. The present and future (in progress) regulatory frame applicable to radiation protection and safety of radiation sources were detailed. Monday afternoon and Tuesday morning were dedicated respectively to visits to facilities used for PGEC, to the discussions and clarifications/verifications of the EduTA questionnaire and discussions related to RPO training. This included (a) regulatory infrastructures for education and training; (b) national strategy for building competence in radiation protection and waste safety; (c) education and training (E&T); and (d) special appraisal of the provision of the PGEC; (e) education and training material used for PGEC and RPO training. These discussions continued throughout the specific visits to assess the effectiveness of education and training.

The team visited the Maâmora nuclear center (CENM), the training facility of al Irfane used for PGEC, the Mohammedia engineer School (EMI) which provides the academic recognition of PGEC, the national Training institute for health professionals (IFCS).

Numerous meetings were held with the MEM, Mohamed V University Agdal (responsible for Nuclear medicine training, for medical physicist training) and Secretary Government General Representative.

EduTA team would like to emphasise the excellent spirit of the discussions with the local counterparts and the organizations visited; together significantly contributed to the success of the mission.

An exit meeting was held at CNESTEN with the management of CNRP and CNESTEN to present the Appraisal Team's preliminary conclusions and recommendations. The conclusions and recommendations were then finalized.

A full technical report with the findings, recommendations and a work plan was provided to the mission's counterpart and the national authorities.