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Activities of Moroccan Radiation Protection Association

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The Moroccan Radiation Protection Association (*Association Marocaine de Radioprotection – AMR*) was established in September 2002 with the following goals :

- Setting up, outside administrative and official channels, a framework for discussion and exchange of information between the different actors in the field of radiation protection and working towards, where appropriate in liaison with other national or international associations, the strengthening of radiation protection in different sectors, through the organisation of seminars, conferences etc.;




➤ Promoting the establishment of a network of African Radiation Protection Associations. This objective would be facilitated by the existence of active national associations.

The governing body of the Moroccan Radiation Protection Association is composed of eleven members representing all sectors concerned: the industrial, medical, regulator, education and research sectors.




The Association aims to:

- Encourage activities and information exchange in the field of radiation protection and related areas;
- Assist in informing both the public and the professionals on the problems and requirements related to radiation protection for the protection of man and the environment;
- Promote professional training in radiation protection.




❑ AMR is one among other associations working in the field of nuclear energy in Morocco from which: Moroccan Association of nuclear engineers (AIGAM), The Moroccan Association of Medical Physics (AMPM), the Moroccan Group of of Reactor Tchnology (GMTR)...

❑ Morocco has a 2 MW research reactor established between cites of Rabat and Kenitra by the National Center of Nuclear Energy, Sciences and Techniques (CNESTEN). Morocco is also considering the option of nuclear power with the objective to have 2 nuclear power reactors under operation in 2020 – 2030.



□ Areva signed an agreement with Morocco's Office Cherifien des Phosphates (OCP) to investigate recovery of uranium from phosphoric acid. The amount of uranium in Morocco's phosphates is reported to be very large.

□ France and Morocco signed this year a cooperation agreement on civilian nuclear power development for the "development of peaceful uses of nuclear power by Morocco




□ The construction of a nuclear research centre and the establishment, under a new law of an new independent regulatory body, are part of this important program, aiming at strengthening the national infrastructure required for the development in Morocco of nuclear techniques and nuclear energy.




Overview of Nuclear Infrastructure in Morocco

□ **CNESTEN** The **National Centre for Energy and Nuclear Science and Technology** is a public body, created in 1986. Its main missions are to support the development of nuclear energy research, to promote the application of nuclear techniques in various socio-economic sectors, to provide training in a variety of nuclear fields and to act as a technical support organization for the state in the field of safety and security. CNESTEN's main infrastructure is the nuclear research Center of Mamora which consists of a 2 MW TRIGA research reactor and laboratories specialized in various technical and socioeconomic fields.




❑ **CNRP** (National Centre of Radiation Protection) is in charge of the control, the inspection and the authorization of the use of the radioactive sources. The CNRP is a ministry of health department and operates in the areas of medicine, industry, agriculture, research, etc...

❑ **ASN** (National Safety Authority) The nuclear safety authority is a Department of the Ministry of Energy, Mines, Environment and Water. As regulatory body, the NSA deals with the control, inspection and authorization of nuclear installations.



□ **ONE** (National Electricity Utility) The *Office National de l'Electricité* (ONE) is the prime operator in Morocco's electricity supply sector. ONE investigated the possibility of introducing Nuclear Energy as a mean of achieving its strategic orientation.

Presently there is a plan to strengthen the nuclear authority by combining the Safety Authority (ASN) and the National Centre of Radiation Protection (CNRP) in one independent Nuclear Safety Authority (NSA) based on the IAEA recommendations. The new nuclear law is under signature by the Moroccan authorities



❑ The use of nuclear technology in medicine, agriculture and industry is very advanced in Morocco. This technological progress has been accompanied by fairly detailed legislation and significant involvement on the part of Morocco in international conventions and agreements.

❑ In this context, the AMR has an important role to play to promote and strengthen radiation protection at the different levels (operators, regulators, education and research).




Activities of Moroccan Radiation Protection Association

In this purpose, AMR has organised or co-organised since its creation in 2002, the following conferences, meetings and debates:

- 07 December 2002 in Rabat, A Conference on *Epidemiological Studies following nuclear accidents*


- ✓ 02 July 2003 in Casablanca, a Conference on *the radioprotection in industrial applications: present situation and Perspectives,*



➤ December 27th, 2004 in Rabat, *a Scientific Meeting on the radioprotection in the medical sector: Present situation and perspectives,*


✓ April 25th, 2005 in Faculty of Science of Kénitra, within the framework of the international year of the physics, a national meeting on "*The state of the research in the field of the radioprotection in Morocco*".

The proceedings of this meeting were published in 2006.




➤ On February 15th, 2007 in Mohammedia, AMR organised in collaboration with The SAMIR(The Moroccan limited company of the Refining Industry), a day of information and of sensitization on the radioprotection, under the theme " **Radiation protection *and nuclear gages* : uses and measures of radiological safety** ".


Representatives of more than 28 private societies and public bodies were present.




✓ July 07th, 2007, a Conference intended for the public of the Kenitra city situated near the Center of Maamora on *The management of the radioactive wastes*. The large attendance brought together professionals, regulators, NGO, local elected representatives, members of parliament, and citizens.




✓ May 9th, 2007 in Rabat, The Association of the Engineers in Atomic engineering of Morocco (AIGAM), in partnership with the AMR, the Moroccan Group of the Technology of Reactors (GMTR) and the Moroccan Association of the Medical Physics (AMPM), organized an information day for the Moroccan media (print media, radio and television).




✓ On May 13th, 2008 in Rabat, The AMR organized in association with the **International Association of Nuclear Law (French section)** a workshop on "*standards of safety in the nuclear law*". This meeting aimed to inform the professionals and the public about the standards of radiological and nuclear safety, their evolution and their impact. The participants in this meeting acquainted with experiences of application of the nuclear law through the French and Moroccan experiences to discuss concepts of the safety culture, legal aspects of nuclear and radiological safety, etc.




✓ Participation to the committee of organisation of the *Second All African IRPA Regional Radiation Protection Congress hold in April 24, 2007 in Ismailia, Egypt* But because of financing lack, person of AMR was able to attend the works of this congress.



✓ Participation in the Seminary *about Electronuclear and the Management of the Radioactive Waste* which took place on February 22nd, 2010 in Rabat. During this seminary organized by the CNESTEN under the aegis of the ministry of the Energy and Mines. After this day, the AMR also participated to the workshop organized by the Ministry of Energy and Mines on the Management of the radioactive waste from 23 till 25 February with the cooperation of the experts of the IAEA from France and Belgium. This workshop worked to elaborate a project of a road map for the management of the radioactive waste with short, average and long term.



✓ In December 22nd, 2009, The AMR organized in association with the Team of Nuclear Physics and Techniques of the Faculty of Science of Kénitra, the CNESTEN, the Research Unity of Biophysics (Faculty of Medicine of Sousse, Tunisia) and the Department of applied Physics II (University of Seville: Spain) an international meeting on "*The radioactivity in natural waters: radiological implications*". The purpose was to review the state of scientific research progress in the field of the improvement of the nuclear analysis methods so as to adapt them to the various measures of the present radio-elements in natural waters. What allowed establishing a map of concentrations of the main polluting metallic and radioactive elements accumulated in natural waters, to constitute a database and to study the impact of the low levels of the natural radioactivity on the health of the consumer.



✓ In April 9th and 10th, 2010 in Rabat, a Workshop on *the Radioprotection in interventional radiology* organized in collaboration with the Moroccan association of interventional radiology and the European commission.

✓ Participation to the organization of the International Congress **NORM 6** which took place of 22 in 26 Mars 2010 in Marrakech on “*Naturally occurring Radioactive Material* ”

This list of activities shows that the AMR organizes a regular basis events. AMR is interested in organizing an event under IRPA auspices such as the congresses of IRPA Africa to encourage more exchange of experiences and information in the field of the radioprotection.