



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



EduTA
EDUCATION AND TRAINING APPRAISAL MISSION
IN
BRAZIL
22 - 26 March 2010

COMPOSITION OF THE IAEA APPRAISAL TEAM

1. Andrea Luciani -IAEA – Team Coordinator
2. Pierre-Noël Lirsac, Senior Expert, France – Team Leader
3. Panaiotis Dimitriou, Senior Expert –Greece

PERSONS MET DURING THE APPRAISAL MISSION

NAME	FUNCTION
Odair D. Gonçalves	President of CNEN
Luiz Fernando Carvvalho Conti	Director of IRD
Laercio Vinhas	CNEN/ Director of Radioprotection and Safety (Regulatory Body)
Carlos Bonacossa de Almeida	IRD/ Head of the education and training unit
Aucyone Augusto da Silva	IRD/ researcher
Marcos Nogueira Martins	CNEN Director research and development
Raul Do Santos	IRD/ Head of division emergency response
Francisco Cesar Augusto da Silva	IRD/ Head of division Conformity evaluation
Paulo Cunha	IRD/In Charge of Metrology
Walsan Pereira	IRD/ Teacher-researcher in neutron field
José Guilherme Peixoto	IRD/ Teacher-researcher in X-Ray metrology
Bernardo Dantas	IRD/ Teacher-researcher in internal dosimetry
Lidia Vasconcellos de Sa	IRD/ Teacher-researcher in diagnostic radiology
Ana Christina Ferreira	IRD/ Teacher-researcher in Environmental monitoring facility
Joao carlos Leocadio	IRD/ Teacher-researcher in NDT laboratory
Monica Stuck	Citogenetics Dosimetry laboratory
Delano Batista	INCA hospital – RPS Radiotherapy
Fernando Augusto Mecca	INCA Hospital– RPS Radiology
Anna Maria Campos de Araujo	INCA - Head of the quality programme in radiation therapy
Marcelo Mamede	INCA – Head Nuclear Medicine

BACKGROUND

The existing legislation governing the use and control of radiation sources in Brazil, establishes two regulatory authorities. The licensing and the regulatory control of all installations and sources of ionizing radiation including nuclear installations are assigned to the Brazilian National Nuclear Energy Commission (CNEN), except for the regulation and control of sources used in diagnostic radiology which are under the responsibility of ANVISA (National Agency for Health Surveillance), of the Ministry of

Health.

The Institute of Radiation Protection and Dosimetry (IRD) was established in 1972, with the aim of carrying out environmental monitoring, calibration of area monitors and training of professionals in the medical area in radiation protection and clinical dosimetry. Nowadays the IRD, as part of CNEN, participates in normative and technical committees in Brazil and abroad, provides regular education and training courses and is collaborating with IAEA in education and training activities for Latin American countries. IRD already provides a Master in radiation protection and dosimetry and intends to start providing the IAEA Postgraduate Educational Course in radiation protection and the safety of radiation sources (PGEC) in Portuguese. IRD requested the IAEA to be recognized as a Regional Training Centre.

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

- Education and Training Appraisal in Radiation Protection and the Safety of Radiation Sources (EduTA) (Draft revised document, July 2008);
- International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources (SS No. 115);
- 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 (Training Course Series n. 18);
- Standard Syllabus for the Training of Radiation Protection Officers (Working Material);
- Steering Committee on Education and Training in Radiation Protection and Waste Safety – Procedures for Recognition of a Training Centre (Working Material).

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 programme for Regulatory Body staff (qualifications, training received to date and planned for future);
 - the national training programme in radiation safety or similar document;
 - approved /accredited training course providers /centres and /accredited training courses, if approval/accreditation procedures/systems exist;
 - annual reports from accredited training course providers/centres;
 - 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 programmes 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 assess the compliance of IRD infrastructures and activities in E&T with the criteria for the recognition as regional training centre;
- to advise on the recognition of IRD as a regional training centre for E&T in radiation protection and safety of radiation sources ;
- to prepare an assessment report including conclusions and recommendations, develop an Action Plan together with the counterparts to improve, when necessary, the IRD capability to act as a regional training centre

CONDUCT OF THE APPRAISAL

The first step in the appraisal was the completion of a preliminary questionnaire by IRD. The IRD 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;
- information on E&T programmes.

During the mission, numerous documents were provided to the EduTA team. A list of all these documents provided in the full report as well as the mission programme.

The approach used for 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 2008).

The IRD Director (Dr L. Carvalho Conti) welcomed the EDUTA team. He provided an overview of the organizational structure of CNEN, pointing out the specific role and attributions of IRD. He informed the appraisal team that IRD wants to conduct a PGEC on a regular basis, and apply to be recognized as a regional training centre. Dr Carlos Bonacossa, head of education and training unit, detailed the E&T activities conducted at IRD for more than 25 years.

During the meeting on Tuesday morning at CNEN Headquarter, the President of CNEN, (Dr. Odair Gonçalves) briefed the appraisal team on the mission and the activities of CNEN as well as the role of IRD in respect with the regulatory body. Dr. L. A. Vinhas detailed the regulatory activities and specified how E&T aspects are considered in all licensing, inspection and certification processes.

The appraisal team visited the Brazilian National Cancer Institute (INCA) where it met the institute's staff. The team visited several facilities of the hospital: the radiation therapy units, the radiology diagnostic and nuclear medicine facilities. Discussions were focused on the training of health professionals, technologists and paramedics, and on the contribution of INCA to the PGEC.

Monday, Tuesday, Wednesday afternoon and Thursday were dedicated to the visit of the IRD facilities to be used for PGEC, discussions and clarifications/verifications of the EduTA questionnaire and discussions related to RPS training. The team discussed with the local counterparts: (a) regulatory infrastructures for education and training; (b) national strategy for building competence in radiation protection and waste safety; (c) E&T activities and programmes; (d) special appraisal for the actions necessary for the provision of the PGEC (e) education and training material to be used for PGEC.

A list of the visited institutions and laboratories is provided in the full report.

Numerous meetings were held with the CNEN and the IRD teams and the staff of INCA.

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

An exit meeting was held with the management of CNEN and IRD 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.