

Radiological Protection and Radioactive Waste Management

Romão Trindade

The Radiological Protection and Radioactive Waste Management Group (PRGRR) pursued the development of the main activities already mentioned in the 2003 Annual Report

Most of the activities exclusively carried out by ITN/DPRSN/PRGRR, are still heavily characterized by their component of services to the Community.

In general numbers, there was an increase in the requests panorama in all fields of assistance.

Concerning the radioactive waste management activities in the National territory about 150 requests, including spent sealed sources, for collection, segregation and treatment for interim storage were received at the Radioactive Waste Facility during 2004.

The licensing of sealed sources for industrial, research, medical or other applications issued by PRGRR reached the number of 213 in the current year.

Fifteen incidents related to the detection of radioactive substances in scrap metal were reported by the industry and controlled by PRGRR

The transport of radioactive materials is also another of the activities of this Group that is established in Law.

A new field of action that has been incorporated in the Group activities is the verification of the radiological conditions. These activities were already carried out at DPRSN but were transferred, including the personnel, to PRGRR during 2004. This activity is undergoing strong modifications at different levels.

The PRGRR also developed intensive contacts with clients in all fields related to radiological protection and radioactive waste management, explaining what is required by Law, sending all the important paper work such as legislation, technical requirements, practical procedures and administrative steps as well as clarifying any doubts that might arise. This work is of paramount importance for the conclusion of the processes mainly in the case of radioactive wastes and sealed sources but also in all the other fields of intervention.

The activity of monitoring is one of the most important activities of the Group, mainly the development of monitoring programmes for radioactive liquid discharges from hospitals in the public sewage of Lisbon Borough Council (CML) and Coimbra IPO, both carried out in 2004.

Also in the framework of the intervention in terms of emergency, the PRGRR organized Emergency Teams to assist the Civilian Protection Service during the EURO 2004 event in case of a terrorist act involving “dirty bombs”.

In order to reinforce the national participation in the Article 35° under Euratom Treaty, PRGRR has installed new equipment to measure gamma radiation due to abnormal discharges in the environment. A new monitoring equipment has also been purchase to more efficiently control the radioactive liquid discharges of the Campus into the public sewer. To assist with both equipments, a grant was award by FCT to a graduate in Physics.

The PRGRR started to develop research activities in the radioactive waste management field using the Monte Carlo Code and in the application of gamma spectrometry to hydrogeology studies.

Also in 2004 the PRGRR was invited to co-ordinate a Ph. D thesis in the area of medical radioactive wastes management strategies with the Instituto de Ciências Biomédicas Abel Salazar, University of Porto and is now participating in a co-coordination of a Degree thesis in Physics (University of Algarve) to apply Monte Carlo method to simulate and correlate different geometries and matrices for NaI detectors.

Activities related to the setup of research projects with other European countries were developed in the field of radwastes with the invitation of the National Nuclear Corporation, Ld (UK) to be involved in the EC Project “Radioactive Waste Management in Medical Establishments”, DG TREN/Action 114.

The involvement of Group members in EU and IAEA projects, concerted actions, committees, working groups and task forces has increased in 2004 with the involvement in the CCE-Fission Working Group on Management of Radioactive Waste to prepare the next framework programme (FP7) in this field of R&D and with the collaboration with the Inorganic and Radiopharmaceutical Chemistry Group (Chemistry Section/ITN) in the Coordination Action on Education and Training in Radiation Protection and Radioactive Waste Management, CETRAD (FP6).

Radiological Protection and Radioactive Waste Management

Research Team

Researchers

- R. TRINDADE, Aux. Researcher, Group Leader
- M. I. PAIVA, Aux. Researcher

Technicians

- J. SEBASTIÃO
- J. VENÂNCIO

Technical Personnel (Graduate)

- L.M. PORTUGAL

Students

- P. DUARTE, ITN Grant since Dec. 2004
- L. MADUREIRA, ITN Grant since Nov. 2004
- L. BRÁS, ITN Grant since Nov. 2002

Funding (€)

Research Projects:	13.716,95
Services:	88.027,14
Total:	101.744,09

Publications

Books:	
Journals:	1 in press
Proceedings:	2 and 1 in press
Conf. Communications:	
Internal Reports:	42
Others:	2