

A Solid Foundation

Finding Ways to Sustain Radiation Protection

Rapid change often demands rapid action. Such was the case for the IAEA's radiation protection programme since the mid-1980s, as developing countries around the globe experienced rapid economic growth on the one hand and political and social upheaval on the other. Some burgeoning countries were eager to initiate or expand their use of nuclear technologies. Others, particularly new States that emerged from the former Soviet Union, suddenly held responsibility for large quantities of radioactive material but had no systems in place to ensure its safety and security.

Between these two examples, a multitude of other situations existed. In carrying out more than 60 expert missions between 1984 and 1995, the IAEA's Radiation Protection Advisory Teams found widespread weaknesses in infrastructure. If it was to fulfil its mandate of promoting nuclear technology for peaceful purposes, the IAEA and its technical cooperation programme needed a more strategic approach.

Experts at the IAEA took a close look at the Agency's mandate and Member State needs and devised the *Model Project on Upgrading Radiation Protection Infrastructure* (the Model Project). With the aim of addressing fundamental issues related to compliance with the *International Basic Safety Standards*, the programme began by more clearly defining what constituted an adequate radiation and waste safety infrastructure. Eventually, they narrowed it down to five elements:

- ① Legislation and regulation
- ② Occupational exposure control
- ③ Medical exposure control
- ④ Public and environmental exposure control
- ⑤ Emergency preparedness and response

Then, instead of continuing to offer a piece-meal approach to on-demand equipment delivery, the programme set out to systematically lead each country through the process of building the national capacity to manage every aspect of safety and security of all radioactive materials.

In 1996 the radiation protection programme invited all Member States with identified weaknesses to seek assistance. More than 50 countries responded; almost all indicating that they had persistent needs in strengthening or establishing their radiation protection infrastructures

Two important elements formed the core of the new strategy: a) a proactive approach on the part of the IAEA; and b) the expectation of a solid commitment from Member States. Rather than simply responding to individual incoming requests, the IAEA actively encouraged Member States to engage in a fully developed programme with long-term objectives and then collaborated with interested parties to prepare and implement a comprehensive, country-specific action plan. In return, Member States were required to demonstrate their commitment to the agreed activities, schedules and budgets by appointing a National Coordinator, who held an appropriate level of decision-making authority, and by investing sufficient human and financial resources.

This joint approach made the ultimate goal—the safe use of nuclear technologies—a more realistic target. Member States that achieved key elements would effectively meet the programme's newly implemented "Conditions for Assistance." The conditions clearly stated that procurement of radiation sources would be approved only for those countries that demonstrated an adequate level of safety for the desired technology, at the time of the request.

The programme's success brought new challenges. For example, many countries that demonstrated an acceptable level of legislation and regulation showed serious gaps in other areas of *Basic Safety Standards* compliance. At the same time, non-participating Member States began to see the benefits their neighbours were deriving from participation. With each two-year programme cycle, additional countries submitted requests for assistance. By 2004, the total number of Member States participating had grown to 91.

Over its ten-year history, the Model Project carried out 16 projects and disbursed more than \$43.3 million for project activities and equipment*. The value of this investment is evident in the fact that many Member States now have the capacity to expand their use of nuclear technology and sustain the infrastructure behind it.

*Throughout the ten years of the Model Project, additional regional and national projects were implemented that support its objectives.