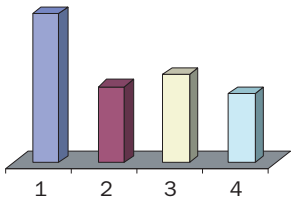
CO-ORDINATION OF SAFETY ACTIVITIES

PROGRAMME OBJECTIVE

To ensure technical consistency of the Agency's safety related functions, as well as coherence with corresponding safety activities carried out by Member States and other international organizations by promoting the co-ordination of such activities, in issuing standards, servicing conventions, providing information about safety policies and standards and supporting their implementation in Member States through technical co-operation programmes.

Regular budget expenditure: $2 480 753
Extrabudgetary programme expenditure (not included in chart): $116 774



1. Safety Policies and Standards: $963 728
2. Safety Conventions: $495 346
3. Safety Information Exchange: $571 647
4. Support to the Technical Co-operation Programme: $450 032

OVERVIEW

Over the past few years the Agency has been engaged in a substantial programme of work to update its set of safety standards, involving the preparation of about 80 new or revised standards. These are now being published at an increasing rate, with nine issued in 2000. Through its technical co-operation programme, the Agency implemented numerous projects in the areas of nuclear, radiation and waste safety. This assistance took the form of training courses and workshops, fellowships and scientific visits, and training for safety professionals in Member States. In particular, the Agency's preparation of training materials for the courses has assisted national and regional centres in their development of self-sustaining training capabilities.

SAFETY POLICIES AND STANDARDS

In the course of updating its safety standards, the Agency published nine revised or new standards (see Table I). Among these was the first in the general safety area, which covers topics that are common to nuclear, radiation, radioactive waste and transport safety. The Safety Requirements on legal and governmental infrastructure for safety specify the basic requirements for the legal framework for establishing a regulatory body. They also detail the other actions necessary to achieve effective regulatory control of all facilities and activities, from the use of a limited number of radiation sources to a major nuclear power programme. Other responsibilities are also covered, such as those for developing the necessary support for safety and emergency preparedness.

Eight more Safety Guides were endorsed by the Commission on Safety Standards (CSS) for publication, and an additional 65 safety standards are in preparation. A summary of the current status of all of the safety standards is available at *http://www.iaea.org/ns/CoordiNet/safetypubs/sftypub.htm*. Detailed information on the activities of the Radiation Safety Standards Committee (RASSC), Waste Safety Standards Committee (WASSC) and the Transport Safety Standards Committee (TRANSSC) is also available at this site. Pages on the Nuclear Safety Standards Committee (NUSSC) and CSS are under construction.

The terms and definitions used in the Agency's safety standards and other safety related publications have not always been consistent between documents, and particularly between nuclear, radiation, radioactive waste and transport safety. The Secretariat prepared a Safety Glossary with the aim of harmonizing the use of terminology and to resolve inconsistencies. Although the Safety Glossary is intended primarily for use within the Agency, it is available to interested parties outside the Agency for information and comment, in hard copy and also on the Internet at the site *http://www.iaea.org/ns/CoordiNet/safetypubs/iaeaglossary/glossaryhomepage.htm*.

For several years the Agency has organized Peer Discussions on Regulatory Practices, a forum where senior regulators can exchange information and experiences on current issues. The topic for the 2000 round of discussions was 'Regulatory Control of the Use of Contractors by Operating Organizations'. The Agency published a report by the regulators, summarizing the conclusions of the

TABLE I. **SAFETY STANDARDS PUBLISHED IN 2000**

Safety Requirements

- Legal and Governmental Infrastructure for Nuclear, Radiation, Radioactive Waste and Transport Safety, GS-R-1
- Safety of Nuclear Power Plants: Design, NS-R-1
- Safety of Nuclear Power Plants: Operation, NS-R-2
- Predisposal Management of Radioactive Waste, including Decommissioning, WS-R-2
- Regulations for the Safe Transport of Radioactive Material, TS-R-1 (ST-1, Revised)

Safety Guides

- Software for Computer Based Systems Important to Safety in Nuclear Power Plants, NS-G-1.1
- Fire Safety in the Operation of Nuclear Power Plants, NS-G-2.1
- Operational Limits and Conditions and Operating Procedures, NS-G-2.2
- Regulatory Control of Radioactive Discharges to the Environment, WS-G-2.3

discussions and giving examples of good practices.

SAFETY CONVENTIONS

The Convention on Early Notification of a Nuclear Accident was not formally invoked during the year. However, the procedures established by the Agency for response under the terms of the Convention were used in relation to less severe events, such as the discovery that the wristbands of some watches being sold in a French supermarket had components made from contaminated steel. The Islamic Republic of Iran and Luxembourg ratified the Convention during 2000, bringing the total number of Contracting Parties to 86 (83 States and three international organizations).

"And with the co-operation of the OECD/NEA, WANO and the United States Nuclear Regulatory Commission, the Agency developed an Internet based system to communicate nuclear events."

The Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency was invoked once in 2000, by Thailand in relation to an accident involving a cobalt-60 radiotherapy source. The Islamic Republic of Iran, Lithuania and Luxembourg ratified the Convention during 2000, bringing the total number of Contracting Parties to 82 (79 States and three international organizations).

The Convention on Nuclear Safety had no meetings during 2000; the next Review Meeting will be held in April 2002. Euratom became the first organization to accede to the Convention in 2000, bringing the total number of Contracting Parties to 53.

Finally, the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management moved closer to entry into force by the end of 2000. Only two more ratifications are needed. Two States ratified the Convention early in 2001 and it will enter into force on 18 June 2001.

SAFETY INFORMATION EXCHANGE

The International Nuclear Event Scale (INES) information service is operated by the Agency to collect event reports and disseminate them among participating States. During 2000, the Agency received 24 event rating forms. One event was rated at level 4: a fatal accident in Egypt involving an industrial radiography source. In all, 13 of the reported events occurred at nuclear power plants. Of the other 11 events reported, 10 involved either lost sources or the transport of sources. As can be seen from Fig. 1, the annual number of events reported has fallen by about half over the past decade.

At their annual meeting, the INES national officers approved the 2001 edition of the *INES User's Manual*. And with the co-operation of the OECD/NEA, WANO and the United States Nuclear Regulatory Commission, the Agency developed an Internet based system to communicate nuclear events. *NEWS* (Nuclear Events Web-based System) is intended to offer more flexible and faster exchange of information between participants. The system is currently undergoing trials and will be in full operation in 2001.

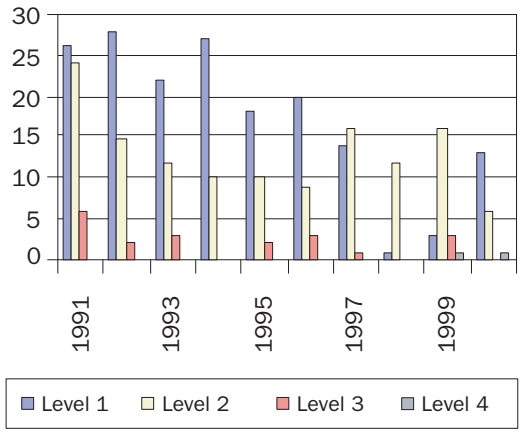


FIG. 1. Events reported to the INES information service, 1991–2000.

SUPPORT TO THE TECHNICAL CO-OPERATION PROGRAMME

During 2000, the Agency assessed 115 new safety related technical co-operation project requests for 2001–2002 and prepared corresponding project work plans. In addition, it supported the implementation of 110 ongoing technical co-operation projects, corresponding to an adjusted budget of about $16 million, in the areas of nuclear, radiation and waste safety.

Country radiation and waste safety profiles have been used in the technical co-operation Model Project on upgrading radiation protection infrastructure to consolidate and update data on a country receiving Agency assistance. The profiles cover: organizational infrastructure; the legal and regulatory framework; extent of practices involving ionizing radiation; occupational, medical and public exposure control; planning and preparedness for radiation emergencies; quality assurance; and education and training. Each profile is compared with the requirements for an adequate infrastructure, using Agency safety standards as a reference, to establish an action plan for the country to create an infrastructure commensurate with its existing and planned applications of ionizing radiation. This has been extended to States not participating in the Model Project, and the Agency has now established 66 profiles.

Country *nuclear safety* profiles serve a similar function in planning nuclear safety assistance, but take account of the much more advanced level of safety infrastructure needed to operate and regulate a nuclear power programme. These profiles have been particularly useful in planning assistance in the extrabudgetary programme on the safety of nuclear installations in South East Asia, the Pacific region and the Far East, particularly for those countries that do not currently have nuclear power programmes but are considering the nuclear option.

More than 100 Agency educational and training courses and workshops were held in 2000. The majority of these were supported through the technical co-operation programme, but a significant number were conducted under extrabudgetary programmes. In addition, some training seminars and workshops were conducted as part of safety review services, and almost 350 fellowships and scientific visits were supported through the Agency's technical co-operation programme.

In Resolution GC(44)/RES/13, the 2000 General Conference stressed the special importance of education and training in radiation protection, nuclear safety and waste management, and urged the Secretariat to strengthen its efforts in these areas. In particular, the resolution called for the Agency to assist Member States in conducting such education and training at regional and national training centres in the relevant official languages of the Agency. In response, the Agency established the needs for education and training in radiation protection over the next two years and prepared an action plan to meet them. This plan includes mechanisms to oversee all training activities, whether post-graduate education and training, specialized training, initial medical training, distance learning or on the job training. The action plan also involves the preparation of lecture materials and the establishment of a network of training centres in Member States with a view to providing sustainable training programmes in radiation protection and source safety in Member States.

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The Agency revised the standard syllabus of the post-graduate educational course in radiation protection. This course will be held in each geographical region about once every two years. In 2000, the course was held in Buenos Aires, Argentina (in Spanish) and in Johannesburg, South Africa (in English).

In related developments, the CSS approved a Safety Guide on building competence in radiation protection and the safe use of radiation sources. A complementary Safety Report on training in radiation protection and the safe use of radiation sources is being published

A regional technical co-operation programme on nuclear safety training for 2001–2002 was finalized, with emphasis on safety review and assessment, operational safety and regulatory effectiveness. The programme was developed in close consultation with regulatory bodies and utilities in Member States.

Further Agency efforts in promoting training activities in Member States included a new policy and strategy to assist Member States in standardizing educational and specialized courses in nuclear safety and to develop appropriate training materials. Additionally, a set of standardized courses for regulatory staff was introduced, including textbooks, test questionnaires and practical exercises.