

# CO-ORDINATION OF SAFETY ACTIVITIES

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### PROGRAMME OBJECTIVE

To ensure the 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, issuing standards, servicing conventions, providing information about safety policies and standards, and supporting their implementation in Member States through technical co-operation programmes.

### OVERVIEW

The safety activities co-ordination programme aims to ensure that there is technical consistency between the Agency's nuclear, radiation and radioactive waste safety activities. This involved work in four main areas: co-ordinating the development and review process for the Agency's safety standards; administering and, where appropriate, implementing the safety related conventions; supporting research and development; promoting safety related information exchange; and co-ordinating the technical input to safety related projects in the Agency's technical co-operation programme.

### SAFETY POLICIES AND STANDARDS

The International Nuclear Safety Advisory Group (INSAG) produced four publications. The first report, *The Safe Management of Sources of Radiation: Principles and Strategies* deals with the general principles governing the safety of all sources, and shows that basic nuclear safety, radiation protection and waste safety concepts can be presented in a concrete manner. The second report, *Basic Safety Principles for Nuclear Power Plants*, is an update of 75-INSAG-3 from 1988 and expands on the safety culture concept by citing good practices in safety management and monitoring safety performance. The third publication, *Management of Operational Safety in Nuclear Power Plants*, further develops a set of universal features for an effective safety

management system. The last report, *Safe Management of the Operating Lifetimes of Nuclear Power Plants*, deals with maintaining safety in an ageing installation. With these publications, INSAG completed its fourth three year term.

Activities under the Peer Discussions on Regulatory Practices (PDRP) service included exchange of view on the assessment of regulatory effectiveness. The purpose was to identify common findings and good practices that will assist Member States. Several characteristics of an effective regulatory body were identified that could be used as indicators. The discussions were summarized in a special PDRP series report that aims at the enhancement of good regulatory practices. The conclusion of the report suggested that the assessment of regulatory effectiveness is a combination of traditional methods, including audits, self-assessment of various programmes and their implementation, and new techniques, such as the use of proactive internal safety improvement programmes, and peer reviews and inspections by external organizations.

A total of seven new or revised safety standards (one Safety Requirements and six Safety Guides) were published. A further 72 safety standards are currently in preparation. This figure includes a common safety fundamentals publication (to replace the existing three safety fundamentals covering the nuclear installations, radiation protection and the sources, and radioactive waste management) and nine Safety Requirements, supplemented by a number of Safety Guides, covering the following topics:

- Emergency preparedness and response (two Guides),
- Legal and governmental infrastructure (seven Guides),
- Operation of nuclear power plants (11 Guides),
- Design of nuclear power plants (12 Guides),
- Site evaluation for nuclear power plants (six Guides),
- Research reactor safety (four Guides),
- Predisposal of radioactive waste (six Guides),

- Disposal of radioactive waste (two Guides),
- Rehabilitation of contaminated area (one Guide).

There are an additional 12 Safety Guides in preparation supplementing published Safety Requirements in the areas of radiation safety (eight Guides), discharges of effluents (two Guides) and transport regulations (two Guides). Out of these 72 standards, ten (four Safety Requirements and six Safety Guides) have already been endorsed for publication by the Advisory Commission on Safety Standards (ACSS).

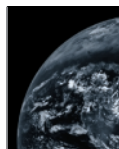
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In the general safety category of safety standards (i.e. those standards that are relevant to more than one area of safety), a Safety Requirements publication on legal and governmental infrastructure for safety was approved by the Board of Governors.

A Safety Requirements publication on nuclear power plant design was endorsed by the ACSS and will be sent for approval to the Board of Governors. Another one on power plant operation was approved in September by the Board.

In radiation safety, three Safety Guides on occupational radiation protection, co-sponsored by the Agency and the International Labour Office, were published. These provide generic guidance that is essentially independent of the occupation of the workers.

In waste safety, Safety Requirements publications on the near surface disposal of radioactive waste were published, and those on the predisposal management of radioactive waste, including decommissioning were endorsed by the Board of Governors. In addition, Safety Guides on safety assessment for near surface disposal, on the decommissioning of nuclear



power plants and research reactors and on the decommissioning of medical, industrial and research facilities, were published.

To assist in harmonizing and clarifying the terminology used in different safety standards, a single safety glossary — covering terminology from nuclear, radiation, transport and waste safety — has been developed. This is primarily intended to provide guidance to the drafters and reviewers of safety standards on the way in which the Agency uses particular terms, but may also be of interest to people reading and applying these standards in Member States. The glossary will be made available on the Agency's Internet site.

## SAFETY CONVENTIONS

The major event of the year in relation to the safety related conventions was the first Review Meeting of the Contracting Parties to the Convention on Nuclear Safety, which was held in April in Vienna, and for which the Agency acted as the secretariat. As of the end of 1999, there were 52 Contracting Parties to the Convention.

The number of Contracting States to the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management passed the half-way mark towards the number needed for the Convention to enter into force. A third informal meeting of signatories and other interested States was held in Vienna in October to develop the rules and guidelines that will govern the review process when the Convention is in force, taking account of the experience gained from the Review Meeting on the Convention on Nuclear Safety. As of the end of 1999, there were 13 Contracting States (9 of which have operational nuclear power plants) and a total of 40 signatories.

Panama and Belgium became Contracting Parties to the Convention on Early Notification of a Nuclear Accident and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, bringing the number of Contracting Parties to 84 and 79, respectively. The Early Notification Convention was

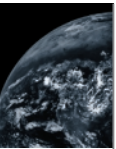
invoked once, in relation to a cobalt-60 source believed to be missing in Turkey, and the Agency fulfilled its designated functions of notifying neighbouring States and providing information to all Member States. The Assistance Convention was formally invoked in relation to emergencies in Ghana, Peru and Turkey.

## SAFETY INFORMATION EXCHANGE

At the yearly meeting of senior regulators, held in Vienna during the regular session of the Agency's General Conference, regulatory effectiveness, the impact of deregulation and management changes on safety, the contamination of transport containers and the Y2K problem were discussed. The regulators generally supported the good practices on regulatory effectiveness as identified in PDRP exchanges and the work on indicators, but warned against using indicators for comparing different countries. They identified the 'de facto' independence of the regulator from political influences as an important condition for making sound technical decisions. With regard to management changes, they expressed the need for regulatory tools to monitor changes in the ownership of plants, management restructuring, and staff cuts. They considered the need for further interpretation of non-fixed contamination levels in the Agency's Transport Regulations.

A handbook on communication in nuclear, radiation, transport and waste safety was published. This publication deals with the principles and methods of communication for a range of target audiences and presents some frequently asked questions, in addition to a summary of the key messages that should be communicated. As a follow-up, a Safety Report is being developed that will assist regulatory authorities in establishing a strategy for ensuring effective communication with different audiences and situations. The publications are aimed at increasing public confidence in the control of radiation sources and in nuclear activities.

A new section on the Agency's Internet site — CoordiNet (<http://www.iaea.org/ns/coordinet>) — gives information on the co-ordination of



safety activities, adding to the existing sections on nuclear safety (NUSAFE) and radiation and waste safety (RasaNet). CoordiNet includes reference information on all of the Agency's safety standards and other safety related publications, on safety related information exchange activities and CRPs, and on the Agency's relations with other international organizations in safety related fields.

The user's manual for the International Nuclear Event Scale (INES) was updated. The INES service received 26 reports in 1999: 14 events were reported from nuclear power plants and 12 from other nuclear facilities. Eight of these events involved radioactive sources. The Level 4 rating (denoting an accident without significant off-site risk) given to the accident in September at the nuclear fuel reprocessing facility at Tokaimura, Japan, was the highest since the scale was introduced in 1990.

## **SUPPORT TO THE TECHNICAL CO-OPERATION PROGRAMME**

Support was provided for more than 150 safety related technical co-operation projects, corresponding to an annual budget of approximately \$15 million, and more than 70 training courses and workshops.

A substantial activity in recent years has been the Model Project on upgrading radiation and waste safety infrastructures in more than 50 Member States. A systematic approach to identifying assistance priorities similar to that pioneered in the Model Project is being applied to nuclear safety assistance. The first stage is to develop Country Nuclear Safety Profiles describing the situation in each of the Member States with nuclear power plants receiving Agency assistance. A pilot project in one Member State was completed in 1999.

During 1999, 30 nuclear safety training courses and workshops were organized under technical co-operation projects to support regulatory, operating and technical support organizations.

The Agency is developing a set of standardized training courses at three levels: basic

(educational) knowledge; general professional competence; and specific areas of expertise. The aim is to not only provide training courses, but also to develop training materials, including textbooks, so that Member States can use these resources in their own training activities. One of the first such standardized courses is the 'Basic Professional Training Course on Nuclear Safety', which is meant for staff of regulatory bodies, reactor operating organizations and technical support groups. This nine week course was organized for the first time in Saclay, France, in co-operation with the CEA Institut National des Sciences et Techniques Nucléaires.

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In the radiation and waste safety area, 46 training courses and workshops were held, most at the specialized training level. However, the established 'Post-Graduate Educational Course on Radiation Protection', which is now normally held in each geographical region at least every two years, was held in Buenos Aires, Argentina (a long established course in Spanish, which also covers nuclear safety), in Johannesburg, South Africa (in English), in Damascus, Syrian Arab Republic (in Arabic) and in Dubna, Russian Federation (in Russian).

The development of material to support training events has been a major focus of activities to establish a sustainable education and training programme in Member States. Some of the initiatives included: standardization of training material and visual aids; and production of multimedia training materials — including CD-ROMs and videos — in addition to printed matter. And a distance learning project involving Australia, Indonesia, the Republic of Korea, Mongolia, New Zealand, Philippines and Thailand was supported in a trial phase.

