



General Distribution

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ISOE INFORMATION SHEET

IAEA PUBLICATIONS ON OCCUPATIONAL RADIATION PROTECTION

IAEA Technical Centre - Information Sheet No. 2

The programme of the IAEA Radiation Safety Section covers two major interrelated areas of work. These are the development and production of a comprehensive set of safety series documentation representing an international consensus; and the provision of assistance to developing Member States to bring their radiation safety infrastructure to an appropriate level for the usage of radiation in their country.

This information sheet has been prepared at the request of ISOE participants to give an overview of IAEA publications on Occupational Radiation Protection. At the end of the information sheet, addresses for the web sites are given, where more information on radiation safety documents and other IAEA publications can be found.

Safety Standards

Basic guidance for IAEA Member States is provided through the hierarchical Safety Standards Series — Fundamentals, Requirements (previously called Safety Standards) and Guides. The Safety Standards Series documents are directed at national regulatory authorities. However, the Safety Guides may present detailed information that is also of value for senior management in the contractor or licensee organizations. Publications in this series are consensus documents drafted during one or more expert advisory group meetings, and refined through subsequent consultations with the experts before review by the Radiation Safety Standards Advisory

Committee and final publication recommendation by the Advisory Commission on Safety Standards. In this review process all Safety Standards are also sent out to IAEA Member States for comment.

The Radiation Safety Standards structure is given in the attached table (please note that titles of publications may be slightly changed before publication). In the area of radiation and transport safety, Safety Series No.120 *Radiation Protection and the Safety of Radiation Sources* explains the approaches to radiation protection and safety for persons in senior political or regulatory positions and persons who, although not safety specialists, make decisions relating to the use of radiation in medicine, industry, agriculture and other areas.

One document has been issued in the category of *Safety Requirements*. This is the Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources (BSS), jointly sponsored by the IAEA, FAO, ILO, OECD/NEA, PAHO and WHO. The BSS establish basic requirements for radiation protection and safety, specify obligations and responsibilities and set out the requirements for application to practices and intervention situations. A second document in this category is in preparation which will provide for a harmonized approach across all areas of nuclear, radiation, waste, and transport safety in the field of emergency preparedness and response. Possible co-sponsorship includes the FAO, NEA and WHO.

The Safety Guides, although directed mainly at the regulatory authorities can be characterized as the bridge between the regulatory authority and the user. This information sheet will summarize those Safety Guides which contain information and guidance for establishing and managing occupational radiation protection programmes.

Safety Guides on Occupational Radiation Protection

A set of three Safety Guides concerning the application of the BSS to the control of occupational exposures will be published in 1999. A Safety Guide 'Occupational Radiation Protection' outlines the elements which are needed to form the basis for an effective worker protection programme. The two companion Guides on 'Assessment of Occupational exposure due to Intakes of Radionuclides' and 'Assessment of Occupational Exposure due to External Sources of Radiation' provide specific guidance required for the accurate assessment of occupational radiation exposure. All three Guides are co-sponsored by the International Labour Office, (ILO). It is intended to publish these three Safety Guides together with the BSS and Safety Series No.120 on diskette as an interlinked set of searchable documents (the BSS is already available in this form).

Specific Guidance on 'Occupational Radiation Protection in the Mining and Processing of Raw Materials' will be provided in the fourth Safety Guide with the purpose of providing an integrated approach to the control of exposures due to external and internal irradiation from artificial and natural sources of radiation in such mining and processing facilities.

'Radiation Protection and Radioactive Waste Management in Nuclear Power Plant Operation' is the title of a Safety Guide to be published in the Nuclear Safety Standards (NUSS) Series. This Safety Guide details the general requirements and objectives for the development of a radiation protection programme at a nuclear power plant, at the same time covering all the safety related aspects of a radioactive waste management programme. This will be sent out for

comment to IAEA Member States during spring 1999 and will hopefully be published in the year 2000.

Safety Reports

Specific technical information is also an important component of the IAEA guidance programme. Aimed primarily at the operator rather than the regulator, these documents are now part of the Safety Reports Series (previously Safety Practices). In the occupational protection area there are several such documents, as listed below, providing detailed and practical advice of particular use in operational radiation protection programmes (where no year is given, the document is still under development):

Optimization of Protection and Safety

Provision of Operational Radiation Protection Services at Nuclear Power Plants (Safety Practice, 1990)

Occupational Radiation Protection in the Decommissioning of Nuclear Facilities

Safe Handling and Storage of Plutonium (1998)

Health Surveillance of Persons Occupationally Exposed to Ionizing Radiation : Guidance for Occupational Physicians (1998)

Calibration of Radiation Protection Monitoring Instruments

Dosimetry Services for Individual Monitoring of Occupational Exposure from External Radiation Sources

Direct Methods for Measuring Radionuclides in the Human Body (Safety Practice, 1996)

Indirect Methods for Measuring Radionuclides in the Human Body

Assessment of Radiation Doses from Radionuclides in the Human Body

Protection from Radiation Exposure due to Thorium in Industrial Operations

Radiation and Waste Safety in the Oil and Gas Industry

Radiation Protection against Radon in Workplaces other than Mines

TECDOC Series

Most of the IAEA's unpriced publications appear in the IAEA-TECDOC (Technical Document) Series. This series includes both proceedings of small meetings and monograph type reports and it also covers topics other than safety. Examples of TECDOCs are the OSART (Operational Safety Review Teams) guidelines and findings. The Contributed papers to the Conference on 'Low doses of ionizing radiation: biological effects and regulatory control', held in Seville, Spain in 1997 were published in this series (IAEA-TECDOC-976) as

were the contributed papers to the Conference on 'Topical Issues in Nuclear, Radiation and Radioactive Waste Safety', held in Vienna in 1998 (IAEA-TECDOC-1031). Directly related to occupational radiation protection is IAEA-TECDOC-870 on 'Methods for estimating the probability of cancer from occupational radiation exposure', published in 1996. IAEA-TECDOC-1067 on Organization and implementation of a national regulatory infrastructure governing protection against ionizing radiation and the safety of radiation sources - interim report for comment, jointly sponsored by FAO, IAEA, OECD/NEA, PAHO and WHO was published in February 1999.

Practical Radiation Technical Manuals

Practical Radiation Technical Manuals are unpriced pocket sized booklets that give practical guidance on radiation protection for employers, radiation protection officers, managers and other technically competent persons who have the responsibility to ensure the safety of employees working with ionizing radiation. Three such manuals have been published and one is under production:

Workplace Monitoring for Radiation and Contamination (1995)

Personal Monitoring (1995)

Health Effects and Medical Surveillance (1998)

Personal Protective Equipment

In due course these will be translated into all six IAEA languages.

Working Material

Working material is a hard copy product, provided cost-free, which does not need to be approved for distribution by the IAEA Publications Committee. There is one which is relevant for Russian speaking ISOE participants, namely 'Work Management in the Nuclear Power Industry' (in Russian).

Other publications and products

Among the other IAEA publications related to safety, the reports on nuclear and radiological accidents could be mentioned. With a view to preventing accidents, the IAEA has issued reports on radiological accidents in industrial and research applications and on accidents involving abandoned or insecurely stored sources. In 1998, a Safety Report was published summarizing 'Lessons Learned from Accidents in Industrial Radiation Facilities'.

As mentioned already, the three Safety Guides on Occupational Radiation Protection will be available also on diskette, as is already the BSS. The software learning programme RADIOR is available for non-OECD countries and it is planned to provide the material from the Workshop on Implementation and Management of the ALARA Principle in Nuclear Power Plant Operations, held in Vienna in 1998, in electronic form.

Additional information

The reader is encouraged to visit the web site where further information on the IAEA Radiation and Waste Safety programme is found: <http://www.iaea.org/ns/rasanet>. Information on IAEA Publications in general, including guidance on how to order, is given under: <http://www/iaea.or.at/worldatom/publications>.