THE IAEA RADIATION SAFETY STANDARDS

Geoffrey A.M. Webb

Head, Radiation Safety Section, Division of Radiation and Waste Safety,
IAEA, Vienna, A-1400, Austria

INTRODUCTION

The objective of producing documents on radiation safety in the IAEA Safety Series known as RASS (Radiation Safety Standards) is to develop an internally consistent set of documents that reflects an international consensus on the principles of radiation protection and safety and their application in practice. During the final stages of preparation and approval of the International Basic Safety Standards (BSS) in 1994 (1), a comprehensive review of all the publications in the Safety Series related to radiation safety was initiated. The review was carried out mainly by staff of the Radiation Safety Section with input from Advisory Groups, Technical Committees and Consultants on particular topic areas. The results of the review include, for each existing document, an appraisal of its status, i.e. whether it is still valid or should be revised and updated to comply with the BSS or whether it should be declared obsolete and withdrawn. The most important output from the review is an overall structural plan for the RASS documents which clearly indicates their relationship to the BSS and identifies those areas in which documents do not exist and should, in due course, be developed.

During 1995 the Director General established five advisory bodies to assist the Agency in developing safety standards. The principal body is the Advisory Commission for Safety Standards (ACSS) which has an overview role in providing advice to the Director General on the safety standards programme and in reviewing the work of the four advisory committees. The Radiation Safety Standards Advisory Committee (RASSAC) provides advice to the Secretariat on the radiation safety programme and on the development and revision of the Agency's radiation safety standards, including publication of documents on radiation safety in the Safety Series. The other advisory committees have similar roles in the areas of nuclear safety (NUSSAC), waste safety (WASSAC) and transport safety (TRANSSAC).

The structure plan and proposals for documents described in this paper will be presented to the first meeting of RASSAC in 1996, any modifications can be found in the poster display.

THE STRUCTURE PLAN

All Safety Series documents should fit into an hierarchical structure with Fundamentals explaining the underlying rationale and the basic principles for protection and safety, Standards setting out in a more regulatory style the mandatory provisions, Guides that elaborate for general areas the manner in which the mandatory provisions are to be implemented and giving further explanations, and Practices developing the application of the Standards and Guides in particular areas or concerned with specific techniques.

The procedure that was adopted in structuring the radiation safety documents was to recognize the importance and broad scope of the BSS and to carry through the structure of the BSS, especially the appendices. The resulting structure is shown in Figure 1.

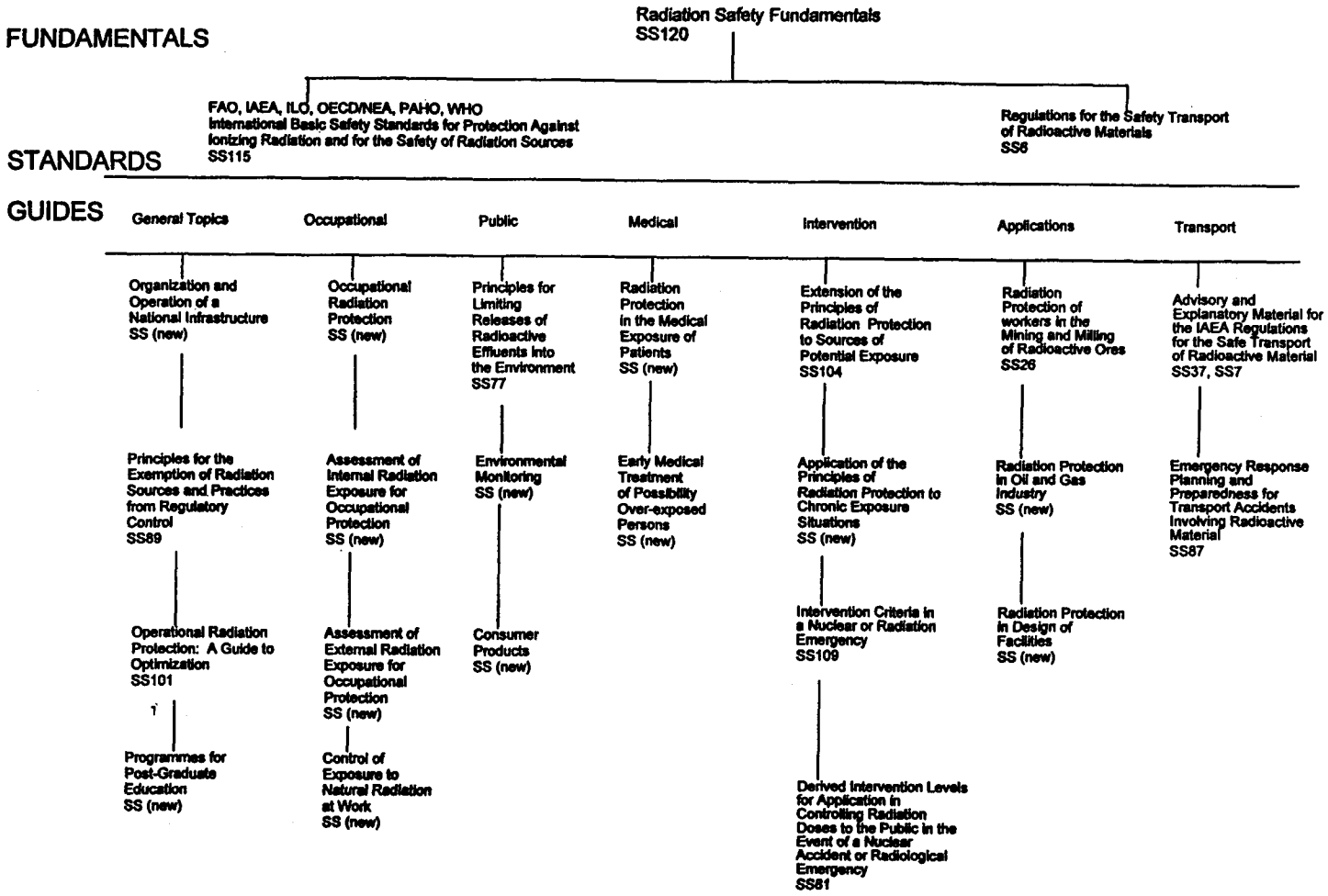

Figure 1. Safety Series Document Structure on Radiation Safety, Showing the Major Safety Guides

FUNDAMENTALS AND STANDARDS

The document at the Safety Fundamentals level concerned with radiation protection and the safety of sources is intended to complete the set of three Fundamentals documents; the other two, which have been published as SS110 and SS111-F, deal with Nuclear Safety and Radioactive Waste Management. The Safety Fundamentals 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 uses of radiation in medicine, industry, agriculture and other areas.

The BSS were approved by the Board of Governors in September 1994 following a major effort over several years to achieve a consensus embracing all the Sponsoring Organizations. The BSS have been issued in English as an interim publication; the final publication (in Arabic, Chinese, English, French, Russian and Spanish) will be issued as soon as possible, now that all five other Sponsoring Organizations have given their formal approval and the final tables of dose per unit intake have been received from ICRP. The BSS establish basic requirements for radiation protection and safety, specify obligations and responsibilities and set out the requirements for application to practices and in intervention situations. The transport regulations are reaching the end of the review and revision process and should be published in revised form in 1996.

GUIDES AND PRACTICES

The major Guides are shown in Figure 1 for each of the areas. The Guides on general topics deal with the interpretation or implementation of the BSS and related general matters. A set of three Guides relating to the control of occupational exposures is being developed in a co-ordinated fashion. One Guide will deal with overall implementation of the requirements in the BSS, explaining and advising on how they are to be converted into practical control measures. It will be supplemented by two Guides, one on the assessment of internal and one on external occupational exposures. A Guide dealing with the application of the BSS requirements in limiting releases of radioactive effluents will be developed and supplemented by a revised Safety Practice on generic models and parameters and by a new Safety Practice on default release limits to be used when the situation does not warrant an in-depth analysis. The safety of consumer products containing radioactive materials will be the subject of a Guide which has been in production for some time and can now be finalized in compliance with the BSS. Although controlling the exposure of patients to radiation used for medical purposes is a very important aspect of radiation protection, it has only recently been fully dealt with in the BSS. There is now a need for a new Guide to supplement and expand on the requirements of the BSS. The systematization and extension of the approach to intervention to cover both emergency and chronic circumstances has been one of the major recent developments reflected in the BSS. A new Guide is under development dealing with the difficult practical matter of applying the principles to chronic exposure situations.

In order that users of the Safety Series may have accessible in one place the important aspects of major applications, guidance has been given in such a form. The most important area relates to the mining and milling of radioactive ores, and the relevant Guides and Safety Practices are being revised and updated. A Guide dealing with the problems of the oil and gas industry is planned. An important practical problem relates to the use of minerals containing thorium in industrial operations for which a new Guide is proposed.

REFERENCES

1. IAEA, *International Basic Safety Standards for Protection Against Ionizing Radiation and For the Safety of Radiation Sources,* SS-115-I, Vienna, 1994.