

IAEA

Safety Standards



IAEA

International Atomic Energy Agency

Atoms for Peace

IAEA Safety Standards Series

The IAEA Safety Standards Series comprises publications of a regulatory nature covering nuclear safety, radiation protection, radioactive waste management, the transport of radioactive material, the safety of nuclear fuel cycle facilities and management systems. These publications are issued under the terms of Article III of the IAEA's Statute, which authorizes the IAEA to establish "standards of safety for protection of health and minimization of danger to life and property". Safety standards are categorized into:

- Safety Fundamentals, stating the basic objective, concepts and principles of safety;
- Safety Requirements, establishing the requirements that must be fulfilled to ensure safety; and
- Safety Guides, recommending measures for complying with these requirements for safety.

For numbering purposes, the IAEA Safety Standards Series is subdivided into General Safety Requirements and General Safety Guides (GSR and GSG), which are applicable to all types of facilities and activities, and Specific Safety Requirements and Specific Safety Guides (SSR and SSG), which are for application in particular thematic areas.

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FOREWORD

by Yukiya Amano
Director General

The IAEA's Statute authorizes the Agency to "establish or adopt...standards of safety for protection of health and minimization of danger to life and property" — standards that the IAEA must use in its own operations, and which States can apply by means of their regulatory provisions for nuclear and radiation safety. The IAEA does this in consultation with the competent organs of the United Nations and with the specialized agencies concerned. A comprehensive set of high quality standards under regular review is a key element of a stable and sustainable global safety regime, as is the IAEA's assistance in their application.

The IAEA commenced its safety standards programme in 1958. The emphasis placed on quality, fitness for purpose and continuous improvement has led to the widespread use of the IAEA standards throughout the world. The Safety Standards Series now includes unified Fundamental Safety Principles, which represent an international consensus on what must constitute a high level of protection and safety. With the strong support of the Commission on Safety Standards, the IAEA is working to promote the global acceptance and use of its standards.

Standards are only effective if they are properly applied in practice. The IAEA's safety services encompass design, siting and engineering safety, operational safety, radiation safety, safe transport of radioactive material and safe management of radioactive waste, as well as governmental organization, regulatory matters and safety culture in organizations. These safety services assist Member States in the application of the standards and enable valuable experience and insights to be shared.

Regulating safety is a national responsibility, and many States have decided to adopt the IAEA's standards for use in their national regulations. For parties to the various international safety conventions, IAEA standards provide a consistent, reliable means of ensuring the effective fulfilment of obligations under the conventions. The standards are also applied by regulatory bodies and operators around the world to enhance safety in nuclear

power generation and in nuclear applications in medicine, industry, agriculture and research.

Safety is not an end in itself but a prerequisite for the purpose of the protection of people in all States and of the environment — now and in the future. The risks associated with ionizing radiation must be assessed and controlled without unduly limiting the contribution of nuclear energy to equitable and sustainable development. Governments, regulatory bodies and operators everywhere must ensure that nuclear material and radiation sources are used beneficially, safely and ethically. The IAEA safety standards are designed to facilitate this, and I encourage all Member States to make use of them.

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Safety Fundamentals

Fundamental Safety Principles

Safety Fundamentals

IAEA Safety Standards Series No. SF-1

This publication states the fundamental safety objective and ten associated safety principles, and briefly describes their intent and purpose. The fundamental safety objective — to protect people and the environment from harmful effects of ionizing radiation — applies to all circumstances that give rise to radiation risks. The safety principles are applicable, as relevant, throughout the entire lifetime of all facilities and activities — existing and new — utilized for peaceful purposes, and to protective actions to reduce existing radiation risks. They provide the basis for requirements and measures for the protection of people and the environment against radiation risks and for the safety of facilities and activities that give rise to radiation risks, including, in particular, nuclear installations and uses of radiation and radioactive sources, the transport of radioactive material and the management of radioactive waste.

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General Safety Standards

Governmental, Legal and Regulatory Framework for Safety

General Safety Requirements

IAEA Safety Standards Series No. GSR Part 1 (Rev. 1)

This publication establishes requirements in respect of the governmental, legal and regulatory framework for safety. It covers the essential aspects of the framework for establishing a regulatory body and taking other actions necessary to ensure the effective regulatory control of facilities and activities utilized for peaceful purposes. Other responsibilities and functions, such as liaison within the global safety regime and on support services for safety (including radiation protection), emergency

preparedness and response, nuclear security, and the State system of accounting for and control of nuclear material, are also covered. A review of Safety Requirements publications was commenced in 2011 following the accident in the Fukushima Daiichi nuclear power plant in Japan. The review revealed no significant areas of weakness and resulted in just a small set of amendments to strengthen the requirements and facilitate their implementation, which are contained in the present publication.

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Leadership and Management for Safety

General Safety Requirements

IAEA Safety Standards Series No. GSR Part 2

This Safety Requirements publication establishes requirements that support Principle 3 of the Fundamental Safety Principles in relation to establishing, sustaining and continuously improving leadership and management for safety and an integrated management system. It emphasizes that leadership for safety, management for safety, an effective management system and a systemic approach (i.e. an approach in which interactions between technical, human and organizational factors are duly considered) are all essential to the specification and application of adequate safety measures and to the fostering of a strong safety culture. Leadership and an effective management system will integrate safety, health, environmental, security, quality, human-and-organizational factors, societal and economic elements. The management system will ensure the fostering of a strong safety culture, regular assessment of performance and the application of lessons from experience. The publication is intended for use by regulatory bodies, operating organizations and other organizations concerned with facilities and activities that give rise to radiation risks.

English Edition (26 pp., 2 figs; 2016) • ISBN 978-92-0-104516-4 • STI/PUB/1750 • € 30.00

Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards

General Safety Requirements

IAEA Safety Standards Series No. GSR Part 3

This publication is the new edition of the International Basic Safety Standards. The edition is co-sponsored by seven other international organizations — European Commission (EC/Euratom), FAO, ILO, OECD/NEA, PAHO, UNEP and WHO. It replaces the interim edition that was published in November 2011 and the previous edition of the International

Basic Safety Standards which was published in 1996. It has been extensively revised and updated to take account of the latest finding of the United Nations Scientific Committee on the Effects of Atomic Radiation, and the latest recommendations of the International Commission on Radiological Protection. The publication details the requirements for the protection of people and the environment from harmful effects of ionizing radiation and for the safety of radiation sources. All circumstances of radiation exposure are considered.

Arabic Edition (443 pp, 2 figs; 2015) • ISBN 978-92-0-605815-2 • STI/PUB/1578 • € 68.00

Chinese Edition (421 pp, 2 figs; 2015) • ISBN 978-92-0-505615-9 • STI/PUB/1578 • € 68.00

English Edition (436 pp, 2 figs; 2014) • ISBN 978-92-0-135310-8 • STI/PUB/1578 • € 68.00

Russian Edition (477 pp, 2 figs; 2015) • ISBN 978-92-0-409915-7 • STI/PUB/1578 • € 68.00

Spanish Edition (Forthcoming 2016) • ISBN 978-92-0-307915-0 • STI/PUB/1578 • € 68.00

Safety Assessment for Facilities and Activities

General Safety Requirements

IAEA Safety Standards Series No. GSR Part 4 (Rev. 1)

This publication describes the generally applicable requirements to be fulfilled in safety assessments for facilities and activities, with special attention paid to defence in depth, quantitative analyses and the application of a graded approach to the ranges of facilities and of activities that are addressed. The requirements provide a consistent and coherent basis for safety assessments, facilitating the transfer of good practices between organizations. A review of Safety Requirements publications was commenced in 2011 following the accident in the Fukushima Daiichi nuclear power plant in Japan. The review revealed no significant areas of weakness and resulted in just a small set of amendments to strengthen the requirements and facilitate their implementation, which are contained in the present publication.

English Edition (38 pp., 3 figs; 2016) • ISBN 978-92-0-109115-4 • STI/PUB/1714 • €49.00

Predisposal Management of Radioactive Waste

General Safety Requirements

IAEA Safety Standards Series No. GSR Part 5

There are a large number of facilities and activities around the world in which radioactive material is produced, handled and stored. This Safety Requirements publication presents international consensus requirements for the management of radioactive waste prior to its disposal. It provides the safety

imperatives on the basis of which facilities can be designed, operated and regulated. The publication is supported by a number of Safety guides that provide up to date recommendations and guidance on best practices for management of particular types of radioactive waste, for storage of radioactive waste, for assuring safety by developing safety cases and supporting safety assessments, and for applying appropriate management systems.

- Arabic Edition (53 pp; 2009) • ISBN 978-92-0-614309-4 • STI/PUB/1368 • €45.00
- Chinese Edition (38 pp; 2009) • ISBN 978-92-0-514109-1 • STI/PUB/1368 • €45.00
- English Edition (38 pp; 2009) • ISBN 978-92-0-111508-9 • STI/PUB/1368 • €45.00
- French Edition (40 pp; 2010) • ISBN 978-92-0-214609-9 • STI/PUB/1368 • €45.00
- Russian Edition (46 pp; 2010) • ISBN 978-92-0-415209-8 • STI/PUB/1368 • €45.00
- Spanish Edition (44 pp; 2010) • ISBN 978-92-0-314209-0 • STI/PUB/1368 • €45.00

Decommissioning of Facilities

General Safety Requirements

IAEA Safety Standards Series No. GSR Part 6

Decommissioning is the last step in the lifetime management of a facility. It must also be considered during the design, construction, commissioning and operation of facilities. This publication establishes requirements for the safe decommissioning of a broad range of facilities: nuclear power plants, research reactors, nuclear fuel cycle facilities, facilities for processing naturally occurring radioactive material, former military sites, and relevant medical, industrial and research facilities. It addresses all the aspects of decommissioning that are required to ensure safety, aspects such as roles and responsibilities, strategy and planning for decommissioning, conduct of decommissioning actions and termination of the authorization for decommissioning. It is intended for use by those involved in policy development, regulatory control and implementation of decommissioning.

- Arabic Edition (25 pp., 2 figs; 2016) • ISBN 978-92-0-600216-2 • STI/PUB/1652 • €25.00
- Chinese Edition (19 pp., 2 figs; 2015) • ISBN 978-92-0-510215-3 • STI/PUB/1652 • €25.00
- English Edition (23 pp., 2 figs; 2014) • ISBN 978-92-0-102614-9 • STI/PUB/1652 • €25.00
- Russian Edition (29 pp., 2 figs; 2015) • ISBN 978-92-0-404515-4 • STI/PUB/1652 • €25.00

Preparedness and Response for a Nuclear or Radiological Emergency

Safety Requirements

IAEA Safety Standards Series No. GSR Part 7

This publication, jointly sponsored by the FAO, IAEA, ICAO, ILO, IMO, INTERPOL, OECD/NEA, PAHO, CTBTO, UNEP, OCHA, WHO and WMO, is the new edition establishing the requirements for preparedness and response for a nuclear or radiological emergency which takes into account the latest experience and developments in the area. It supersedes the previous edition of the Safety Requirements for emergency preparedness and response, Safety Standards Series No. GS-R-2, which was published in 2002. This publication establishes the requirements for ensuring an adequate level of preparedness and response for a nuclear or radiological emergency, irrespective of its cause. These Safety Requirements are intended to be used by governments, emergency response organizations, other authorities at the local, regional and national levels, operating organizations and the regulatory body as well as by relevant international organizations at the international level.

English Edition (102 pp.; 2 figs; 2015) • ISBN 92-0-105715-0 • STI/PUB/1708 • €45.00

Classification of Radioactive Waste

General Safety Guide

IAEA Safety Standards Series No. GSG-1

This publication is a revision of an earlier Safety Guide of the same title issued in 1994. It recommends revised waste management strategies that reflect changes in practices and approaches since then. It sets out a classification system for the management of waste prior to disposal and for disposal, driven by long term safety considerations. It includes a number of schemes for classifying radioactive waste that can be used to assist with planning overall national approaches to radioactive waste management and to assist with operational management at facilities.

English Edition (48 pp., 2 figs; 2009) • ISBN 978-92-0-109209-0 • STI/PUB/1419 • €24.00

Russian Edition (54 pp., 2 figs; 2014) • ISBN 978-92-0-403514-8 • STI/PUB/1419 • €24.00

Spanish Edition (50 pp., 2 figs; 2015) • ISBN 978-92-0-307414-8 • STI/PUB/1419 • €24.00

Criteria for Use in Preparedness and Response for a Nuclear or Radiological Emergency

General Safety Guide

IAEA Safety Standards Series No. GSG-2

This Safety Guide presents a coherent set of generic criteria (expressed numerically in terms of radiation dose) that form a basis for developing the operational levels needed for decision making concerning protective and response actions. The set of generic criteria addresses the requirements established in IAEA Safety Standards Series No. GS-R-2 for emergency preparedness and response, including lessons learned from responses to past emergencies, and provides an internally consistent foundation for the application of radiation protection. The publication also proposes a basis for a plain language explanation of the criteria for the public and for public officials.

Arabic Edition (108 pp; 2012) • ISBN 978-92-0-629410-9 • STI/PUB/1467 • €41.00

English Edition (91 pp; 2011) • ISBN 978-92-0-107410-2 • STI/PUB/1467 • €41.00

French Edition (102 pp; 2012) • ISBN 978-92-0-224210-4 • STI/PUB/1467 • €41.00

Russian Edition (108 pp; 2012) • ISBN 978-92-0-424810-4 • STI/PUB/1467 • €41.00

Spanish Edition (104 pp; 2013) • ISBN 978-92-0-336310-5 • STI/PUB/1467 • €41.00

The Safety Case and Safety Assessment for the Predisposal Management of Radioactive Waste

General Safety Guide

IAEA Safety Standards Series No. GSG-3

This Safety Guide provides recommendations and guidance for the development and regulatory review of the safety case and supporting safety assessment throughout the lifetime of a facility. The recommendations and guidance provided in this Safety Guide can be used irrespective of how the safety case and safety assessment processes are addressed within national regulatory frameworks. It summarizes the most important considerations in assessing and demonstrating the safety of facilities and activities and recommends the steps that should be followed in developing the safety case and performing the safety assessment.

English Edition (151 pp., 11 figs; 2013) • ISBN 978-92-0-134810-4 • STI/PUB/1576 • €37.00

Use of External Experts by the Regulatory Body

General Safety Guide

IAEA Safety Standards Series No. GSG-4

This Safety Guide provides recommendations and guidance on meeting the requirements of IAEA Safety Standards Series No. GSR Part 1 on obtaining expert advice or services for the regulatory body. It informs the regulatory body on the process it should use to determine the need for external expert advice, and the processes and procedures for identifying a suitable support provider and making contractual arrangements for the work. It also provides recommendations and guidance on how the regulatory body should take the advice of external experts into account while still retaining responsibility in making its decisions.

English Edition (25 pp., 2 figs; 2013) • ISBN 978-92-0-135910-0 • STI/PUB/1583 • €25.00

Justification of Practices, including Non-Medical Human Imaging

General Safety Guide

IAEA Safety Standards Series No. GSG-5

This Safety Guide was developed to assist governments and regulatory bodies with the assessment of particularly challenging proposals for the use of radiation; in particular, in human imaging for purposes other than medical diagnosis, medical treatment or biomedical research, such as for security screening at airports. It complements the guidance provided in the IAEA Safety Guide on the Regulatory Control of Radiation Sources. It provides guidance to governments and regulatory bodies on the elements that should be considered and the process that should be applied in determining whether the introduction of a particular type of practice is justified. It is intended to assist in the decision making process when confronted with a need or a request to authorize a novel type of practice or a need to review the justification of types of practice that are already established. The publication also provides some guidance to those wishing to demonstrate to the government or regulatory body that a particular type of practice is justified.

English Edition (57 pp., 2 figs; 2014) • ISBN 978-92-0-102414-5 • STI/PUB/1650 • €32.00

Arrangements for Preparedness for a Nuclear or Radiological Emergency

Safety Guide

IAEA Safety Standards Series No. GS-G-2.1

Under the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, one function of the IAEA is to collect and disseminate to States Parties and Member States information concerning methodologies, techniques and research data relating to emergency response. The primary objectives of this Safety Guide, co-sponsored by FAO, OCHA, ILO, PAHO and WHO, are to provide guidance on preparedness for and response to a nuclear or radiological emergency, to describe appropriate responses to a range of emergencies, and to provide background information on past experience, thereby helping the user to better implement arrangements that address the underlying issues.

English Edition (145 pp., 4 figs; 2007) • ISBN 92-0-109306-3 • STI/PUB/1265 • €31.00

Spanish Edition (165 pp., 4 figs; 2010) • ISBN 978-92-0-307310-3 • STI/PUB/1265 • €31.00

Application of the Management System for Facilities and Activities

Safety Guide

IAEA Safety Standards Series No. GS-G-3.1

This publication provides guidance for following the requirements for management systems that integrate safety, health, security, quality assurance and environmental objectives. A successful management system ensures that nuclear safety matters are not dealt with in isolation but are considered within the context of all these objectives. The aim of this publication is to assist Member States to establish and implement effective management systems that coherently integrate all aspects of managing nuclear facilities and activities.

English Edition (123 pp., 1 fig.; 2006) • ISBN 92-0-106606-6 • STI/PUB/1253 • €31.00

Russian Edition (116 pp., 1 fig.; 2009) • ISBN 978-92-0-401309-2 • STI/PUB/1253 • €31.00

The Management System for Technical Services in Radiation Safety

Safety Guide

IAEA Safety Standards Series No. GS-G-3.2

Implementing a management system into a service provider organization is an important task to promote the quality of the

service. Many Member States currently require management systems in their procedure of service authorization. This publication will be of use to consulting or measurement organizations when creating and implementing management systems that will help them to obtain authorization for their activities. The publication describes clearly the different requirements for consulting organizations that do and do not perform measurements. The difference between third party assessment requirements (often also used in Member States to speed up the authorization process) for certification and accreditation is explained in detail. The text is supplemented with informative examples covering tasks within the management system.

English Edition (51 pp., 1 fig.; 2008) • ISBN 978-92-0-100308-9 • STI/PUB/1319 • €25.00

French Edition (53 pp., 1 fig.; 2009) • ISBN 978-92-0-211808-9 • STI/PUB/1319 • €25.00

Russian Edition (60 pp., 1 fig.; 2015) • ISBN 978-92-0-406115-4 • STI/PUB/1319 • €25.00

The Management System for the Processing, Handling and Storage of Radioactive Waste

Safety Guide

IAEA Safety Standards Series No. GS-G-3.3

The objective of this Safety Guide is to provide guidance on the development and implementation of management systems for the pretreatment, treatment, conditioning and storage of radioactive waste. This publication also includes a description of how to apply the requirements detailed in IAEA Safety Standards Series No. GS-R-3, to the activities associated with producing a packaged waste form for storage and disposal.

English Edition (69 pp., 1 fig.; 2008) • ISBN 978-92-0-102008-6 • STI/PUB/1329 • €25.00

Russian Edition (80 pp., 1 fig.; 2015) • ISBN 978-92-0-404415-7 • STI/PUB/1329 • €25.00

Occupational Radiation Protection

Safety Guide

IAEA Safety Standards Series No. RS-G-1.1

This Safety Guide, co-sponsored by the ILO, provides general guidance on the establishment of an effective radiation protection programme for occupational exposure, appropriate for the sources of radiation likely to be encountered in a range of industries, medical institutions, educational and research establishments and nuclear fuel cycle facilities. This Safety Guide further provides the necessary guidance to meet the requirements as laid down in Safety Series No. 115,

International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources.

Arabic Edition (57 pp., 2 figs; 1999) •

STI/PUB/1081 • €14.50

Chinese Edition (65 pp., 2 figs; 2006) • ISBN 92-0-503806-7 •

STI/PUB/1081 • €14.50

English Edition (73 pp., 2 figs; 1999) • ISBN 92-0-102299-9 •

STI/PUB/1081 • €14.50

French Edition (81 pp., 2 figs; 2004) • ISBN 92-0-200804-3 •

STI/PUB/1081 • €14.50

Russian Edition (77 pp., 2 figs; 2002) •

STI/PUB/1081 • €14.50

Spanish Edition (79 pp., 2 figs; 2004) • ISBN 92-0-300604-4 •

STI/PUB/1081 • €14.50

Assessment of Occupational Exposure Due to Intakes of Radionuclides

Safety Guide

IAEA Safety Standards Series No. RS-G-1.2

The Safety Guide, co-sponsored by the ILO, addresses the assessment of exposure due to intakes of radionuclides in the workplace and reflects the major changes which have occurred in international practice in internal dose assessment over the past decade. The report further provides the necessary guidance to meet the requirements as laid down in Safety Series No. 115, International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources.

Arabic Edition (73 pp., 7 figs; 2001) •

STI/PUB/1077 • €14.50

Chinese Edition (96 pp., 7 figs; 1999) •

STI/PUB/1077 • €14.50

English Edition (85 pp., 7 figs; 1999) • ISBN 92-0-101999-8 •

STI/PUB/1077 • €14.50

French Edition (95 pp., 7 figs; 2004) • ISBN 92-0-202404-9 •

STI/PUB/1077 • €14.50

Russian Edition (85 pp., 7 figs; 2002) •

STI/PUB/1077 • €14.50

Spanish Edition (91 pp., 7 figs; 2004) • ISBN 92-0-306704-3 •

STI/PUB/1077 • €14.50

Assessment of Occupational Exposure Due to External Sources of Radiation

Safety Guide

IAEA Safety Standards Series No. RS-G-1.3

This Safety Guide, co-sponsored by the ILO, addresses the assessment of exposure to external sources of radiation in the workplace and the monitoring of workers and the workplace in such situations. It also reflects the major changes over the past decade in international practice in external dose

assessment. It further provides the necessary guidance to meet the requirements as laid down in Safety Series No. 115, International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources.

Arabic Edition (81 pp., 5 figs; 1999) •

STI/PUB/1076 • €14.50

Chinese Edition (99 pp., 5 figs; 1999) •

STI/PUB/1076 • €14.50

English Edition (89 pp., 5 figs; 1999) • ISBN 92-0-101799-5 •

STI/PUB/1076 • €14.50

French Edition (95 pp., 5 figs; 2004) • ISBN 92-0-215503-8 •

STI/PUB/1076 • €14.50

Russian Edition (93 pp.; 5 figs; 2002) •

STI/PUB/1076 • €14.50

Spanish Edition (95 pp., 5 figs; 2004) • ISBN 92-0-300704-0 •

STI/PUB/1076 • €14.50

Building Competence in Radiation Protection and the Safe Use of Radiation Sources

Safety Guide

IAEA Safety Standards Series No. RS-G-1.4

This Safety Guide, co-sponsored by the ILO, PAHO and WHO, makes recommendations concerning the building of competence in protection and safety within a national radiation protection infrastructure and provides guidance for setting up the structure for a national strategy. It relates to the training and assessment of qualification of new personnel and the retraining of existing personnel in order to develop and maintain appropriate levels of competence. It provides the necessary guidance to meet the requirements laid down in Safety Series No. 115, International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources.

Arabic Edition (37 pp., 1 fig.; 2001) •

STI/PUB/1108 • €13.00

Chinese Edition (31 pp., 1 fig.; 2005) • ISBN 92-0-516704-5 •

STI/PUB/1108 • €13.00

English Edition (37 pp., 1 fig.; 2001) • ISBN 92-0-100701-9 •

STI/PUB/1108 • €13.00

French Edition (42 pp., 1 fig.; 2005) • ISBN 92-0-212003-X •

STI/PUB/1108 • €13.00

Russian Edition (45 pp., 1 fig.; 2005) • ISBN 92-0-405805-6 •

STI/PUB/1108 • €13.00

Spanish Edition (39 pp., 1 fig.; 2010) • ISBN 978-92-0-307010-2 •

STI/PUB/1108 • €13.00

Environmental and Source Monitoring for Purposes of Radiation Protection

Safety Guide

IAEA Safety Standards Series No. RS-G-1.8

The purpose of this Safety Guide is to provide international guidance, coherent with contemporary radiation protection principles and IAEA safety requirements, on the strategy of monitoring in relation to: (a) control of radionuclide discharges under practice conditions, and (b) intervention, such as in cases of nuclear or radiological emergencies or past contamination of areas with long lived radionuclides. Three categories of monitoring are discussed: monitoring at the source of the discharge (source monitoring), monitoring in the environment (environmental monitoring) and monitoring of individual exposure in emergencies (individual monitoring). The Safety Guide also provides general guidance on assessment of the doses to critical groups of the population due to the presence of radioactive materials or radiation fields in the environment both from routine operation of nuclear and other related facilities (practice) and from nuclear or radiological emergencies and past contamination of areas with long lived radionuclides (intervention). The dose assessments are based on the results of source monitoring, environmental monitoring, individual monitoring or their combinations. This Safety Guide is primarily intended for use by national regulatory bodies and other agencies involved in national systems of radiation monitoring, as well as by operators of nuclear installations and other facilities where natural or human made radionuclides are treated and monitored.

English Edition (119 pp., 2 figs; 2005) • ISBN 92-0-113404-5 • STI/PUB/1216 • €26.00

Spanish Edition (131 pp., 2 figs; 2010) • ISBN 978-92-0-306010-3 • STI/PUB/1216 • €26.00

Categorization of Radioactive Sources

Safety Guide

IAEA Safety Standards Series No. RS-G-1.9

This Safety Guide provides a risk based ranking of radioactive sources and practices in five categories. The categorization system is based on a logical and transparent method that provides the flexibility for it to be applied in a wide range of circumstances. On the basis of this categorization, risk informed decisions can be made in a graded approach to the regulatory control of radioactive sources for the purposes of safety and security.

- Arabic Edition (63 pp; 2009) • ISBN 978-92-0-602309-9 • STI/PUB/1227 • €18.00
- Chinese Edition (55 pp; 2006) • ISBN 92-0-503506-8 • STI/PUB/1227 • €18.00
- English Edition (55 pp; 2005) • ISBN 92-0-103905-0 • STI/PUB/1227 • €18.00
- French Edition (57 pp; 2011) • ISBN 978-92-0-214810-9 • STI/PUB/1227 • €18.00
- Russian Edition (57 pp; 2006) • ISBN 92-0-404006-8 • STI/PUB/1227 • €18.00
- Spanish Edition (57 pp; 2009) • ISBN 978-92-0-301409-0 • STI/PUB/1227 • €18.00

Regulatory Control of Radioactive Discharges to the Environment

Safety Guide

IAEA Safety Standards Series No. WS-G-2.3

This Safety Guide makes recommendations concerning the regulatory process for controlling the discharge of liquid and gaseous effluents to the environment from normal controlled operations of practices in which radioactive material is used.

- Arabic Edition (33 pp., 3 figs; 2000) • STI/PUB/1088 • €14.50
- Chinese Edition (38 pp., 3 figs; 2005) • ISBN 92-0-516404-6 • STI/PUB/1088 • €14.50
- English Edition (43 pp., 3 figs; 2000) • ISBN 92-0-101000-1 • STI/PUB/1088 • €14.50
- French Edition (49 pp., 3 figs; 2005) • ISBN 92-0-215004-4 • STI/PUB/1088 • €14.50
- Russian Edition (53 pp., 3 figs; 2005) • ISBN 92-0-406205-3 • STI/PUB/1088 • €14.50
- Spanish Edition (51 pp., 3 figs; 2007) • ISBN 978-92-0-305707-3 • STI/PUB/1088 • €14.50

Remediation Process for Areas Affected by Past Activities and Accidents

Safety Guide

IAEA Safety Standards Series No. WS-G-3.1

The objective of this Safety Guide is to provide guidance on implementing the requirements for the remediation of areas contaminated by past activities and accidents. It is intended to be used by regulatory bodies, operators and others responsible for remediating sites and, in the case of an accident, contributing to the recovery process. This publication provides recommendations for protective and remedial actions that are intended to reduce existing prolonged exposures due to contamination and to avert potential prolonged exposure or the likelihood of such exposure from related contamination.

- English Edition (39 pp., 1 fig.; 2007) • ISBN 92-0-113306-5 • STI/PUB/1282 • €18.00

Spanish Edition (44 pp., 1 fig.; 2010) • ISBN 978-92-0-315009-5 •
STI/PUB/1282 • €18.00

Release of Sites from Regulatory Control on Termination of Practices

Safety Guide

IAEA Safety Standards Series No. WS-G-5.1

An increasing number of nuclear facilities are coming to the end of their useful lives and are being, or are going to be, decommissioned with a view to removing the sites from regulatory control. In many cases, decommissioning activities include the decontamination of land, buildings and other structures such as underground pipes and tanks, or ponds, at the site that became contaminated as a result of an authorized practice. The objective of this Safety Guide is to provide guidance to the regulatory body and operators for the release of sites, or parts of sites, from regulatory control after a practice has been terminated. Such release may include cleanup of contaminated sites, and this Safety Guide also aims to provide guidance in this area.

English Edition (37 pp., 2 figs; 2006) • ISBN 92-0-101606-9 •
STI/PUB/1244 • €27.00

Russian Edition (42 pp., 2 figs; 2008) • ISBN 978-92-0-404208-5 •
STI/PUB/1244 • €27.00

Spanish Edition (39 pp., 2 figs; 2010) • ISBN 978-92-0-306510-8 •
STI/PUB/1244 • €27.00

Safety Assessment for the Decommissioning of Facilities Using Radioactive Material

Safety Guide

IAEA Safety Standards Series No. WS-G-5.2

A large number of facilities using radioactive material, including nuclear power plants, research reactors, nuclear fuel cycle facilities, medical facilities and research facilities, are undergoing decommissioning now or will be decommissioned in the near future. Decommissioning of these facilities requires adequate evaluation of safety in accordance with the relevant safety requirements and criteria. This Safety Guide provides recommendations for the development and review of safety assessments for decommissioning activities. It is intended to assist regulators, operators and supporting technical specialists in the application of a graded approach to the development and review of safety assessments.

English Edition (62 pp., 4 figs; 2009) • ISBN 978-92-0-112308-4 •
STI/PUB/1372 • €25.00

Russian Edition (66 pp., 4 figs; 2015) • ISBN 978-92-0-404215-3 •
STI/PUB/1372 • €25.00

Storage of Radioactive Waste

Safety Guide

IAEA Safety Standards Series No. WS-G-6.1

Radioactive waste is generated in a broad range of activities involving a wide variety of materials. The wastes arising from these activities have differing physical, chemical and radiological characteristics. This publication gives guidance on the storage of solid, liquid and gaseous radioactive wastes in a wide range of facilities, including those at which waste is generated, treated and conditioned.

English Edition (55 pp; 2006) • ISBN 92-0-106706-2 •
STI/PUB/1254 • €26.00

Russian Edition (62 pp; 2008) • ISBN 978-92-0-404608-3 •
STI/PUB/1254 • €26.00

Spanish Edition (61 pp; 2009) • ISBN 978-92-0-310209-4 •
STI/PUB/1254 • €26.00

Specific Safety Standards

Nuclear Power Plants

Safety of Nuclear Power Plants: Design

Specific Safety Requirements

IAEA Safety Standards Series No. SSR-2/1 (Rev. 1)

This publication establishes requirements applicable to the design of nuclear power plants and elaborates on the safety objective, safety principles and concepts that provide the basis for deriving the safety requirements that must be met for the design of a nuclear power plant. It will be useful for organizations involved in design, manufacture, construction, modification, maintenance, operation and decommissioning of nuclear power plants, as well as for regulatory bodies. A review of Safety Requirements publications was commenced in 2011 following the accident in the Fukushima Daiichi nuclear power plant in Japan. The review revealed no significant areas of weakness and resulted in just a small set of amendments to strengthen the requirements and facilitate their implementation, which are contained in the present publication.

English Edition (71 pp., 2 figs; 2016) • ISBN 978-92-0-109315-8 •
STI/PUB/1715 • €50.00

Safety of Nuclear Power Plants: Commissioning and Operation

Specific Safety Requirements

IAEA Safety Standards Series No. SSR-2/2 (Rev. 1)

This publication describes the requirements to be met to ensure the safe operation of nuclear power plants. It takes into account developments in areas such as long term operation of nuclear power plants, plant ageing, periodic safety review, probabilistic safety analysis and risk informed decision making processes. In addition, the requirements are governed by, and must apply, the safety objective and safety principles that are established in the IAEA Safety Standards Series No. SF-1, Fundamental Safety Principles. A review of Safety Requirements publications was commenced in 2011 following the accident in the Fukushima Daiichi nuclear power plant in Japan. The review revealed no significant areas of weakness and resulted in just a small set of amendments to strengthen the requirements and facilitate their implementation, which are contained in the present publication.

English Edition (47 pp; 2 figs; 2016) • ISBN 978-92-0-109415-5 • STI/PUB/1716 • €48.00

Site Evaluation for Nuclear Installations

Safety Requirements

IAEA Safety Standards Series No. NS-R-3 (Rev. 1)

This publication establishes requirements and provides criteria for ensuring safety in site evaluation for nuclear installations. The Safety Guides on site evaluation listed in the references section provide recommendations on how to meet the requirements established in this publication. A review of Safety Requirements publications was commenced in 2011 following the accident in the Fukushima Daiichi nuclear power plant in Japan. The review revealed no significant areas of weakness and resulted in just a small set of amendments to strengthen the requirements and facilitate their implementation, which are contained in the present publication.

English Edition (27 pp; 2 figs; 2016) • ISBN 978-92-0-106515-5 • STI/PUB/1709 • €35.00

Organization and Staffing of the Regulatory Body for Nuclear Facilities

Safety Guide

IAEA Safety Standards Series No. GS-G-1.1

This Safety Guide provides recommendations on the appropriate management system, organization and staffing of the regulatory

body responsible for the regulation of nuclear facilities in order to comply with the requirements of Safety Standards Series No. GS-R-1, Legal and Governmental Infrastructure for Nuclear, Radiation, Radioactive Waste and Transport Safety.

Chinese Edition (25 pp; 2005) • ISBN 92-0-517104-2 • STI/PUB/1129 • €11.50

English Edition (31 pp; 2002) • ISBN 92-0-114002-9 • STI/PUB/1129 • €11.50

French Edition (37 pp; 2004) • ISBN 92-0-215304-3 • STI/PUB/1129 • €11.50

Russian Edition (42 pp; 2004) • ISBN 92-0-401404-0 • STI/PUB/1129 • €11.50

Spanish Edition (37 pp; 2006) • ISBN 92-0-303606-7 • STI/PUB/1129 • €11.50

Review and Assessment of Nuclear Facilities by the Regulatory Body

Safety Guide

IAEA Safety Standards Series No. GS-G-1.2

This Safety Guide provides recommendations on how to satisfy the requirements established in Safety Standards Series No. GS-R-1, Legal and Governmental Infrastructure for Nuclear, Radiation, Radioactive Waste and Transport Safety, concerning the responsibilities and functions of the regulatory body in the regulation of nuclear facilities. It provides recommendations on regulatory review and assessment of the various safety related submissions (on siting, design, construction, commissioning, operation and decommissioning or closure of a nuclear facility) to determine whether a facility complies with the applicable safety objectives and requirements.

Chinese Edition (38 pp; 2005) • ISBN 92-0-517004-6 • STI/PUB/1128 • €15.00

English Edition (46 pp; 2002) • ISBN 92-0-111702-7 • STI/PUB/1128 • €15.00

French Edition (54 pp; 2004) • ISBN 92-0-201005-6 • STI/PUB/1128 • €15.00

Russian Edition (60 pp; 2004) • ISBN 92-0-405103-5 • STI/PUB/1128 • €15.00

Regulatory Inspection of Nuclear Facilities and Enforcement by the Regulatory Body

Safety Guide

IAEA Safety Standards Series No. GS-G-1.3

This Safety Guide provides recommendations for regulatory bodies on how to meet the requirements in respect of the inspection of nuclear facilities, regulatory enforcement and related matters established in Safety Standards Series No. GS-R-1, Legal and Governmental Infrastructure for Nuclear, Radiation, Radioactive Waste and Transport Safety.

- Chinese Edition (39 pp; 2002) • ISBN 92-0-502605-0 • STI/PUB/1130 • €15.00
- English Edition (46 pp; 2002) • ISBN 92-0-114102-5 • STI/PUB/1130 • €15.00
- French Edition (53 pp; 2004) • ISBN 92-0-215504-6 • STI/PUB/1130 • €15.00
- Russian Edition (60 pp; 2004) • ISBN 92-0-401204-8 • STI/PUB/1130 • €15.00
- Spanish Edition (54 pp; 2008) • ISBN 978-92-0-309208-1 • STI/PUB/1130 • €15.00

Documentation for Use in Regulating Nuclear Facilities

Safety Guide

IAEA Safety Standards Series No. GS-G-1.4

This Safety Guide provides recommendations for regulatory bodies and operators on how to meet the requirements in respect of documentation for use in regulating nuclear facilities established in Safety Standards Series No. GS-R-1, Legal and Governmental Infrastructure for Nuclear, Radiation, Radioactive Waste and Transport Safety.

- Chinese Edition (34 pp; 2003) • ISBN 92-0-502705-7 • STI/PUB/1132 • €14.00
- English Edition (42 pp; 2002) • ISBN 92-0-113702-8 • STI/PUB/1132 • €14.00
- French Edition (47 pp; 2004) • ISBN 92-0-214604-7 • STI/PUB/1132 • €14.00
- Russian Edition (54 pp; 2004) • ISBN 92-0-401304-4 • STI/PUB/1132 • €14.00
- Spanish Edition (49 pp; 2008) • ISBN 978-92-0-307608-1 • STI/PUB/1132 • €14.00

The Management System for Nuclear Installations

Safety Guide

IAEA Safety Standards Series No. GS-G-3.5

This Safety Guide has been issued in support of the Safety Requirements publication on the Management System for Facilities and Activities, IAEA Safety Standards Series No. GS-R-3. It contains detailed recommendations in relation to nuclear installations, to complement the general recommendations provided in IAEA Safety Standards Series No. GS-G-3.1. This Safety Guide is applicable throughout the lifetime of a nuclear installation, including site evaluation, design, construction, commissioning, operation and decommissioning.

- English Edition (139 pp., 5 figs; 2009) • ISBN 978-92-0-103409-0 • STI/PUB/1392 • €35.00
- Russian Edition (160 pp., 5 figs; 2014) • ISBN 978-92-0-400614-8 • STI/PUB/1392 • €35.00

Format and Content of the Safety Analysis Report for Nuclear Power Plants

Safety Guide

IAEA Safety Standards Series No. GS-G-4.1

This Safety Guide provides recommendations and guidance on the possible format and content of safety analysis reports (SARs) to be developed in support of requests to regulatory bodies for authorization to construct and/or to operate a nuclear power plant. As such, this Safety Guide recommends how to meet the requirements for preparation of adequate safety demonstrations as established in IAEA Safety Standards Series No. GS-R-1, Safety Requirements on Legal and Governmental Infrastructure for Nuclear, Radiation, Radioactive Waste and Transport Safety, and complements IAEA Safety Standards Series No. NS-G-1.2, Safety Guide, Safety Assessment and Verification of Nuclear Power Plants.

Chinese Edition (71 pp; 2006) • ISBN 92-0-502306-X • STI/PUB/1185 • €22.00

English Edition (81 pp; 2004) • ISBN 92-0-115203-5 • STI/PUB/1185 • €22.00

Design of Fuel Handling and Storage Systems in Nuclear Power Plants

Safety Guide

IAEA Safety Standards Series No. NS-G-1.4

The purpose of this Safety Guide is to provide detailed recommendations for the design of fuel handling and storage systems in nuclear power plants. This publication is intended for use by organizations designing, manufacturing, constructing and operating fuel handling and storage facilities in nuclear power plants, as well as by regulatory bodies.

English Edition (53 pp., 4 figs; 2003) • ISBN 92-0-107803-X • STI/PUB/1156 • €16.50

Russian Edition (59 pp., 4 figs; 2005) • ISBN 92-0-410805-3 • STI/PUB/1156 • €16.50

Spanish Edition (61 pp., 4 figs; 2008) • ISBN 978-92-0-309108-4 • STI/PUB/1156 • €16.50

External Events Excluding Earthquakes in the Design of Nuclear Power Plants

Safety Guide

IAEA Safety Standards Series No. NS-G-1.5

This Safety Guide provides recommendations and guidance on design for the protection of nuclear power plants from the effects of external events (excluding earthquakes), i.e. events

that originate either off the site or within the boundaries of the site but from sources that are not directly involved in the operational states of the nuclear power plant units. In addition, it provides recommendations on engineering related matters in order to comply with the safety objectives and requirements established in the IAEA Safety Requirements publication, Safety of Nuclear Power Plants: Design. It is also applicable to the design and safety assessment of items important to the safety of land based stationary nuclear power plants with water cooled reactors.

English Edition (105 pp., 15 figs; 2003) • ISBN 92-0-113603-X • STI/PUB/1159 • €27.00

Russian Edition (127 pp., 15 figs; 2008) • ISBN 978-92-0-403308-3 • STI/PUB/1159 • €27.00

Seismic Design and Qualification for Nuclear Power Plants

Safety Guide

IAEA Safety Standards Series No. NS-G-1.6

This Safety Guide provides recommendations on a generally accepted way to design a nuclear power plant so that an earthquake motion at the site will not jeopardize the safety of the plant. It also gives guidance on a consistent application of methods and procedures for analysis, testing and qualification of structures and equipment so that they meet the safety requirements covering the design of nuclear power plants, safety assessments for the design and the regulatory issues concerned with the licensing of plants.

English Edition (59 pp., 3 figs; 2003) • ISBN 92-0-110703-X • STI/PUB/1158 • €17.50

Russian Edition (67 pp., 3 figs; 2008) • ISBN 978-92-0-404308-2 • STI/PUB/1158 • €17.50

Protection Against Internal Fires and Explosions in the Design of Nuclear Power Plants

Safety Guide

IAEA Safety Standards Series No. NS-G-1.7

Safety Guide NS-G-1.7 is a revision of an earlier Safety Guide, Safety Series No. 50-SG-D2. This and other Safety Guides recommend how to meet the design requirements established in Safety Standards Series No. NS-R-1, Safety of Nuclear Power Plants: Design. Its technical content is based on the most recent operating experience and has been extended to cover the design of plants in relation to internal explosions. The appendices provide guidance for the design and upgrading of fire detection and suppression systems.

English Edition (63 pp., 2 figs; 2004) • ISBN 92-0-103304-4 •
STI/PUB/1186 • €15.00

Russian Edition (71 pp., 2 figs; 2008) • ISBN 978-92-0-402908-6 •
STI/PUB/1186 • €15.00

Design of the Reactor Coolant System and Associated Systems in Nuclear Power Plants

Safety Guide

IAEA Safety Standards Series No. NS-G-1.9

This publication is a revision and combination of two previous Safety Guides: Safety Series No. 50-SG-D6, Ultimate Heat Sink and Directly Associated Heat Transport Systems for Nuclear Power Plants (1981), and Safety Series No. 50-SG-D13, Reactor Coolant and Associated Systems in Nuclear Power Plants (1986). The revision takes account of developments in the design of the reactor coolant and associated systems in nuclear power plants since the earlier safety guides were published. The other objectives of the revision are to ensure consistency with the Requirements for Design, issued in 2000, and to update the technical content. In addition, an appendix on pressurized heavy water reactors has been included.

English Edition (79 pp., 4 figs; 2004) • ISBN 92-0-103404-0 •
STI/PUB/1187 • €18.00

Russian Edition (87 pp., 4 figs; 2008) • ISBN 978-92-0-403008-2 •
STI/PUB/1187 • €18.00

Spanish Edition (83 pp., 4 figs; 2010) • ISBN 978-92-0-306910-6 •
STI/PUB/1187 • €18.00

Design of Reactor Containment Systems for Nuclear Power Plants

Safety Guide

IAEA Safety Standards Series No. NS-G-1.10

The purpose of this Safety Guide is to provide recommendations for the design of the containment systems in nuclear power plants in compliance with the safety objectives and requirements established in Safety Standards Series No. NS-R-1, Safety of Nuclear Power Plants: Design. Management of energy, radionuclides and combustible gases is considered. This publication is intended for use by organizations designing, manufacturing, constructing and operating nuclear power plants, as well as by regulatory bodies.

English Edition (127 pp., 11 figs; 2004) • ISBN 92-0-103604-3 •
STI/PUB/1189 • €18.00

Russian Edition (131 pp., 11 figs; 2008) • ISBN 978-92-0-402408-1 •
STI/PUB/1189 • €18.00

Protection against Internal Hazards other than Fires and Explosions in the Design of Nuclear Power Plants

Safety Guide

IAEA Safety Standards Series No. NS-G-1.11

This publication is a revision of the former safety standards given in Safety Series No. 50-SG-D4, dealing with protection against missiles and the consequences for the safety of nuclear power plants. This revised publication also includes other internal hazards: collapse of structures and falling objects, pipe whips, jet effects and flooding.

English Edition (43 pp; 2004) • ISBN 92-0-104904-8 •
STI/PUB/1191 • €20.00

Design of the Reactor Core for Nuclear Power Plants

Safety Guide

IAEA Safety Standards Series No. NS-G-1.12

This publication makes recommendations concerning safety features for incorporation into the design of the reactor core for a nuclear power plant and includes guidance on general and specific design considerations.

Chinese Edition (57 pp; 2006) • ISBN 92-0-502206-3 •
STI/PUB/1221 • €23.00

English Edition (59 pp; 2005) • ISBN 92-0-116004-6 •
STI/PUB/1221 • €23.00

Russian Edition (71 pp; 2006) • ISBN 92-0-403706-7 •
STI/PUB/1221 • €23.00

Radiation Protection Aspects of Design for Nuclear Power Plants

Safety Guide

IAEA Safety Standards Series No. NS-G-1.13

Prepared as part of the IAEA programme on safety standards for nuclear power plants (NPPs), this Safety Guide deals with the provisions that should be made in the design of NPPs to protect site personnel, the public and the environment against radiological hazards in operational states, decommissioning and accident conditions, including severe accidents. It also provides recommendations for ensuring radiation protection in the design of new NPPs, design modifications to operating plants, and safety reviews of operating NPPs. Comprehensive annexes provide additional information on the subjects addressed in this Safety Guide.

English Edition (115 pp., 4 figs; 2005) • ISBN 92-0-107905-2 •
STI/PUB/1233 • €22.00

Russian Edition (131 pp., 4 figs; 2008) • ISBN 978-92-0-404908-4 •
STI/PUB/1233 • €22.00

Fire Safety in the Operation of Nuclear Power Plants

Safety Guide

IAEA Safety Standards Series No. NS-G-2.1

This Safety Guide provides recommendations on how to meet the requirements for achieving and maintaining fire safety in the management and operation of a nuclear power plant throughout its lifetime, covering topics including fire prevention, control of combustible materials and ignition sources, manual fire fighting, training and quality assurance. The requirements for fire safety are established in Safety Standards Series No. NS-R-2, Safety of Nuclear Power Plants: Operation. The publication is intended for plant managers, operators, safety assessors and regulators. Recommendations are made concerning organization and responsibilities, periodic updating of the fire hazard analysis, modifications relating to fire safety, inspection, maintenance and testing of fire safety features, records and documentation, the adoption of a formal policy for fire safety, and specific responsibilities and authorities of staff in relation to fire safety.

Chinese Edition (27 pp; 2005) • ISBN 92-0-514005-8 •
STI/PUB/1091 • €12.50

English Edition (34 pp; 2000) • ISBN 92-0-100900-3 •
STI/PUB/1091 • €12.50

French Edition (41 pp; 2004) • ISBN 92-0-201904-5 •
STI/PUB/1091 • €12.50

Russian Edition (43 pp; 2004) • ISBN 92-0-401504-7 •
STI/PUB/1091 • €12.50

Operational Limits and Conditions and Operating Procedures for Nuclear Power Plants

Safety Guide

IAEA Safety Standards Series No. NS-G-2.2

This Safety Guide provides guidance on the development, content and use of operational limits and conditions (limits on plant operating parameters) and operating procedures that affect them. It recommends how to meet the requirements established in Safety Standards Series No. NS-R-2, Safety of Nuclear Power Plants: Operation, setting out the responsibilities of the operating organization in setting, modifying and documenting operational limits and conditions and ensuring compliance with them.

Chinese Edition (36 pp., 2 figs; 2005) • ISBN 92-0-514105-4 •
STI/PUB/1100 • €14.50

- English Edition (41 pp., 2 figs; 2000) • ISBN 92-0-102000-7 • STI/PUB/1100 • €14.50
French Edition (47 pp., 2 figs; 2005) • ISBN 92-0-207205-1 • STI/PUB/1100 • €14.50
Russian Edition (45 pp., 2 figs; 2004) • ISBN 92-0-401704-X • STI/PUB/1100 • €14.50
Spanish Edition (47 pp., 2 figs; 2009) • ISBN 978-92-0-313109-4 • STI/PUB/1100 • €14.50

Modifications to Nuclear Power Plants

Safety Guide

IAEA Safety Standards Series No. NS-G-2.3

This Safety Guide provides recommendations and guidance on controlling activities relating to modifications to nuclear power plants so as to reduce risk and to ensure that the configuration of the plant is under control at all times, and that the modified configuration conforms to the approved basis for granting an operation licence. The recommendations cover the whole process from conception to completion for modifications to structures, systems and components, operational limits and conditions, procedures and software, and the management systems and tools for plant operation. This publication recommends how to meet the requirements established in the IAEA Safety Standards Series No. NS-R-2, The Safety of Nuclear Power Plants: Operation.

- Chinese Edition (27 pp., 1 fig.; 2005) • ISBN 92-0-516904-8 • STI/PUB/1111 • €12.50
English Edition (33 pp., 1 fig.; 2001) • ISBN 92-0-101501-1 • STI/PUB/1111 • €12.50
French Edition (41 pp., 1 fig.; 2005) • ISBN 92-0-202804-4 • STI/PUB/1111 • €12.50
Russian Edition (41 pp., 1 fig.; 2004) • ISBN 92-0-402904-8 • STI/PUB/1111 • €12.50
Spanish Edition (37 pp., 1 fig.; 2007) • ISBN 92-0-300307-X • STI/PUB/1111 • €12.50

The Operating Organization for Nuclear Power Plants

Safety Guide

IAEA Safety Standards Series No. NS-G-2.4

This Safety Guide provides recommendations on setting up an operating organization for nuclear power plants so as to facilitate their safe operation, and on the organizational elements necessary for a strong safety culture and an international level of performance. The Safety Guide highlights the important elements of effective management in relation to nuclear safety, quality assurance, the management of radioactive waste and radiological protection, and in meeting the associated national regulatory requirements. It recommends how to meet the

requirements established in Safety Standards Series No. NS-R-2, Safety of Nuclear Power Plants: Operation.

Chinese Edition (42 pp; 2005) • ISBN 92-0-516804-1 • STI/PUB/1115 • €14.50

English Edition (53 pp; 2002) • ISBN 92-0-102301-4 • STI/PUB/1115 • €14.50

French Edition (62 pp; 2005) • ISBN 92-0-206805-4 • STI/PUB/1115 • €14.50

Russian Edition (69 pp; 2004) • ISBN 92-0-401604-3 • STI/PUB/1115 • €14.50

Core Management and Fuel Handling for Nuclear Power Plants

Safety Guide

IAEA Safety Standards Series No. NS-G-2.5

This Safety Guide supplements and elaborates upon the safety requirements for core management and fuel handling established in Section 5 of Safety Standards Series No. NS-R-2, The Safety of Nuclear Power Plants: Operation. It also relates to Safety Standards Series No. NS-G-2.4, The Operating Organization for Nuclear Power Plants, which identifies fuel management as one of the functions to be performed by the operating organization.

English Edition (43 pp; 2002) • ISBN 92-0-111002-2 • STI/PUB/1125 • €14.00

Russian Edition (55 pp; 2004) • ISBN 92-0-404204-4 • STI/PUB/1125 • €14.00

Maintenance, Surveillance and In-service Inspection in Nuclear Power Plants

Safety Guide

IAEA Safety Standards Series No. NS-G-2.6

This Safety Guide provides recommendations and guidance for effective maintenance, surveillance and in-service inspection to ensure that the levels of reliability and availability of all plant structures, systems and components meet the assumptions and intent of the design. It supplements Section 6 of Safety Standards Series No. NS-R-2, Safety of Nuclear Power Plants: Operation.

English Edition (74 pp; 2002) • ISBN 92-0-115702-9 • STI/PUB/1136 • €20.00

Russian Edition (91 pp; 2005) • ISBN 92-0-406505-2 • STI/PUB/1136 • €20.00

Radiation Protection and Radioactive Waste Management in the Operation of Nuclear Power Plants

Safety Guide

IAEA Safety Standards Series No. NS-G-2.7

This Safety Guide provides recommendations on meeting the requirements, including those established in Safety Standards Series No. NS-R-1, Safety of Nuclear Power Plants: Design, for the development of programmes for radiation protection and for the management of radioactive waste at nuclear power plants.

English Edition (63 pp; 2002) • ISBN 92-0-119202-9 •

STI/PUB/1138 • €18.00

Russian Edition (76 pp; 2005) • ISBN 92-0-412805-4 •

STI/PUB/1138 • €18.00

Spanish Edition (87 pp; 2011) • ISBN 978-92-0-312610-6 •

STI/PUB/1138 • €18.00

Recruitment, Qualification and Training of Personnel for Nuclear Power Plants

Safety Guide

IAEA Safety Standards Series No. NS-G-2.8

This Safety Guide provides recommendations on the recruitment, selection, qualification, training and authorization of personnel working in all safety related functions and at all levels of nuclear power plants. It supplements Safety Standards Series No. NS-R-2, Safety of Nuclear Power Plants: Operation and is related to Safety Standards Series No. NS-G-2.4, The Operating Organization for Nuclear Power Plants.

English Edition (49 pp; 2002) • ISBN 92-0-117902-2 •

STI/PUB/1140 • €15.50

Russian Edition (57 pp; 2005) • ISBN 92-0-411805-9 •

STI/PUB/1140 • €15.50

A System for the Feedback of Experience from Events in Nuclear Installations

Safety Guide

IAEA Safety Standards Series No. NS-G-2.11

This Safety Guide provides recommendations on all the main components of operating experience feedback systems, utilizing relevant information on events and abnormal conditions that have occurred at nuclear installations around the world. It focuses on the interaction between the different systems for using operating experience feedback and constitutes an update and an extension of Part I, A National System of Systems for

Reporting Unusual Events in Nuclear Power Plants (IAEA Safety Series No. 93).

English Edition (61 pp., 1 fig.; 2006) • ISBN 92-0-101406-6 • STI/PUB/1243 • €23.00

Russian Edition (67 pp., 1 fig.; 2009) • ISBN 978-92-0-401209-5 • STI/PUB/1243 • €23.00

Spanish Edition (67 pp., 1 fig.; 2012) • ISBN 978-92-0-332410-6 • STI/PUB/1243 • €23.00

Ageing Management for Nuclear Power Plants

Safety Guide

IAEA Safety Standards Series No. NS-G-2.12

The median age of nuclear power plants connected to the grid worldwide is increasing. Ageing management has become an important issue in ensuring the availability of required safety functions throughout the service life of a plant. This Safety Guide provides recommendations on meeting the requirements for safe long term operation and identifies key elements of effective ageing management for nuclear power plants.

English Edition (48 pp., 6 figs; 2009) • ISBN 978-92-0-112408-1 • STI/PUB/1373 • €20.00

Russian Edition (54 pp., 6 figs; 2014) • ISBN 978-92-0-400214-0 • STI/PUB/1373 • €20.00

Evaluation of Seismic Safety for Existing Nuclear Installations

Safety Guide

IAEA Safety Standards Series No. NS-G-2.13

This Safety Guide provides recommendations regarding the criteria and methodologies to be used for seismic safety evaluation of existing nuclear installations, including installations whose purpose and associated radiological risks have changed, installations where longer term operation is under consideration and installations where comprehensive seismic safety reassessments have become necessary. Two methodologies are discussed in detail: deterministic seismic margin assessment (SMA) and seismic probabilistic safety assessment (SPSA).

English Edition (84 pp; 2009) • ISBN 978-92-0-100409-3 • STI/PUB/1379 • €20.00

Russian Edition (76 pp; 2014) • ISBN 978-92-0-401314-6 • STI/PUB/1379 • €20.00

Conduct of Operations at Nuclear Power Plants

Safety Guide

IAEA Safety Standards Series No. NS-G-2.14

This Safety Guide identifies the main responsibilities and practices of nuclear power plant operations departments in relation to their responsibility for the safe functioning of the plant. The guide presents the factors to be considered in structuring the operations department of a nuclear power plant; setting high standards of performance; making safety related decisions in an effective manner; conducting control room and field activities in a thorough and professional manner; and maintaining a nuclear power plant within established operational limits and conditions.

English Edition (55 pp; 2008) • ISBN 978-92-0-105408-1 • STI/PUB/1339 • €19.00

Russian Edition (68 pp; 2009) • ISBN 978-92-0-412508-5 • STI/PUB/1339 • €19.00

Spanish Edition (61 pp; 2012) • ISBN 978-92-0-329710-3 • STI/PUB/1339 • €19.00

Severe Accident Management Programmes for Nuclear Power Plants

Safety Guide

IAEA Safety Standards Series No. NS-G-2.15

This Safety Guide provides recommendations for the development of accident management programmes to prevent, and to mitigate the consequences of, beyond design basis accidents, including severe accidents. Although primarily developed for use for light water reactors, the recommendations are valid for a wide range of nuclear reactors, both existing and new.

English Edition (66 pp., 1 fig.; 2009) • ISBN 978-92-0-112908-6 • STI/PUB/1376 • €25.00

Russian Edition (78 pp., 1 fig.; 2014) • ISBN 978-92-0-401614-7 • STI/PUB/1376 • €25.00

Spanish Edition (Forthcoming 2016) • ISBN 978-92-0-310115-8 • STI/PUB/1376 • €25.00

External Human Induced Events in Site Evaluation for Nuclear Power Plants

Safety Guide

IAEA Safety Standards Series No. NS-G-3.1

This Safety Guide recommends actions, conditions and procedures in relation to external human induced events and provides guidance for fulfilling the requirements of Safety Standards Series No. NS-R-3, Site Evaluation for Nuclear

Installations, when conducting a site evaluation for a nuclear power plant.

Chinese Edition (41 pp., 1 fig.; 2005) • ISBN 92-0-514205-0 • STI/PUB/1126 • €14.50

English Edition (49 pp., 1 fig.; 2002) • ISBN 92-0-111202-5 • STI/PUB/1126 • €14.50

French Edition (55 pp., 1 fig.; 2006) • ISBN 92-0-212705-0 • STI/PUB/1126 • €14.50

Russian Edition (61 pp., 1 fig.; 2004) • ISBN 92-0-402304-X • STI/PUB/1126 • €14.50

Dispersion of Radioactive Material in Air and Water and Consideration of Population Distribution in Site Evaluation for Nuclear Power Plants

Safety Guide

IAEA Safety Standards Series No. NS-G-3.2

This Safety Guide deals with consideration of the potential effects of a nuclear power plant on the environment and of the population distribution in the surrounding area in site evaluation for a nuclear power plant. It supplements Safety Standard No. NS-R-3, Site Evaluation for Nuclear Installations.

English Edition (32 pp; 2002) • ISBN 92-0-110102-3 • STI/PUB/1122 • €11.50

Russian Edition (41 pp; 2004) • ISBN 92-0-404304-0 • STI/PUB/1122 • €11.50

Geotechnical Aspects of Site Evaluation and Foundations for Nuclear Power Plants

Safety Guide

IAEA Safety Standards Series No. NS-G-3.6

This publication is a revision of the former safety standards of IAEA Safety Series No. 50-SG-S8. The scope has been extended to cover not only foundations but also design questions related to geotechnical science and engineering, such as the bearing capacity of foundations, design of earth structures and design of buried structures.

Chinese Edition (49 pp; 2006) • ISBN 92-0-501906-2 • STI/PUB/1195 • €19.00

English Edition (53 pp; 2005) • ISBN 92-0-107204-X • STI/PUB/1195 • €19.00

Russian Edition (60 pp; 2005) • ISBN 92-0-400106-2 • STI/PUB/1195 • €19.00

Deterministic Safety Analysis for Nuclear Power Plants

Specific Safety Guide

IAEA Safety Standards Series No. SSG-2

The objective of this Safety Guide is to provide harmonized guidance to designers, operators, regulators and providers of technical support on deterministic safety analysis for nuclear power plants. It provides information on the utilization of the results of such analysis for safety and reliability improvements. The Safety Guide addresses conservative, best estimate and uncertainty evaluation approaches to deterministic safety analysis and is applicable to current and future designs.

English Edition (62 pp., 2 figs; 2010) • ISBN 978-92-0-113309-0 • STI/PUB/1428 • €23.00

Spanish Edition (66 pp., 2 figs; 2012) • ISBN 978-92-0-333010-7 • STI/PUB/1428 • €23.00

Russian Edition (72 pp., 2 figs; 2014) • ISBN 978-92-0-401814-1 • STI/PUB/1428 • €23.00

Development and Application of Level 1 Probabilistic Safety Assessment for Nuclear Power Plants

Specific Safety Guide

IAEA Safety Standards Series No. SSG-3

The objective of this Safety Guide is to provide recommendations for meeting the IAEA safety requirements in performing or managing a level 1 probabilistic safety assessment (PSA) project for a nuclear power plant. These recommendations promote technical consistency among level 1 PSA studies and support applications of PSA and risk informed decision making. The Safety Guide's scope encompasses all operational conditions of the plant and potential initiating events and hazards.

English Edition (195 pp., 8 figs; 2010) • ISBN 978-92-0-114509-3 • STI/PUB/1430 • €35.00

Russian Edition (218 pp., 8 figs; 2014) • ISBN 978-92-0-406014-0 • STI/PUB/1430 • €35.00

Development and Application of Level 2 Probabilistic Safety Assessment for Nuclear Power Plants

Specific Safety Guide

IAEA Safety Standards Series No. SSG-4

The objective of this Safety Guide is to provide recommendations for meeting the IAEA safety requirements in performing or

managing a level 2 probabilistic safety assessment (PSA) project for a nuclear power plant; thus it complements the Safety Guide on level 1 PSA. One of the aims of this Safety Guide is to promote a standard framework, standard terms and a standard set of documents for level 2 PSAs to facilitate regulatory and external peer review of their results. It describes all elements of the level 2 PSA that need to be carried out if the starting point is a fully comprehensive level 1 PSA.

English Edition (88 pp., 3 figs; 2010) • ISBN 978-92-0-102210-3 • STI/PUB/1443 • €22.00

Russian Edition (100 pp., 3 figs; 2014) • ISBN 978-92-0-404614-4 • STI/PUB/1443 • €22.00

Seismic Hazards in Site Evaluation for Nuclear Installations

Specific Safety Guide

IAEA Safety Standards Series No. SSG-9

This Safety Guide provides updated guidance for site evaluation in relation to seismic hazards. It takes account of recently gained knowledge and experience of seismic hazards in Member States, presents recent findings associated with strong motion recordings from seismically active and well instrumented areas such as Japan and California in the USA, includes experience gained from significant recent earthquakes and provides clear guidance for existing as well as new build projects. It also addresses the need to expand the evaluation of seismic hazards to nuclear installations other than nuclear power plants.

English Edition (56 pp; 2010) • ISBN 978-92-0-102910-2 • STI/PUB/1448 • €29.00

Licensing Process for Nuclear Installations

Specific Safety Guide

IAEA Safety Standards Series No. SSG-12

This Safety Guide describes how the licensing process should be applied at the various stages of the lifetime of a nuclear installation, with discussion of topics and required documents to be considered at each stage. Recommendations on the application by a regulatory body of a graded approach in the licensing process are also provided. It also describes the processes that should be undertaken to meet the regulatory and legal requirements in a Member State to authorize the establishment of a nuclear installation and/or initiation of its activities. While this Safety Guide focuses on safety at nuclear installations, it is noted that integration of safety and security

aspects should be considered and evaluated by the regulatory body in the licensing process.

English Edition (62 pp; 2010) • ISBN 978-92-0-107510-9 • STI/PUB/1468 • €27.00

Spanish Edition (70 pp; 2011) • ISBN 978-92-0-318410-6 • STI/PUB/1468 • €27.00

Chemistry Programme for Water Cooled Nuclear Power Plants

Specific Safety Guide

IAEA Safety Standards Series No. SSG-13

This publication provides guidance on establishing a high standard chemistry programme in accordance with plant safety policy and regulatory requirements. It will be useful to managers of operating organizations and other staff responsible for supporting or monitoring plant activities and for oversight of the plant chemistry programme, as well as to regulatory bodies.

English Edition (46 pp; 2011) • ISBN 978-92-0-107610-6 • STI/PUB/1469 • €25.00

Russian Edition (52 pp; 2014) • ISBN 978-92-0-400914-9 • STI/PUB/1469 • €25.00

Storage of Spent Nuclear Fuel

Specific Safety Guide

IAEA Safety Standards Series No. SSG-15

This Safety Guide provides recommendations and guidance on the storage of spent nuclear fuel. It covers all types of storage facilities and all types of spent fuel from nuclear power plants and research reactors. It takes into consideration the longer storage periods that have become necessary owing to delays in the development of disposal facilities and the decrease in reprocessing activities. It also considers developments associated with nuclear fuel, such as higher enrichment, mixed oxide fuels and higher burnup. The Safety Guide is not intended to cover the storage of spent fuel if this is part of the operation of a nuclear power plant or spent fuel reprocessing facility. Guidance is provided on all stages for spent fuel storage facilities, from planning through siting and design to operation and decommissioning, and in particular retrieval of spent fuel.

English Edition (110 pp; 2012) • ISBN 978-92-0-115110-0 • STI/PUB/1503 • €40.00

Establishing the Safety Infrastructure for a Nuclear Power Programme

Specific Safety Guide

IAEA Safety Standards Series No. SSG-16

This Safety Guide provides guidance on the establishment of a national nuclear safety infrastructure as a key component of the overall preparations required for emerging nuclear power programmes. It provides recommendations, presented in the form of 200 sequential actions, on meeting the applicable IAEA safety requirements during the first three phases of the development of a nuclear power programme. It is intended for use by persons or organizations participating in the preparation and implementation of a nuclear power programme, including government officials and legislative bodies, regulatory bodies, operating organizations and external support entities.

English Edition (158 pp., 7 figs; 2012) • ISBN 978-92-0-115310-4 • STI/PUB/1507 • €40.00

Russian Edition (188 pp., 7 figs; 2015) • ISBN 978-92-0-405614-3 • STI/PUB/1507 • €40.00

Meteorological and Hydrological Hazards in Site Evaluation for Nuclear Installations

Specific Safety Guide

IAEA Safety Standards Series No. SSG-18

This IAEA Safety Guide, which is jointly sponsored by the World Meteorological Organization, provides recommendations and guidance on how to comply with the safety requirements on assessing hazards associated with meteorological and hydrological phenomena. It includes the state of practice in the international community for dealing with these external natural hazards, considering the lessons learned from recent catastrophic events as well as from new findings on climate variability. Furthermore, the publication provides recommendations on how to determine the corresponding design basis for these natural hazards, and recommends measures for protection of the site against hazards of this type. This Safety Guide is intended for use by regulatory bodies, designers of nuclear installations and operating organizations responsible for the safety of installations and for the protection of people and the environment from harmful effects of ionizing radiation.

English Edition (146 pp., 4 figs; 2011) • ISBN 978-92-0-115210-7 • STI/PUB/1506 • €38.00

Volcanic Hazards in Site Evaluation for Nuclear Installations

Specific Safety Guide

IAEA Safety Standards Series No. SSG-21

This publication provides comprehensive and updated guidance for site evaluation in relation to volcanic hazards. It includes recommendations on assessing the volcanic hazards at a nuclear installation site, in order to identify and characterize, in a comprehensive manner, all potentially hazardous phenomena that may be associated with future volcanic events. It describes how some of these volcanic phenomena may affect the acceptability of the selected site, resulting in exclusion of a site or determining the corresponding design basis parameters for the installation. This Safety Guide is applicable to both existing and new sites, and a graded approach is recommended to cater for all types of nuclear installation.

English Edition (106 pp., 2 figs; 2012) • ISBN 978-92-0-128110-4 • STI/PUB/1552 • €30.00

Periodic Safety Review for Nuclear Power Plants

Specific Safety Guide

IAEA Safety Standards Series No. SSG-25

This Safety Guide provides recommendations and guidance on conducting periodic safety review (PSR) of an existing nuclear power plant. PSR is a comprehensive safety review of all important aspects of safety, carried out at regular intervals, typically every ten years. In addition, PSR may be used in support of the decision making process for licence renewal or long term operation, or for restart of a nuclear power plant following a prolonged shutdown. The review process described in this Safety Guide is valid for nuclear power plants of any age and may have a wider applicability, for example to research reactors and radioactive waste management facilities, by means of a graded approach. Although PSR may not be an appropriate means for identifying safety issues in the decommissioning phase, the documentation resulting from PSR of an operating nuclear power plant will be an important input when planning decommissioning.

English Edition (106 pp., 5 figs; 2013) • ISBN 978-92-0-137410-3 • STI/PUB/1588 • €37.00

Criticality Safety in the Handling of Fissile Material

Specific Safety Guide

IAEA Safety Standards Series No. SSG-27

This Safety Guide provides guidance and recommendations on how to meet the relevant requirements for ensuring subcriticality when dealing with fissile material and for planning the response to criticality accidents. The guidance and recommendations are applicable to both regulatory bodies and operating organizations. The objectives of criticality safety are to prevent a self-sustained nuclear chain reaction and to minimize the consequences of this if it were to occur. The Safety Guide makes recommendations on how to ensure subcriticality in systems involving fissile materials during normal operation, anticipated operational occurrences, and, in the case of accident conditions, within design basis accidents, from initial design through commissioning, operation, and decommissioning and disposal.

English Edition (77 pp., 2 figs; 2014) • ISBN 978-92-0-140010-9 • STI/PUB/1594 • €40.00

Commissioning for Nuclear Power Plants

Specific Safety Guide

IAEA Safety Standards Series No. SSG-28

This Safety Guide provides recommendations on the basis of international best practices, as currently followed in IAEA Member States, on how to meet the requirements for the commissioning for nuclear power plants. These requirements enable the commissioning of a nuclear power plant to proceed safely and to a high quality. The recommendations will also enable the necessary assurances to be provided that the plant has been constructed in accordance with the design intent and can be operated safely.

English Edition (84 pp., 2 figs; 2014) • ISBN • 978-92-0-140110-6 • STI/PUB/1595 • €40.00

Safety Classification of Structures, Systems and Components in Nuclear Power Plants

Specific Safety Guide

IAEA Safety Standards Series No. SSG-30

This Safety Guide provides recommendations and guidance on how to meet the requirements established in Specific Safety Requirements No. SSR-2/1 and in General Safety Requirements No. GSR Part 4 for the identification of structures, systems and components (SSCs) important to safety in nuclear power plants

and for their classification on the basis of their function and safety significance. This Safety Guide is intended primarily for use by organizations involved in the design of nuclear power plants, as well as by regulatory bodies and their technical support organizations. The Safety Guide can also be applied to other nuclear installations subject to appropriate adjustments relevant to the specific design of the type of the facility being considered.

English Edition (24 pp., 2 figs; 2014) • ISBN 978-92-0-115413-2 • STI/PUB/1639 • €22.00

Design of Electrical Power Systems for Nuclear Power Plants

Specific Safety Guide

IAEA Safety Standards Series No. SSG-34

This Safety Guide provides recommendations on the necessary characteristics of electrical power systems for nuclear power plants, and of the processes for developing these systems, in order to meet the safety requirements of IAEA Safety Standards Series No. SSR-2/1 (Rev. 1). It reflects the changes that have been made to SSR-2/1, in particular to requirement 68 on emergency power supply.

English Edition (120 pp., 9 figs; 2016) • ISBN 978-92-0-109314-1 • STI/PUB/1673 • €47.00

Site Survey and Site Selection for Nuclear Installations

Specific Safety Guide

IAEA Safety Standards Series No. SSG-35

This publication was prepared under the IAEA's programme for Safety Standards and complements other Safety Guides that deal with all safety considerations in site evaluation regarding the effects of external events and population distribution. It supplements and provides recommendations on meeting the requirements for nuclear installations established in the Safety Requirements publication on Site Evaluation for Nuclear Installations (IAEA Safety Standards Series No. NS-R-3) in terms of the safety aspects to be considered during the stages of the selection process of a site for a nuclear installation.

English Edition (61 pp., 5 figs; 2015) • ISBN 978-92-0-102415-2 • STI/PUB/1690 • €31.00

Construction for Nuclear Installations

Specific Safety Guide

IAEA Safety Standards Series No. SSG-38

This Safety Guide provides recommendations and guidance based on international good practices in the construction of nuclear installations, which will enable construction to proceed with high quality. It can be applied to support the development, implementation and assessment of construction methods and procedures and the identification of good practices for ensuring the quality of the construction to meet the design intent and ensure safety. It will be a useful tool for regulatory bodies, licensees and new entrant countries introducing nuclear power plants and other nuclear installations.

English Edition (46 pp., 3 figs; 2015) • ISBN 978-92-0-102715-2 • STI/PUB/1693 • €42.00

Design of Instrumentation and Control Systems for Nuclear Power Plants

Specific Safety Guide

IAEA Safety Standards Series No. SSG-39

This publication is a revision and combination of two Safety Guides, IAEA Safety Standards Series No. NS-G-1.1 and No. NS-G-1.3. The revision takes into account developments in instrumentation and control (I&C) systems since the publication of the earlier Safety Guides. The main changes relate to the continuing development of computer applications and the evolution of the methods necessary for their safe, secure and practical use. In addition, account is taken of developments in human factors engineering and the need for computer security. This Safety Guide references and takes into account other IAEA Safety Standards and Nuclear Security Series publications that provide guidance relating to I&C design.

English Edition (161 pp., 5 figs; 2016) • ISBN 978-92-0-102815-2 • STI/PUB/1694 • €54.00

Predisposal Management of Radioactive Waste from Nuclear Power Plants and Research Reactors

Specific Safety Guide

IAEA Safety Standards Series No. SSG-40

This Safety Guide provides operating organizations that generate and manage radioactive waste as well as regulatory bodies and government bodies with recommendations on how to meet the requirements for the predisposal management of radioactive

waste generated at nuclear power plants and research reactors (including subcritical and critical assemblies). It covers all stages in the lifetime of waste management facilities, including their siting, design, construction, commissioning, operation, and shutdown and decommissioning. It covers all steps carried out in the management of radioactive waste following its generation up to (but not including) disposal, including its processing (pre-treatment, treatment and conditioning). Radioactive waste generated during normal operation and in accident conditions is considered.

English Edition (83 pp., 4 figs; 2016) • ISBN 978-92-0-109815-3 • STI/PUB/1719 • €42.00

Decommissioning of Nuclear Power Plants and Research Reactors

Safety Guide

IAEA Safety Standards Series No. WS-G-2.1

This Safety Guide addresses the subject of how to meet the requirements for decommissioning of nuclear power plants and research reactors. It provides guidance to national authorities and operating organizations on the planning and safe management of the decommissioning of such installations.

Arabic Edition (34 pp; 2001) • STI/PUB/1079 • €14.50

Chinese Edition (47 pp; 1999) • STI/PUB/1079 • €14.50

English Edition (41 pp; 1999) • ISBN 92-0-102599-8 • STI/PUB/1079 • €14.50

French Edition (46 pp; 2004) • ISBN 92-0-211903-1 • STI/PUB/1079 • €14.50

Russian Edition (45 pp; 1999) • STI/PUB/1079 • €14.50

Research Reactors

Site Evaluation for Nuclear Installations

Safety Requirements

IAEA Safety Standards Series No. NS-R-3 (Rev. 1)

Please see page 16

Safety of Research Reactors

Safety Requirements

IAEA Safety Standards Series No. SSR-3

This Safety Requirements publication establishes requirements for all main areas of safety for research reactors, with particular emphasis on requirements for design and operation. It explains

the safety objectives and concepts that form the basis for safety and safety assessment for all stages in the lifetime of a research reactor. Technical and administrative requirements for the safety of new research reactors are established in accordance with these objectives and concepts, and they are to be applied to the extent practicable for existing research reactors. The safety requirements established in this publication for the management of safety and regulatory supervision apply to site evaluation, design, manufacturing, construction, commissioning, operation (including utilization and modification), and planning for decommissioning of research reactors (including critical assemblies and subcritical assemblies). The publication is intended for use by regulatory bodies and other organizations with responsibilities in these areas and in safety analysis, verification and review, and the provision of technical support.

English Edition (121 pp; 2005) • ISBN 92-0-104816-5 •
STI/PUB/1751 • €58.00

Organization and Staffing of the Regulatory Body for Nuclear Facilities

Safety Guide

IAEA Safety Standards Series No. GS-G-1.1

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Review and Assessment of Nuclear Facilities by the Regulatory Body

Safety Guide

IAEA Safety Standards Series No. GS-G-1.2

Please see page 17

Regulatory Inspection of Nuclear Facilities and Enforcement by the Regulatory Body

Safety Guide

IAEA Safety Standards Series No. GS-G-1.3

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Documentation for Use in Regulating Nuclear Facilities

Safety Guide

IAEA Safety Standards Series No. GS-G-1.4

Please see page 18

The Management System for Nuclear Installations

Safety Guide

IAEA Safety Standards Series No. GS-G-3.5

Please see page 18

A System for the Feedback of Experience from Events in Nuclear Installations

Safety Guide

IAEA Safety Standards Series No. NS-G-2.11

Please see page 26

Evaluation of Seismic Safety for Existing Nuclear Installations

Safety Guide

IAEA Safety Standards Series No. NS-G-2.13

Please see page 27

Commissioning of Research Reactors

Safety Guide

IAEA Safety Standards Series No. NS-G-4.1

This Safety Guide provides recommendations for the commissioning of research reactors on the basis of international best practices. The guidance and recommendations of this Safety Guide are applicable to most types of research reactors and fulfil the general requirements on research reactor safety presented in IAEA Safety Standards Series No. NS-R-4, Safety of Research Reactors, as well as those in the Safety Series No. 35-G1, Safety Assessment of Research Reactors and Preparation of the Safety Analysis Report. Commissioning is one of the major steps in the life cycle of a research reactor, and appropriate guidance for conducting the process is essential. The emphasis in this Safety Guide is on the commissioning of a new research reactor, but guidance is also provided on the commissioning of new experiments and of reactor modifications.

English Edition (65 pp; 2006) • ISBN 92-0-109606-2 •
STI/PUB/1268 • €28.00

Maintenance, Periodic Testing and Inspection of Research Reactors

Safety Guide

IAEA Safety Standards Series No. NS-G-4.2

This Safety Guide provides practical guidance on how to fulfil requirements on research reactor safety. It covers a broad range of international practices, including preventive and corrective maintenance of structures, systems and components, periodic testing to ensure that operations remain within established operating limits and conditions, and non-routine inspections. This Safety Guide is applicable to all types of heterogeneous research reactors having a power rating of up to several tens of megawatts.

English Edition (67 pp., 1 fig.; 2006) • ISBN 92-0-109806-5 • STI/PUB/1270 • €30.00

Core Management and Fuel Handling for Research Reactors

Safety Guide

IAEA Safety Standards Series No. NS-G-4.3

This Safety Guide provides practical guidance and recommendations to meet the requirements on research reactor safety. It addresses aspects of those core management activities that should be performed to allow optimum reactor core operation and reactor utilization for experiments without compromising the limits imposed by the design safety considerations relating to the fuel assemblies and the reactor as a whole. It also covers the management of in-core and out-of-core experimental devices. The incorporation of newly designed fuel assemblies into an existing core is also considered. The guidance on the handling of fuel and core components covers the aspects of receipt, storage and handling of fresh fuel assemblies and other core components; inspection of fresh fuel assemblies; loading and unloading of fuel assemblies and core components; inspection of irradiated fuel; insertion and removal of other reactor materials, either manually or by automated systems; and preparation of fuel assemblies for shipment and loading of a transport container with irradiated fuel.

English Edition (53 pp; 2008) • ISBN 978-92-0-111307-8 • STI/PUB/1315 • €22.00

Operational Limits and Conditions and Operating Procedures for Research Reactors

Safety Guide

IAEA Safety Standards Series No. NS-G-4.4

This publication provides practical guidance on all important aspects of developing, formulating and presenting the operational limits and conditions as well as the operating procedures for research reactors. It covers the concept of operational limits and conditions, their content, and the responsibilities of the operating organization with respect to their establishment, modification, documentation and compliance. The guidance also covers the training of operating personnel on performing periodic testing, established by the operational limits and conditions and operating procedures.

English Edition (67 pp; 2008) • ISBN 978-92-0-103508-0 •
STI/PUB/1333 • €23.00

The Operating Organization and the Recruitment, Training and Qualification of Personnel for Research Reactors

Safety Guide

IAEA Safety Standards Series No. NS-G-4.5

This Safety Guide provides recommendations on meeting the requirements on the operating organization and on personnel for research reactors. It covers the typical operating organization for research reactor facilities; the recruitment process and qualification in terms of education, training and experience; programmes for initial and continuing training; the authorization process for those individuals having an immediate bearing on safety; and the processes for their requalification and reauthorization.

English Edition (89 pp., 2 figs; 2008) • ISBN 978-92-0-103708-4 •
STI/PUB/1335 • €20.00

Radiation Protection and Radioactive Waste Management in the Design and Operation of Research Reactors

Safety Guide

IAEA Safety Standards Series No. NS-G-4.6

This Safety Guide provides guidance on radiation protection and radioactive waste management programmes for research reactor facilities. It identifies important components that should be considered at the design stage with regard to facilitating

radiation protection and radioactive waste management. It also recommends good practices in implementing operational radiation protection and radioactive waste management programmes, and in their optimization.

English Edition (104 pp; 2009) • ISBN 978-92-0-111608-6 •
STI/PUB/1369 • €30.00

Seismic Hazards in Site Evaluation for Nuclear Installations

Specific Safety Guide

IAEA Safety Standards Series No. SSG-9

This Safety Guide provides updated guidance for site evaluation in relation to seismic hazards. It takes account of recently gained knowledge and experience of seismic hazards in Member States, presents recent findings associated with strong motion recordings from seismically active and well instrumented areas such as Japan and California in the USA, includes experience gained from significant recent earthquakes and provides clear guidance for existing as well as new build projects. It also addresses the need to expand the evaluation of seismic hazards to nuclear installations other than nuclear power plants.

English Edition (56 pp; 2010) • ISBN 978-92-0-102910-2 •
STI/PUB/1448 • €29.00

Ageing Management for Research Reactors

Specific Safety Guide

IAEA Safety Standards Series No. SSG-10

This Safety Guide provides practical guidance and recommendations on ageing management for the safety related systems, structures and components of research reactors on the basis of current international good practices. It is intended for use by operating organizations in establishing, implementing and improving ageing management programmes for research reactors, and by regulatory bodies in verifying that ageing of research reactors is being effectively managed. The Safety Guide focuses on managing the physical ageing of systems, structures and components important to safety, and also provides guidance on safety aspects of managing obsolescence.

English Edition (52 pp; 2010) • ISBN 978-92-0-102810-5 •
STI/PUB/1447 • €25.00

Licensing Process for Nuclear Installations

Specific Safety Guide

IAEA Safety Standards Series No. SSG-12

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Storage of Spent Nuclear Fuel

Specific Safety Guide

IAEA Safety Standards Series No. SSG-15

Please see page 32

Meteorological and Hydrological Hazards in Site Evaluation for Nuclear Installations

Specific Safety Guide

IAEA Safety Standards Series No. SSG-18

Please see page 33

Safety Assessment for Research Reactors and Preparation of the Safety Analysis Report

Specific Safety Guide

IAEA Safety Standards Series No. SSG-20

This publication is a revision of Safety Series No. 35-G1, and experience acquired from the use of that Safety Guide has been taken into account. The present publication provides guidance on performing safety assessments throughout the lifetime of a research reactor and on the regulatory review of this assessment within the framework of the licensing process. Guidance on preparation of the safety analysis report, including its format and contents, is also provided.

English Edition (118 pp., 2 figs; 2012) • ISBN 978-92-0-115410-1 • STI/PUB/1508 • €35.00

Volcanic Hazards in Site Evaluation for Nuclear Installations

Specific Safety Guide

IAEA Safety Standards Series No. SSG-21

Please see page 34

The Use of a Graded Approach in the Application of the Safety Requirements for Research Reactors

Specific Safety Guide

IAEA Safety Standards Series No. SSG-22

This publication provides recommendations on the appropriate manner to comply with the Safety Requirements for research reactors, IAEA Safety Standards Series No. NS-R-4, utilizing a graded approach. It is intended for use by operating organizations, regulatory bodies and other organizations involved in the design, construction and operation of research reactors.

English Edition (74 pp., 2 figs; 2012) • ISBN 978-92-0-127310-9 • STI/PUB/1547 • €29.00

Safety in the Utilization and Modification of Research Reactors

Specific Safety Guide

IAEA Safety Standards Series No. SSG-24

This Safety Guide is a revision of IAEA Safety Series No. 35-G2 on safety in the utilization and modification of research reactors. Experience acquired in the use of Safety Series No. 35-G2 is reflected. The new publication provides recommendations on meeting the requirements for the categorization, safety assessment and approval of research reactor experiments and modification projects. Specific safety considerations in different phases of utilization and modification projects are covered, including the pre-implementation, implementation and post-implementation phases. Guidance is also provided on the operational safety of experiments, including in the handling, dismantling, post-irradiation examination and disposal of experimental devices. Examples of the application of the safety categorization process for experiments and modification projects and on the contents of the safety analysis report for experiments and modification projects are also provided.

English Edition (68 pp., 3 figs; 2012) • ISBN 978-92-0-129110-3 • STI/PUB/1559 • €28.00

Criticality Safety in the Handling of Fissile Material

Specific Safety Guide

IAEA Safety Standards Series No. SSG-27

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Site Survey and Site Selection for Nuclear Installations

Specific Safety Guide

IAEA Safety Standards Series No. SSG-35

Please see page 36

Instrumentation and Control Systems and Software Important to Safety for Research Reactors

Specific Safety Guide

IAEA Safety Standards Series No. SSG-37

This Safety Guide provides recommendations and guidance on instrumentation and control systems and software important to safety for research reactors, including instrumentation and control system architecture and associated components, from sensors to actuators, operator interfaces and auxiliary equipment. It also provides recommendations on computer based systems and software, including software requirements and design, verification and validation, integration, and operation. This publication also addresses safety classification, design, implementation, qualification and operation of instrumentation as well as control systems. The recommendations and guidance apply to both the design and configuration management of instrumentation and control systems for new research reactors and the modernization of the instrumentation and control systems to existing research reactor facilities. In addition, this Safety Guide provides recommendations and guidance on human factors engineering and human-machine interfaces, and for computer based systems and software for use in instrumentation and control systems important to safety.

English Edition (75 pp., 6 figs; 2015) • ISBN 978-92-0-102615-6 • STI/PUB/1692 • €41.00

Construction for Nuclear Installations

Specific Safety Guide

IAEA Safety Standards Series No. SSG-38

Please see page 37

Predisposal Management of Radioactive Waste from Nuclear Power Plants and Research Reactors

Specific Safety Guide

IAEA Safety Standards Series No. SSG-40

Please see page 37

Decommissioning of Nuclear Power Plants and Research Reactors

Safety Guide

IAEA Safety Standards Series No. WS-G-2.1

Please see page 38

Fuel Cycle Facilities

Site Evaluation for Nuclear Installations

Safety Requirements

IAEA Safety Standards Series No. NS-R-3 (Rev. 1)

Please see page 16

Safety of Nuclear Fuel Cycle Facilities

Safety Requirements

IAEA Safety Standards Series No. NS-R-5 (Rev. 1)

This publication covers the broad scope of requirements for fuel cycle facilities that, in light of the experience and present state of technology, must be satisfied to ensure safety for the lifetime of the facility. Topics of specific relevance include aspects of nuclear fuel generation, storage, reprocessing and disposal.

Arabic Edition (107 pp., 4 figs; 2015) • ISBN 978-92-0-606015-5 • STI/PUB/1641 • €20.00

Chinese Edition (97 pp., 4 figs; 2015) • ISBN 978-92-0-500515-7 • STI/PUB/1641 • €20.00

English Edition (102 pp., 4 figs; 2014) • ISBN 978-92-0-100114-6 • STI/PUB/1641 • €20.00

Russian Edition (121 pp., 4 figs; 2016) • ISBN 978-92-0-410015-0 • STI/PUB/1641 • €20.00

Organization and Staffing of the Regulatory Body for Nuclear Facilities

Safety Guide

IAEA Safety Standards Series No. GS-G-1.1

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Review and Assessment of Nuclear Facilities by the Regulatory Body

Safety Guide

IAEA Safety Standards Series No. GS-G-1.2

Please see page 17

Regulatory Inspection of Nuclear Facilities and Enforcement by the Regulatory Body

Safety Guide

IAEA Safety Standards Series No. GS-G-1.3

Please see page 17

Documentation for Use in Regulating Nuclear Facilities

Safety Guide

IAEA Safety Standards Series No. GS-G-1.4

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The Management System for Nuclear Installations

Safety Guide

IAEA Safety Standards Series No. GS-G-3.5

Please see page 18

A System for the Feedback of Experience from Events in Nuclear Installations

Safety Guide

IAEA Safety Standards Series No. NS-G-2.11

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Evaluation of Seismic Safety for Existing Nuclear Installations

Safety Guide

IAEA Safety Standards Series No. NS-G-2.13

Please see page 27

Decommissioning of Nuclear Fuel Cycle Facilities

Safety Guide

IAEA Safety Standards Series No. WS-G-2.4

This Safety Guide sets out recommendations relating to the decommissioning of nuclear fuel cycle facilities.

Chinese Edition (29 pp; 2005) • ISBN 92-0-517304-5 • STI/PUB/1110 • €13.00

English Edition (37 pp; 2001) • ISBN 92-0-101001-X • STI/PUB/1110 • €13.00

French Edition (41 pp; 2004) • ISBN 92-0-215604-2 • STI/PUB/1110 • €13.00

Russian Edition (40 pp; 2005) • ISBN 92-0-406905-8 • STI/PUB/1110 • €13.00

Spanish Edition (40 pp; 2010) • ISBN 978-92-0-307110-9 • STI/PUB/1110 • €13.00

Safety of Conversion Facilities and Uranium Enrichment Facilities

Specific Safety Guide

IAEA Safety Standards Series No. SSG-5

This Safety Guide supplements the Safety Requirements publication on Safety of Fuel Cycle Facilities and addresses all the stages in the life cycle of conversion facilities (CFs) and enrichment facilities (EFs), with emphasis placed on design and operation. It describes the actions, conditions and procedures for meeting safety requirements and deals specifically with the handling, processing and storage of depleted, natural and low enriched uranium. The publication is intended to be of use to designers, operating organizations and regulators for ensuring the safety of conversion and enrichment facilities.

English Edition (82 pp., 2 figs; 2010) • ISBN 978-92-0-104809-7 • STI/PUB/1404 • €28.00

Safety of Uranium Fuel Fabrication Facilities

Specific Safety Guide

IAEA Safety Standards Series No. SSG-6

This Safety Guide supplements the Safety Requirements publication Safety of Fuel Cycle Facilities and addresses all the stages in the life cycle of uranium fuel fabrication facilities, with emphasis being placed on design and operation. It describes the actions, conditions and procedures for meeting safety requirements and deals specifically with the handling, processing and storage of low enriched uranium that has a ²³⁵U concentration of no more than 6%, derived from natural, highly enriched or reprocessed uranium. The publication is intended to be of use to designers, operating organizations

and regulators to ensure the safety of uranium fuel fabrication facilities.

English Edition (62 pp., 2 figs; 2010) • ISBN 978-92-0-104609-3 • STI/PUB/1402 • €25.00

Safety of Uranium and Plutonium Mixed Oxide Fuel Fabrication Facilities

Specific Safety Guide

IAEA Safety Standards Series No. SSG-7

This Safety Guide supplements the Safety Requirements publication Safety of Fuel Cycle Facilities and addresses all the stages in the life cycle of MOX fuel fabrication facilities, with emphasis placed on design and operation. It describes the actions, conditions and procedures for meeting safety requirements and deals specifically with the handling, processing and storage of plutonium oxide, depleted, natural or reprocessed uranium oxide or mixed oxide manufactured from the above to be used as a feed material to form MOX fuel rods and assemblies for export and subsequent use in water reactors and fast breeder reactors. The publication is intended to be of use to designers, operating organizations and regulators to ensure the safety of MOX fuel fabrication facilities.

English Edition (70 pp., 2 figs; 2010) • ISBN 978-92-0-104709-0 • STI/PUB/1403 • €27.00

Seismic Hazards in Site Evaluation for Nuclear Installations

Specific Safety Guide

IAEA Safety Standards Series No. SSG-9

This Safety Guide provides updated guidance for site evaluation in relation to seismic hazards. It takes account of recently gained knowledge and experience of seismic hazards in Member States, presents recent findings associated with strong motion recordings from seismically active and well instrumented areas such as Japan and California in the USA, includes experience gained from significant recent earthquakes and provides clear guidance for existing as well as new build projects. It also addresses the need to expand the evaluation of seismic hazards to nuclear installations other than nuclear power plants.

English Edition (56 pp; 2010) • ISBN 978-92-0-102910-2 • STI/PUB/1448 • €29.00

Licensing Process for Nuclear Installations

Specific Safety Guide

IAEA Safety Standards Series No. SSG-12

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Storage of Spent Nuclear Fuel

Specific Safety Guide

IAEA Safety Standards Series No. SSG-15

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Meteorological and Hydrological Hazards in Site Evaluation for Nuclear Installations

Specific Safety Guide

IAEA Safety Standards Series No. SSG-18

Please see page 33

Volcanic Hazards in Site Evaluation for Nuclear Installations

Specific Safety Guide

IAEA Safety Standards Series No. SSG-21

Please see page 34

Criticality Safety in the Handling of Fissile Material

Specific Safety Guide

IAEA Safety Standards Series No. SSG-27

Please see page 35

Site Survey and Site Selection for Nuclear Installations

Specific Safety Guide

IAEA Safety Standards Series No. SSG-35

Please see page 36

Construction for Nuclear Installations

Specific Safety Guide

IAEA Safety Standards Series No. SSG-38

Please see page 37

Predisposal Management of Radioactive Waste from Nuclear Fuel Cycle Facilities

Specific Safety Guide

IAEA Safety Standards Series No. SSG-41

This Safety Guide provides guidance on the predisposal management of all types of radioactive waste (including spent nuclear fuel declared as waste and high level waste) generated at nuclear fuel cycle facilities. These waste management facilities may be located within larger facilities or may be separate, dedicated waste management facilities (including centralized waste management facilities). The Safety Guide covers all stages in the lifetime of these facilities, including their siting, design, construction, commissioning, operation, and shutdown and decommissioning. It covers all steps carried out in the management of radioactive waste following its generation up to (but not including) disposal, including its processing (pre-treatment, treatment and conditioning). Radioactive waste generated both during normal operation and in accident conditions is considered.

English Edition (43 pp., 1 fig; 2016) • ISBN 978-92-0-110315-4 • STI/PUB/1720 • €43.00

Safety of Nuclear Fuel Reprocessing Facilities

Specific Safety Guide

IAEA Safety Standards Series No. SSG-42

This publication provides guidance on meeting the requirements of IAEA Safety Standards Series No. NS-R-5 (Rev. 1) relating to nuclear fuel reprocessing facilities. It covers the lifetime of these facilities, from site selection through to decommissioning, concentrating on the design and operational phases. It applies to facilities that reprocess spent fuel and other material from nuclear power plants that use metallic and oxide fuels, including materials from mixed oxide fuel (MOX) and breeder reactors. It covers the safety issues relating to: the handling of spent fuel; mechanical treatment and the dissolution of spent fuel in acid; the separation of uranium and plutonium from fission products using solvents; the separation and purification of plutonium and uranium; and the production and storage of solutions and oxides to be used as feed material to form fresh uranium or mixed (UO₂/PuO₂) oxide fuel.

English Edition (Forthcoming 2016) • ISBN 978-92-0-103016-0 • STI/PUB/1744 • €51.00

Safety of Nuclear Fuel Cycle Research and Development Facilities

Specific Safety Guide

IAEA Safety Standards Series No. SSG-43

This publication provides guidance on meeting the requirements of IAEA Safety Standards Series No. NS-R-5 (Rev. 1) relating to research and development facilities in the nuclear fuel cycle. It covers the lifetime of these facilities from site selection through to decommissioning, concentrating on design and operation. It applies to laboratories, pilot workshops and experimental facilities that store, handle and process uranium, plutonium and other transuranics, fission products and activated materials in significant quantities. Such facilities may be involved in the study of chemical, metallurgical or radiological properties of specific radioactive materials such as prototype nuclear fuels (before and after reactor irradiation) or nuclear material or radioactive waste arising from experimental processes. This Safety Guide also applies to research and development for processes and equipment that are envisaged for later use on an industrial scale for the nuclear fuel cycle (e.g. pilot workshops for active waste conditioning).

English Edition (Forthcoming 2017) • ISBN 978-92-0-103116-7 •
STI/PUB/1745 • €44.00

Radioactive Waste Disposal Facilities

Disposal of Radioactive Waste

Specific Safety Requirements

IAEA Safety Standards Series No. SSR-5

This publication establishes requirements applicable to all types of radioactive waste disposal facility. It is linked to the fundamental safety principles for each disposal option and establishes a set of strategic requirements that must be in place before facilities are developed. Consideration is also given to the safety of existing facilities developed prior to the establishment of present day standards. The requirements will be complemented by Safety Guides that will provide guidance on good practice for meeting the requirements for different types of waste disposal facility.

Arabic Edition (70 pp; 2011) • ISBN 978-92-0-619110-1 •
STI/PUB/1449 • €48.00

Chinese Edition (56 pp; 2011) • ISBN 978-92-0-519210-9 •
STI/PUB/1449 • €48.00

English Edition (62 pp; 2011) • ISBN 978-92-0-103010-8 •
STI/PUB/1449 • €48.00

French Edition (66 pp; 2011) • ISBN 978-92-0-220310-5 •
STI/PUB/1449 • €48.00

Russian Edition (76 pp; 2011) • ISBN 978-92-0-420010-2 •
STI/PUB/1449 • €48.00
Spanish Edition (70 pp; 2012) • ISBN 978-92-0-322010-1 •
STI/PUB/1449 • €48.00

Organization and Staffing of the Regulatory Body for Nuclear Facilities

Safety Guide

IAEA Safety Standards Series No. GS-G-1.1

Please see page 16

Review and Assessment of Nuclear Facilities by the Regulatory Body

Safety Guide

IAEA Safety Standards Series No. GS-G-1.2

Please see page 17

Regulatory Inspection of Nuclear Facilities and Enforcement by the Regulatory Body

Safety Guide

IAEA Safety Standards Series No. GS-G-1.3

Please see page 17

Documentation for Use in Regulating Nuclear Facilities

Safety Guide

IAEA Safety Standards Series No. GS-G-1.4

Please see page 18

The Management System for the Disposal of Radioactive Waste

Safety Guide

IAEA Safety Standards Series No. GS-G-3.4

The objective of this Safety Guide is to provide guidance on the development and implementation of management systems for all phases of radioactive waste disposal facilities and related activities, with a description of how to apply the requirements detailed in The Management System for Facilities and Activities, IAEA Safety Standards Series No. GS-R-3, to the activities and facilities associated with waste disposal.

English Edition (75 pp; 2008) • ISBN 978-92-0-102108-3 •
STI/PUB/1330 • €25.00

Borehole Disposal Facilities for Radioactive Waste

Specific Safety Guide

IAEA Safety Standards Series No. SSG-1

This Safety Guide addresses the safety issues relevant to the disposal of disused sealed sources and provides guidance on meeting the safety requirements and criteria for such facilities. In addition to making recommendations on safety for borehole facilities, such as in site selection and characterization, design and operation, and for closure and post-closure, the Safety Guide also covers provision for containment and isolation, and the performance requirements of the engineered components of the disposal system.

English Edition (100 pp., 2 figs; 2009) • ISBN 978-92-0-109109-3 •
STI/PUB/1418 • €32.00

Geological Disposal Facilities for Radioactive Waste

Specific Safety Guide

IAEA Safety Standards Series No. SSG-14

This Safety Guide provides guidance on prevailing good practices for meeting and demonstrating compliance with, the Safety Requirements on Disposal of Radioactive Waste in a systematic and comprehensive manner. It covers aspects related to siting, design, construction, operation and closure, including the safety case, its supporting safety assessments and the regulatory process. The publication addresses both operational and long term safety of geological disposal facilities for waste that pose a hazard for at least several thousand years.

English Edition (104 pp., 2 figs; 2011) • ISBN 978-92-0-111510-2 •
STI/PUB/1483 • €32.00

The Safety Case and Safety Assessment for the Disposal of Radioactive Waste

Specific Safety Guide

IAEA Safety Standards Series No. SSG-23

This Safety Guide provides guidance and recommendations on meeting the safety requirements in respect of the safety case and supporting safety assessment for the disposal of radioactive waste. The safety case and supporting safety assessment provide the basis for demonstration of safety

and for licensing of radioactive waste disposal facilities and assist and guide decisions on siting, design and operations. The safety case is also the main basis on which dialogue with interested parties is conducted and on which confidence in the safety of the disposal facility is developed. This Safety Guide is relevant for operating organizations preparing the safety case as well as for the regulatory body responsible for developing the regulations and regulatory guidance that determine the basis and scope of the safety case.

English Edition (120 pp., 5 figs; 2012) • ISBN 978-92-0-128310-8 • STI/PUB/1553 • €39.00

Criticality Safety in the Handling of Fissile Material

Specific Safety Guide

IAEA Safety Standards Series No. SSG-27

Please see page 35

Near Surface Disposal Facilities for Radioactive Waste

Specific Safety Guide

IAEA Safety Standards Series No. SSG-29

This Safety Guide provides recommendations on how to meet safety requirements on the disposal of radioactive waste. It is concerned with the disposal of solid radioactive waste by emplacement in designated facilities at or near the land surface. The Safety Guide provides guidance on the development, operation and closure of, and on the regulatory control of, near surface disposal facilities, which are suitable for the disposal of very low level waste and low level waste. The Safety Guide provides guidance on a range of disposal methods, including the emplacement of solid radioactive waste in earthen trenches, in above ground engineered structures, in engineered structures just below the ground surface and in rock caverns, silos and tunnels excavated at depths of up to a few tens of metres underground. It is intended for use primarily by those involved with policy development for, with the regulatory control of, and with the development and operation of near surface disposal facilities.

English Edition (103 pp., 5 figs; 2014) • ISBN 978-92-0-114313-6 • STI/PUB/1637 • €36.00

Monitoring and Surveillance of Radioactive Waste Disposal Facilities

Specific Safety Guide

IAEA Safety Standards Series No. SSG-31

This Safety Guide provides recommendations and guidance on how to plan and perform monitoring and surveillance programmes for disposal facilities for radioactive waste. The Safety Guide considers monitoring and surveillance for near surface disposal facilities, for geological disposal facilities and for facilities for the disposal of waste from mining and from mineral processing. The publication provides recommendations on how to use results from the monitoring and surveillance of radioactive waste disposal facilities over their entire lifetime. It covers the different objectives of monitoring and surveillance for the different periods of the lifetime of disposal facilities, from the initiation of work on a candidate site to the period after closure of the disposal facility.

English Edition (73 pp., 3 figs; 2014) • ISBN 978-92-0-115513-9 • STI/PUB/1640 • €40.00

Mining and Processing

Occupational Radiation Protection in the Mining and Processing of Raw Materials

Safety Guide

IAEA Safety Standards Series No. RS-G-1.6

This Safety Guide, which is jointly sponsored by the IAEA and the ILO, updates previous guidance material and extends its coverage to include activities involving all raw materials for which radiation protection measures need to be considered, as well as including additional guidance on authorization of mining and processing activities, inspection and compliance. The main purpose of this Safety Guide is to provide practical guidance on meeting the requirements of the Basic Safety Standards as they relate to the radiation protection of workers in the mining and processing of raw materials, and thus to facilitate the preparation and adoption, by Member States, of national and local regulations rules and work procedures in this area of industrial activity. This Safety Guide is aimed at regulatory bodies, operators of mines and mineral processing facilities, health and safety committees, workers and their representatives, and health and safety professionals.

English Edition (95 pp; 2004) • ISBN 92-0-115003-2 • STI/PUB/1183 • €21.00

Spanish Edition (109 pp; 2009) • ISBN 978-92-0-307509-1 • STI/PUB/1183 • €21.00

Management of Radioactive Waste from the Mining and Milling of Ores

Safety Guide

IAEA Safety Standards Series No. WS-G-1.2

This Safety Guide provides recommendations and guidance on the safe management of radioactive waste resulting from the mining and milling of ores, with the purpose of protecting workers, the public and the environment from the consequences of these activities. It supplements Safety Standards Series No. WS-R-1, Near Surface Disposal of Radioactive Waste.

English Edition (39 pp., 2 figs; 2002) • ISBN 92-0-115802-5 • STI/PUB/1134 • €13.50

Russian Edition (47 pp., 2 figs; 2005) • ISBN 92-0-404104-8 • STI/PUB/1134 • €13.50

Spanish Edition (41 pp., 2 figs; 2010) • ISBN 978-92-0-301510-3 • STI/PUB/1134 • €13.50

Protection of the Public against Exposure Indoors due to Radon and Other Natural Sources of Radiation

Specific Safety Guide

IAEA Safety Standards Series No. SSG-32

This Safety Guide provides recommendations on meeting the requirements established in the IAEA International Basic Safety Standards, for protection of the public against exposure indoors due to natural sources of radiation. Guidance is provided on the application of the requirements for justification and optimization of protection by national authorities in considering control of natural sources of radiation indoors such as radon and radionuclides of natural origin in materials used for the construction of dwellings, offices, industrial premises and other buildings. The Safety Guide provides recommendations and guidance to be followed by the regulatory body and by other authorities and organizations with responsibilities in relation to exposure to radiation from natural sources.

English Edition (90 pp., 4 figs; 2015) • ISBN 978-92-0-102514-2 • STI/PUB/1651 • €45.00

Regulatory Control of Radiation Sources

Safety Guide

IAEA Safety Standards Series No. GS-G-1.5

This Safety Guide is intended to assist States in implementing the requirements established in Safety Standards Series No. GS-R-1, Legal and Governmental Infrastructure for Nuclear, Radiation, Radioactive Waste and Transport Safety, for a national regulatory infrastructure to regulate any practice involving radiation sources in medicine, industry, research, agriculture and education. The Safety Guide provides advice on the legislative basis for establishing regulatory bodies, including the effective independence of the regulatory body. It also provides guidance on implementing the functions and activities of regulatory bodies: the development of regulations and guides on radiation safety; implementation of a system for notification and authorization; carrying out regulatory inspections; taking necessary enforcement actions; and investigating accidents and circumstances potentially giving rise to accidents. The various aspects relating to the regulatory control of consumer products are explained, including justification, optimization of exposure, safety assessment and authorization. Guidance is also provided on the organization and staffing of regulatory bodies.

Arabic Edition (60 pp; 2012) • ISBN 978-92-0-633910-7 • STI/PUB/1192 • €25.00

English Edition (67 pp; 2004) • ISBN 92-0-105004-6 • STI/PUB/1192 • €25.00

French Edition (73 pp; 2011) • ISBN 978-92-0-218310-0 • STI/PUB/1192 • €25.00

Spanish Edition (78 pp; 2009) • ISBN 978-92-0-305409-6 • STI/PUB/1192 • €25.00

Building Competence in Radiation Protection and the Safe Use of Radiation Sources

Safety Guide

IAEA Safety Standards Series No. RS-G-1.4

Please see page 11

Radiological Protection for Medical Exposure to Ionizing Radiation

Safety Guide

IAEA Safety Standards Series No. RS-G-1.5

This Safety Guide provides recommendations on how safety requirements may be fulfilled for the protection of patients,

comforters and visitors of patients against exposure to ionizing radiation in medical practice in compliance with Appendix II (Medical Exposure) of Safety Series No. 115, International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources (1996). Recommendations cover the establishment of guidance levels for diagnostic medical exposures, acceptance testing processes for radiation equipment, calibration of radiotherapy units and reporting of accidental medical exposures.

Chinese Edition (65 pp; 2005) • ISBN 92-0-516604-9 • STI/PUB/1117 • €14.50

English Edition (76 pp; 2002) • ISBN 92-0-111302-1 • STI/PUB/1117 • €14.50

French Edition (89 pp; 2005) • ISBN 92-0-202204-6 • STI/PUB/1117 • €14.50

Russian Edition (99 pp; 2004) • ISBN 92-0-402104-7 • STI/PUB/1117 • €14.50

Spanish Edition (92 pp; 2010) • ISBN 978-92-0-301210-2 • STI/PUB/1117 • €14.50

Application of the Concepts of Exclusion, Exemption and Clearance

Safety Guide

IAEA Safety Standards Series No. RS-G-1.7

This Safety Guide provides guidance on the application of the concepts of exclusion, exemption and clearance as established in the International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources. The Safety Guide includes specific values for activity concentrations for both radionuclides of natural origin and those of artificial origin that may be used for bulk amounts of material for the purposes of applying the concepts of exclusion and exemption.

Chinese Edition (29 pp; 2006) • ISBN 92-0-502106-7 • STI/PUB/1202 • €16.00

English Edition (29 pp; 2004) • ISBN 92-0-109404-3 • STI/PUB/1202 • €16.00

Russian Edition (31 pp; 2006) • ISBN 92-0-403206-5 • STI/PUB/1202 • €16.00

Spanish Edition (30 pp; 2007) • ISBN 92-0-300407-6 • STI/PUB/1202 • €16.00

Safety of Radiation Generators and Sealed Radioactive Sources

Safety Guide

IAEA Safety Standards Series No. RS-G-1.10

The objective of this Safety Guide is to assist Member States in implementing regulatory requirements for radiation sources that will ensure their safety. To that end, this publication

provides guidance on infrastructure responsibilities for safety, on methodologies for performing safety assessments and on specific design and operational measures that should be taken to ensure safety throughout the life cycle of radiation generators and sealed radioactive sources. The safety measures recommended are also applicable to radioactive sources in nuclear facilities or radioactive waste disposal facilities, while recognizing that these facilities should in any case provide a high standard of source safety.

English Edition (59 pp., 5 figs; 2006) • ISBN 92-0-107506-5 • STI/PUB/1258 • €25.00

French Edition (63 pp., 5 figs; 2008) • ISBN 978-92-0-212208-6 • STI/PUB/1258 • €25.00

Spanish Edition (63 pp., 5 figs; 2009) • ISBN 978-92-0-307409-4 • STI/PUB/1258 • €25.00

Radiation Safety of Gamma, Electron and X Ray Irradiation Facilities

Specific Safety Guide

IAEA Safety Standards Series No. SSG-8

This Safety Guide provides recommendations on how to meet the requirements of the IAEA International Basic Safety Standards with regard to irradiation facilities. It gives practical information on the safe design and operation of gamma, electron and X ray irradiators in accordance with these requirements, and discusses the beneficial applications of ionizing irradiation and how to avoid potential radiation hazards at industrial irradiators, including contamination arising from damaged radioactive sources. The Safety Guide is intended for use by the designers and operating organizations of these facilities and also by regulatory bodies.

English Edition (94 pp., 8 figs; 2010) • ISBN 978-92-0-103710-7 • STI/PUB/1454 • €30.00

Spanish Edition (98 pp., 8 figs; 2015) • ISBN 978-92-0-304314-4 • STI/PUB/1454 • €30.00

Radiation Safety in Industrial Radiography

Specific Safety Guide

IAEA Safety Standards Series No. SSG-11

This Safety Guide provides recommendations for ensuring radiation safety in industrial radiography used in non-destructive testing. This includes industrial radiography work that utilizes X ray and gamma sources, both in shielded facilities that have effective engineering controls and outside shielded facilities using mobile sources.

Arabic Edition (105 pp., 2 figs; 2012) • ISBN 978-92-0-633110-1 • STI/PUB/1466 • €33.00

English Edition (104 pp., 2 figs; 2011) • ISBN 978-92-0-107210-8 • STI/PUB/1466 • €33.00
French Edition (112 pp., 2 figs; 2013) • ISBN 978-92-0-236610-7 • STI/PUB/1466 • €33.00
Spanish Edition (112 pp., 2 figs; 2014) • ISBN 978-92-0-338710-1 • STI/PUB/1466 • €33.00

Control of Orphan Sources and Other Radioactive Material in the Metal Recycling and Production Industries

Specific Safety Guide

IAEA Safety Standards Series No. SSG-17

Accidents involving orphan sources and other radioactive material in the metal recycling and production industries have resulted in serious radiological accidents as well as in harmful environmental, social and economic impacts. This Safety Guide provides recommendations, the implementation of which should prevent such accidents and provide confidence that scrap metal and recycled products are safe.

Arabic Edition (97 pp., 4 figs; 2014) • ISBN 978-92-0-606914-1 • STI/PUB/1509 • €31.00
English Edition (82 pp., 4 figs; 2012) • ISBN 978-92-0-115510-8 • STI/PUB/1509 • €31.00
French Edition (88 pp., 4 figs; 2014) • ISBN 978-92-0-209114-6 • STI/PUB/1509 • €31.00
Spanish Edition (90 pp., 4 figs; 2013) • ISBN 978-92-0-344010-3 • STI/PUB/1509 • €31.00

National Strategy for Regaining Control over Orphan Sources and Improving Control over Vulnerable Sources

Specific Safety Guide

IAEA Safety Standards Series No. SSG-19

This Safety Guide is intended to provide recommendations on the establishment of a national strategy for regaining control over orphan radioactive sources and improving control over vulnerable radioactive sources. It provides guidance on how to assess the national situation, and develop and implement a national strategy to achieve these goals.

Arabic Edition (92 pp., 4 figs; 2012) • ISBN 978-92-0-636210-5 • STI/PUB/1510 • €35.00
English Edition (100 pp., 4 figs; 2011) • ISBN 978-92-0-115610-5 • STI/PUB/1510 • €35.00
French Edition (104 pp., 4 figs; 2015) • ISBN 978-92-0-210314-6 • STI/PUB/1510 • €35.00
Spanish Edition (102 pp., 4 figs; 2013) • ISBN 978-92-0-337110-0 • STI/PUB/1510 • €35.00

Protection of the Public against Exposure Indoors due to Radon and Other Natural Sources of Radiation

Specific Safety Guide

IAEA Safety Standards Series No. SSG-32

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Radiation Safety for Consumer Products

Specific Safety Guide

IAEA Safety Standards Series No. SSG-36

In the IAEA Safety Standards, a 'consumer product' is defined as a device or manufactured item into which radionuclides have deliberately been incorporated or produced by activation, or which generates ionizing radiation, and which can be sold or made available to members of the public without special surveillance or regulatory control after sale. Many such products, including irradiated gemstones, are sold in commercial outlets and over the Internet. This Safety Guide outlines the regulatory approach to authorizing the manufacture and supply of such products to the public, including justification, safety assessment and application of the criteria for exemption. The guidance will also assist manufacturers, transport companies and suppliers to comply with regulatory requirements during the life cycle of consumer products, including recycling and disposal at the end of their useful life.

English Edition (109 pp., 3 figs; 2016) • ISBN 92-0-102515-9 • STI/PUB/1691 • €52.00

Decommissioning of Medical, Industrial and Research Facilities

Safety Guide

IAEA Safety Standards Series No. WS-G-2.2

This Safety Guide addresses the subject of how to meet the requirements for the decommissioning of medical, industrial and research facilities where radioactive materials and sources are produced, received, used and stored. It provides guidance to national authorities and operating organizations, particularly to those in developing countries (as such facilities are predominant in these countries), on the planning and safe management of the decommissioning of such facilities.

Arabic Edition (32 pp., 2 figs; 1999) • STI/PUB/1078 • €13.00

Chinese Edition (33 pp., 2 figs; 2005) • ISBN 92-0-516504-2 • STI/PUB/1078 • €13.00

- English Edition (37 pp., 2 figs; 1999) • ISBN 92-0-102099-6 • STI/PUB/1078 • €13.00
French Edition (37 pp., 2 figs; 2004) • ISBN 92-0-215404-X • STI/PUB/1078 • €13.00
Russian Edition (39 pp., 2 figs; 2005) • ISBN 92-0-404005-X • STI/PUB/1078 • €13.00
Spanish Edition (55 pp., 2 figs; 2010) • ISBN 978-92-0-308210-5 • STI/PUB/1078 • €13.00

Management of Waste from the Use of Radioactive Material in Medicine, Industry, Agriculture, Research and Education

Safety Guide

IAEA Safety Standards Series No. WS-G-2.7

This Safety Guide provides recommendations and guidance on the fulfilment of the safety requirements on management of radioactive waste. It covers the roles and responsibilities of different bodies involved in the predisposal management of radioactive waste and in the handling and processing of radioactive material. It is intended for organizations generating and handling radioactive waste or handling such waste on a centralized basis, and for the regulatory body responsible for regulating such activities.

- Chinese Edition (73 pp., 4 figs; 2006) • ISBN 92-0-502006-0 • STI/PUB/1217 • €20.00
English Edition (73 pp., 4 figs; 2005) • ISBN 92-0-113704-4 • STI/PUB/1217 • €20.00
Russian Edition (83 pp., 4 figs; 2006) • ISBN 92-0-400806-7 • STI/PUB/1217 • €20.00
Spanish Edition (81 pp., 2 figs; 2009) • ISBN 92-0-300706-7 • STI/PUB/1217 • €20.00

Transport of Radioactive Material

Regulations for the Safe Transport of Radioactive Material, 2012 Edition

Specific Safety Requirements

IAEA Safety Standards Series No. SSR-6

This publication establishes the regulations that apply to the transport of radioactive material by all modes of transport on land, water or in the air, including transport that is incidental to the use of the radioactive material. The objective and scope of the regulations are described in detail as well as the range of their application. The publication provides requirements useful to governments, regulators, operators of nuclear facilities, carriers, users of radiation sources and cargo handling personnel.

- Arabic Edition (177 pp., 7 figs; 2013) • ISBN 978-92-0-638410-7 • STI/PUB/1570 • €44.00

- Chinese Edition (164 pp., 7 figs; 2013) • ISBN 978-92-0-538110-7 • STI/PUB/1570 • €44.00
- English Edition (168 pp., 7 figs; 2012) • ISBN 978-92-0-133310-0 • STI/PUB/1570 • €44.00
- French Edition (174 pp., 7 figs; 2013) • ISBN 978-92-0-238910-6 • STI/PUB/1570 • €44.00
- Russian Edition (183 pp., 7 figs; 2013) • ISBN 978-92-0-438510-6 • STI/PUB/1570 • €44.00
- Spanish Edition (180 pp., 7 figs; 2013) • ISBN 978-92-0-337910-6 • STI/PUB/1570 • €44.00

Planning and Preparing for Emergency Response to Transport Accidents Involving Radioactive Material

Safety Guide

IAEA Safety Standards Series No. TS-G-1.2 (ST-3)

This Safety Guide provides guidance on various aspects of emergency planning and preparedness for dealing effectively and safely with transport accidents involving radioactive material, including the assignment of responsibilities. It reflects the requirements specified in Safety Standards Series No. TS-R-1, Regulations for the Safe Transport of Radioactive Material, and those of Safety Series No. 115, International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources.

- English Edition (125 pp., 7 figs; 2002) • ISBN 92-0-111602-0 • STI/PUB/1119 • €14.50
- Russian Edition (149 pp., 7 figs; 2005) • ISBN 92-0-406105-7 • STI/PUB/1119 • €14.50
- Spanish Edition (141 pp., 7 figs; 2009) • ISBN 978-92-0-307609-8 • STI/PUB/1119 • €14.50

Radiation Protection Programmes for the Transport of Radioactive Material

Safety Guide

IAEA Safety Standards Series No. TS-G-1.3

This Safety Guide provides guidance on meeting requirements for the establishment of radiation protection programmes (RPPs) for the transport of radioactive material. It is intended to optimize radiation protection to comply with the requirements for radiation protection that underlie the Regulations for the Safe Transport of Radioactive Material. This Guide covers general aspects of meeting the requirements for radiation protection, but does not cover criticality safety or other possible hazardous properties of radioactive material. The annexes of this Guide include examples of RPPs, relevant excerpts from the transport regulations, examples of total dose per transport index handled,

a checklist for road transport, specific segregation distances and emergency instructions for vehicle operators.

English Edition (93 pp; 2007) • ISBN 92-0-109706-9 •
STI/PUB/1269 • €32.00

Spanish Edition (101 pp; 2011) • ISBN 978-92-0-312310-5 •
STI/PUB/1269 • €32.00

The Management System for the Safe Transport of Radioactive Material

Safety Guide

IAEA Safety Standards Series No. TS-G-1.4

The purpose of this Safety Guide is to provide information to organizations that are developing, implementing or assessing a management system for activities relating to the transport of radioactive material. Such activities include, but are not limited to, design, fabrication, inspection and testing, maintenance, transport and disposal of radioactive material packaging. This publication is intended to assist those establishing or improving a management system to integrate safety, health, environmental, security, quality and economic elements to ensure that safety is properly taken into account in all activities of the organization.

English Edition (99 pp., 2 figs; 2008) • ISBN 978-92-0-108508-5 •
STI/PUB/1352 • €32.00

Russian Edition (116 pp., 2 figs; 2015) • ISBN 978-92-0-404015-9 •
STI/PUB/1352 • €32.00

Spanish Edition (Forthcoming 2016) • ISBN 978-92-0-300916-4 •
STI/PUB/1352 • €32.00

Compliance Assurance for the Safe Transport of Radioactive Material

Safety Guide

IAEA Safety Standards Series No. TS-G-1.5

This Safety Guide is intended to assist competent authorities in the development of compliance assurance programmes concerning the transport of radioactive material. It also provides guidance to applicants, licensees and operating organizations for their interactions with regulatory authorities.

English Edition (124 pp., 1 fig.; 2009) • ISBN 978-92-0-110208-9 •
STI/PUB/1361 • €20.00

Advisory Material for the IAEA Regulations for the Safe Transport of Radioactive Material (2012 Edition)

Specific Safety Guide

IAEA Safety Standards Series No. SSG-26

This Safety Guide provides recommendations and guidance on achieving and demonstrating compliance with IAEA Safety Standards Series No. SSR-6, Regulations for the Safe Transport of Radioactive Material (2012 Edition), which establishes the requirements to be applied to the national and international transport of radioactive material. Transport is deemed to comprise all operations and conditions associated with and involved in the movement of radioactive material, including the design, fabrication and maintenance of packaging, and the preparation, consigning, handling, carriage, storage in transit and receipt at the final destination of packages. This publication supersedes IAEA Safety Standards Series No. TS-G-1.1 Rev. 1, which was issued in 2008.

English Edition (450 pp., 17 figs; 2014) • ISBN 978-92-0-136910-9 • STI/PUB/1586 • €70.00

Spanish Edition (Forthcoming 2016) • ISBN 978-92-0-300116-8 • STI/PUB/1586 • €70.00

Schedules of Provisions of the IAEA Regulations for the Safe Transport of Radioactive Material (2012 Edition)

Specific Safety Guide

IAEA Safety Standards Series No. SSG-33

This Safety Guide aims to aid users of radioactive material and regulators by providing a listing of relevant requirements of the regulations (IAEA Safety Standards Series No. SSR-6) as applicable to the type of radioactive material, package or shipment. Once a consignor has properly classified the radioactive material to be shipped (following the recommendations provided in Section 2 and Fig. 1 of this Safety Guide), the appropriate UN number can be assigned and the paragraph numbers of specific requirements for shipment can be found in the corresponding schedule.

English Edition (289 pp., 4 figs; 2015) • ISBN 978-92-0-104214-9 • STI/PUB/1666 • €61.00

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