
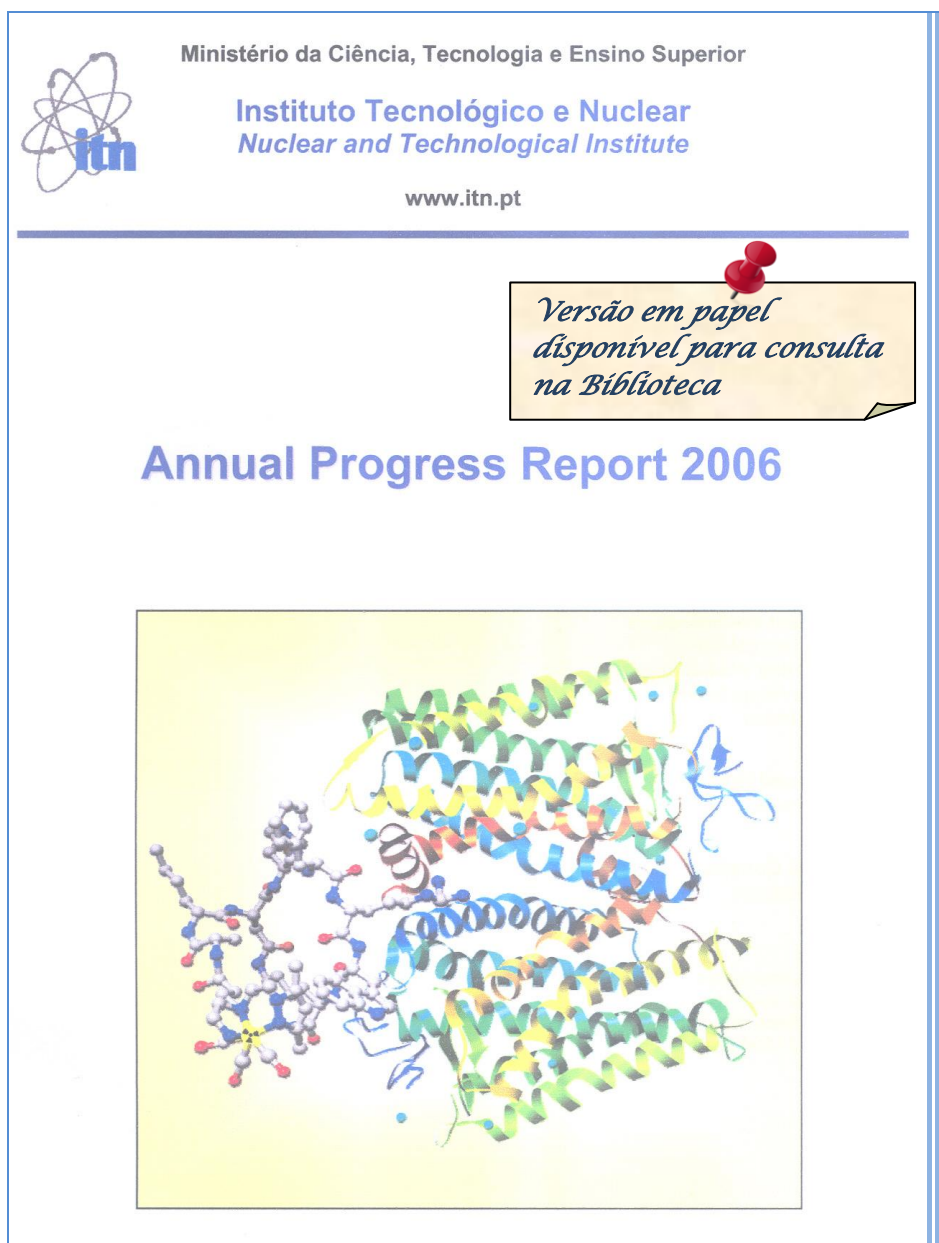


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Todas as publicações aqui referenciadas encontram-se disponíveis para consulta na Biblioteca



Ou através do link:

[http://www.itn.pt/docum/relac/2006/Progress\\_report.htm](http://www.itn.pt/docum/relac/2006/Progress_report.htm)

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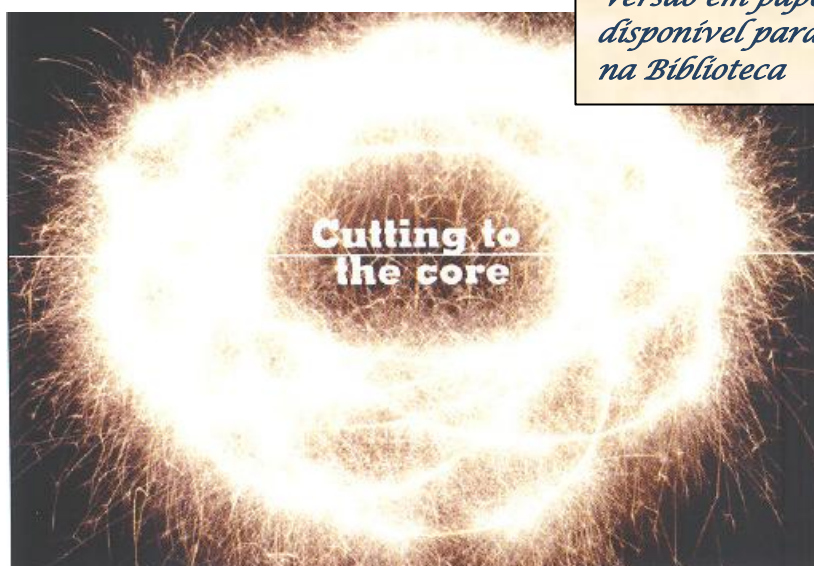
## Recortes de Imprensa

### PORTUGAL – Brains at Work

Special Advertising Section in the May 14, 2007 issue of



*Versão em papel  
disponível para consulta  
na Biblioteca*



The **Technological and Nuclear Institute (ITN)** is a state laboratory under the Ministry of Science, Technology and Higher Education endowed with scientific, administrative and financial autonomy.

The primary driving force of the **ITN** is to play a strategic role in the areas of protection and safety, technical training and human resources, research, cooperation and services to the community in the sphere of nuclear sciences and technology, increasing its role as a national and international reference laboratory.

The **ITN** can establish partnerships with companies and entrepreneur associations, to strengthen innovation and creativity in the private and public sectors, or to promote the application of technology.



[www.itn.pt](http://www.itn.pt)

BusinessWeek



SPECIAL ADVERTISING SECTION

PORTUGAL Brains at work

## Highly conductive science

Portugal's state laboratories are coming out of the cold.  
By regrouping into science consortiums, there is a new conductivity of ideas.

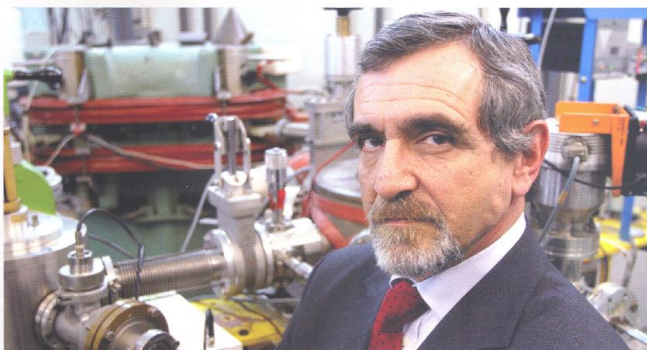
In a magnetism laboratory, cold is sometimes your best ally. Increasing the heat can lead to losses in field strength. As the temperature rises, the slope curves upward until magnetism drives to zero. Modulating ambient temperature is therefore critical. This is precisely what Portuguese policymakers have attempted to do with the network of state research labs—identify the ideal conditions for ground-breaking research.

To generate synergies with institutions like the French-based Commissariat à l'Énergie Atomique (CEA), the radiation labs in Portugal are being placed under a consortium known as Physics-N, where management will no longer be subject to public administration laws. The added flexibility will make state labs more competitive and let them work like de facto private entities.

Julio Montalvão e Silva knows the ins and outs of low temperature and high magnetic fields. As president of the Instituto Tecnológico e Nuclear (ITN), he has found new ways to sponsor research into nuclear fuel cycles and the safe handling of radioisotopes. ITN boasts Portugal's best facilities for radiation science. The campus, outside of Lisbon, is the only domestic institution with a Helium liquefier able to reduce temperatures from 0.3 to 400 Kelvin, creating intense magnetic fields. There are 100 undergradu-

ate students currently training at ITN, as well as a host of PhD students. ITN also leases out equipment to smaller research groups.

"We're the only Portuguese institute with both theoretical and practical knowledge in all areas of radiation," says Montalvão e Silva. "We have a lot to give, but also a lot to learn. This should be a



Julio Montalvão e Silva, President of ITN

strategic objective for all research institutions." Money is short, but ITN allocates it all to research projects, facilities and equipment. That is the case with the newly acquired Squid magnetometer, which was expensive and is used 24/7. Scientists have also come up with practical applications. Medical instruments can be sterilized with gamma rays at ITN. "Radiation can even be used on cork to bottle wine. By radiating the cork, you kill the fungus that some-

SPECIAL ADVERTISING SECTION

PORTUGAL Brains at work

Synergies with other institutions will make state labs more competitive and let them work like de facto private entities.

times leaves an aftertaste," says Montalvão e Silva.

The medium-term goal at ITN is to get more trainees involved in research projects. Labs in Portugal have traditionally hired scientists on short-term contracts. It was the only way to stay in business. Montalvão e Silva, however, is now concerned with critical mass. ITN has developed its own spatial defractometer, known as a 'hotbird', for example. But the young researcher who designed it was killed in a tragic accident. Now, only a few post-doctoral students are able to work with the machine. "I'm worried about losing staff to other countries, where wages and working conditions are better," he says. That could change with the increase in this year's budget for the Ministry of Science. It is a perfect time window to reverse trends and recruit new staff, especially a younger generation with new ideas.

For Adérito Serrão, President of the Instituto de Meteorologia (IM), the preferred formula is to change research institutions from the inside out. Absorbing a different mindset can be just as important as acquiring new machines. At the IM, Serrão is following up a partnership with the Massachusetts Institute of Technology (MIT) with a series of tangible projects. "One thing is to absorb technology that can be transferred from MIT and the other is to place people there who can absorb the mentality. It's very important because the MIT, together with the US government, chose Portugal. I think



all our staff sees the new consortiums in a very positive light," says Serrão.

The IM, now part of the Risco Consortium, is a leader in meteorology, with 162 weather stations and 3 observation centers. It receives images from a geostationary satellite, as well as from EPS and MetOp. Serrão's institution has joined all the different research centers that have arisen in Europe, such as EUMETNET and EUMETSAT. Meanwhile, IM has invested in a new computer platform to process forecast models more efficiently. With the spike in natural disasters related to global warming, the workload at the IM has a direct impact on people's lives.

Serrão is hoping to push policymakers in emerging markets like China, as well as in industrialized nations like the US, to do more to control gas emissions.

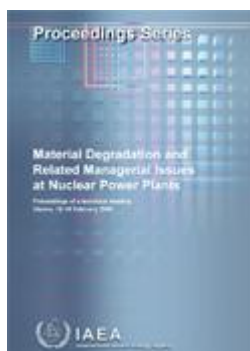
The rise in global temperatures is going to hit Portugal especially hard. In the meantime, the IM has become part of an early warning system for heat waves and acid rain. "Recently, we issued a yellow warning and then an orange one. We're in a position to issue this type of warning for the population and to give advice to disaster prevention organizations. We have video conferences with them providing that week's forecast so that resources are mobilized before a disaster occurs," says Serrão.

It will take time—and perhaps a lower temperature—but thanks to the TP, Portuguese research institutions are more globally competitive than they have ever been. "Portugal is no longer the country associated with an old man on a donkey. It is becoming a country of high technology. I think we can put meteorology at the center of research and as a science that serves as a gateway to improve other fields," says Serrão.

## Publicações Oferecidas



### Proceedings Series



L-10597

#### **Material Degradation and Related Managerial Issues of Nuclear Power Plants Proceedings of a Technical Meeting held in Vienna, Austria, 15–18 February 2005**

This publication is set within the context of current trends whereby nuclear power plants (NPPs) are extending their operation beyond their original licence period. Complexities including the fact that older NPPs may now be in a better technological condition than when they first went into operation are considered. This publication addresses material degradation, in particular flow accelerated corrosion, with details of past incidents. The main results and lessons learned from incidents or accidents associated with material degradation are identified wherever weaknesses in the associated management processes of NPP operation have been involved. The aim of this publication is to highlight what operators, owners and regulators should do to prevent or decrease the risk of occurrences and to enhance maintenance and inspection activities in the future.

STI/PUB/1260, 200 pp.; 95 figures; 2006, ISBN 92-0-107306-2, English.

[http://www-pub.iaea.org/MTCD/publications/PDF/Pub1260\\_web.pdf](http://www-pub.iaea.org/MTCD/publications/PDF/Pub1260_web.pdf)

Subject Classification: 0702 - Nuclear power operations



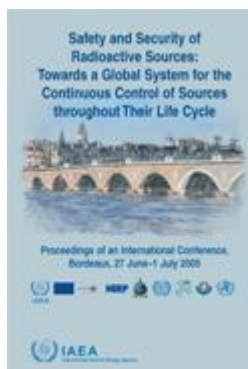
#### **Management Practices for Improving Sustainable Crop Production in Tropical Acid Soils Results of a Coordinated Research Project organized by the Joint FAO/IAEA Programme of Nuclear Techniques in Food and Agriculture**

The greatest potential for expanding agricultural land in most developing countries lies on the savannahs dominated by tropical acid and infertile soils. This publication contains the studies conducted in a Coordinated Research Project (CRP) involving 10 Member States to develop integrated crop, soil, water and nutrient management practices to increase and sustain agricultural productivity of these soils in Africa and Latin America. The work covered a range of representative environments and cropping systems, such as maize–soybean in Brazil and Benin; maize/sorghum–common bean in Mexico and Cuba; sorghum–cowpea/groundnut in Burkina Faso; maize–trees in Nigeria. Results showed how appropriate crop, soil, water and nutrient management improved soil fertility status, promoted better soil and water conservation and thereby increased crop productivity under local farming conditions. This publication highlights sound strategies and approaches, including the application of nuclear and related techniques needed to foster sustainable agricultural intensification in tropical regions while paving the way to the implementation of new CRPs.

STI/PUB/1285, 351 pp.; 115 figures; 2006, ISBN 92-0-115206-X, English.

[http://www-pub.iaea.org/MTCD/publications/PDF/Pub1285\\_web.pdf](http://www-pub.iaea.org/MTCD/publications/PDF/Pub1285_web.pdf)

Subject Classification: 0205 - Soil fertility and irrigation.



L-10672

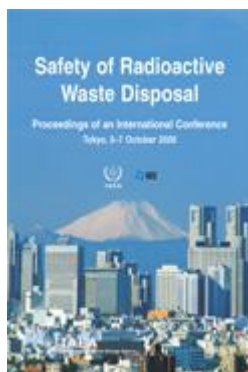
**Safety and Security of Radioactive Sources: Towards a Global System for the Continuous Control of Sources Through Their Life Cycle Proceedings of an International Conference held in Bordeaux, 27 June – 1 July 2005**

Radioactive sources are extensively used for beneficial purposes around the world in medical, industrial, agricultural and research applications. However, their safety and security remain a matter of concern. Loss of control, sometimes as a result of inadequate regulatory oversight, has resulted in 'orphan' sources. Such sources have led, in some cases, to serious injuries, even death. In recent years, additional concerns have emerged related to the possibility that sources might be used for malicious purposes. These concerns reinforce the importance of ensuring that proper control of radioactive sources is established and maintained throughout the world. This conference was held with the aim of generating an exchange of information on these issues. These proceedings contain the addresses and the invited papers presented at the conference, as well as records of the discussions and the findings of the conference. The contributed papers are available on a CD-ROM that is included with this volume.

STI/PUB/1262, 634 pp.; 24 figures; 2006, ISBN 92-0-108306-8, English. 88.00 Euro. Date of Issue: 26 January 2007.

[http://www-pub.iaea.org/MTCD/publications/PDF/Pub1262\\_web.pdf](http://www-pub.iaea.org/MTCD/publications/PDF/Pub1262_web.pdf)

Subject Classification: 0605 – Radiation sources and accelerators; 0800 – Nuclear fuel cycle and waste management; 1400 – Physical protection of radioactive material



L-10673

**Safety of Radioactive Waste Disposal Proceedings of an International Conference held in Tokyo, Japan, 3-7 October 2005**

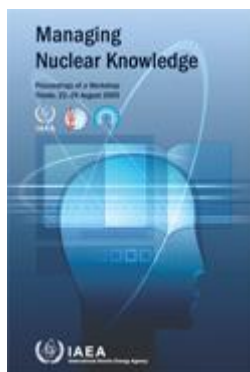
This conference is the latest in the series organized by the IAEA on the subject of radioactive waste safety. Demonstrating the safety of radioactive waste disposal remains a challenging issue, from both technical and sociopolitical perspectives, and is receiving increasing scrutiny throughout the world. The conference discussed the emerging global nuclear safety regime and its implications for radioactive waste management — in particular the impact of the Joint Convention on the Safety of Spent Fuel Management and the Safety of Radioactive Waste Management, the international safety standards and national waste management policies. High on the agenda was the concept of the safety case and its use, together with supporting safety assessments. The whole range of disposal concepts were discussed, as was the regulatory review and approval process and stakeholder involvement. The conference proceedings reports the various sessions and includes the presentations together with concluding summaries from the session chairs and the conference president.

STI/PUB/1261, 551 pp.; 35 figures; 2006, ISBN 92-0-108206-1, English.

[http://www-pub.iaea.org/MTCD/publications/PDF/Pub1261\\_web.pdf](http://www-pub.iaea.org/MTCD/publications/PDF/Pub1261_web.pdf)

Subject Classification: 0611 - Radioactive waste management; 0804 - Waste management.





## **Managing Nuclear Knowledge Proceedings of a workshop held in Trieste, 22-26 August 2005**

The nuclear power and technology sector, comprising the industry, governments and academia, is a knowledge based endeavour similar to other highly technological industries. Recent trends, such as an ageing workforce and declining student enrolment, with the consequent risk of losing accumulated nuclear knowledge and experience, have drawn attention to the need for better management of nuclear knowledge. These Proceedings are based on a workshop on managing nuclear knowledge which was jointly organized by the IAEA, the Abdus Salam International Centre for Theoretical Physics and the World Nuclear University. The aim was to increase the awareness of Member States with respect to the challenge of nuclear knowledge management, to share the best practices and to provide a forum for the exchange of information among participating nuclear professionals.

STI/PUB/1266, 289 pp.; 41 figures; 2006, ISBN 92-0-109406-X, English

[http://www-pub.iaea.org/MTCD/publications/PDF/Pub1266\\_web.pdf](http://www-pub.iaea.org/MTCD/publications/PDF/Pub1266_web.pdf)

Subject Classification: 0705 - Qualification and training of personnel.

L-10701



## **IAEA TECDOC Series**



## **Notification and Authorization for the Use of Radiation Sources (Supplement to IAEA Safety Standards Series No. GS-G-1.5)**

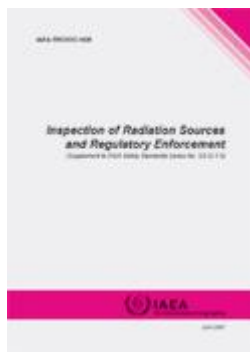
IAEA TECDOC Series No. 1525

This Safety Report provides practical guidance on establishing the organization and management of a system for notification and authorization for the regulatory control over the use of radiation sources, including the provision for granting exemptions from regulatory requirements. It also provides examples of the notification and authorization procedures, detailing the documentation to be submitted by applicants, and provides a basis for the decisions to be made by regulatory bodies as well as for the ongoing review of authorizations, amendments and the termination of authorizations. It also provides examples of specific review and assessment procedures for applications concerning authorization for the use of radiation sources in diagnostic radiology, nuclear medicine, radiotherapy, industrial radiography, research and industrial irradiators, gauges containing radioactive sources and well logging sources.

IAEA-TECDOC-1525, 2007, ISBN 92-0-112906-8, English.

[http://www-pub.iaea.org/MTCD/publications/PDF/te\\_1525\\_web.pdf](http://www-pub.iaea.org/MTCD/publications/PDF/te_1525_web.pdf)

Subject Classification: 0605 - Radiation sources and accelerators.



**Inspection of Radiation Sources and Regulatory Enforcement (Supplement to IAEA Safety Standards Series No. GS-G-1.5)**

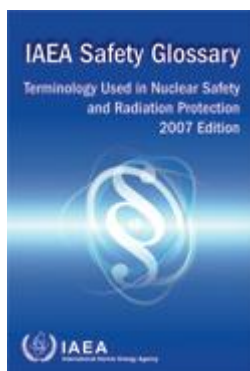
*IAEA TECDOC Series No. 1526*

This Safety Report provides practical guidance on establishing the procedures to facilitate regulatory compliance with the law and regulations relating to the use of radiation sources through inspection and enforcement. It provides examples of processes to be followed, and the use of standard assessment plans for carrying out inspections. It contains examples of inspection procedures and checklists for the use of radiation sources in diagnostic radiology, nuclear medicine, radiotherapy, industrial radiography, research and industrial irradiators, gauges containing radioactive sources and well logging sources.

IAEA-TECDOC-1526, 2007, ISBN 92-0-113106-2, English.

[http://www-pub.iaea.org/MTCD/publications/PDF/te\\_1526\\_web.pdf](http://www-pub.iaea.org/MTCD/publications/PDF/te_1526_web.pdf)

Subject Classification: 0605 - Radiation sources and accelerators; 0614 - Legal and governmental aspects; 1400 - Physical protection of radioactive material.



**IAEA Safety Glossary Terminology Used in Nuclear Safety and Radiation Protection 2007 Edition**

The IAEA Safety Glossary defines and explains technical terms used in IAEA Safety Standards and other safety related IAEA publications, and provides information on their usage. It has been in use since April 2000. The IAEA Safety Glossary, 2007 Edition, is a revised and updated version. The primary purpose of the Safety Glossary is to harmonize terminology and usage in the IAEA Safety Standards. The Safety Glossary is a source of information for users of IAEA Safety Standards and other safety related IAEA publications. The Safety Glossary also provides guidance primarily for the drafters and reviewers of Safety Standards and other publications, including IAEA technical officers and consultants and members of technical committees, advisory groups, working groups and bodies for the endorsement of Safety Standards.

STI/PUB/1290, 227 pp.; 0 figures; 2007, ISBN 92-0-100707-8, English.

[http://www-pub.iaea.org/MTCD/publications/PDF/Pub1290\\_web.pdf](http://www-pub.iaea.org/MTCD/publications/PDF/Pub1290_web.pdf)

Subject Classification: 0600 - Nuclear and Radiological Safety.



## Technical Report Series



### **Plant Life Management for Long Term Operation of Light Water Reactors**

*Technical Reports Series No. 448*

This report explains the general approach to plant life management (PLiM), shows and defines the relationship between nuclear power plant maintenance and PLiM, assembles a list of good practices and formulates guidelines for ageing management of critical structures, systems and components. Additionally, the issues of PLiM for long term operation are discussed in terms of human, technological, economic and regulatory aspects, as well as the importance of the exchange of information regarding lessons learned. PLiM is not only a technical system but is also an attitude of the owners to retain plants in operation as long as possible from a safety and business point of view. Asset management is thus a significant parameter and driving force for PLiM implementation.

STI/DOC/010/448, 123 pp.; 14 figures; 2006, ISBN 92-0-101506-2, English.

[http://www-pub.iaea.org/MTCD/publications/PDF/TRS448\\_web.pdf](http://www-pub.iaea.org/MTCD/publications/PDF/TRS448_web.pdf)

Subject Classification: 0702 - Nuclear power operations.



### **International Reactor Dosimetry File 2002 (IRDF-2002)**

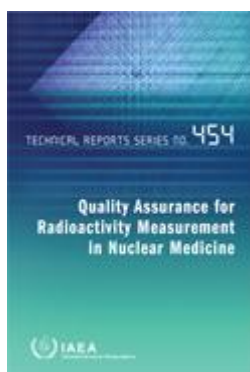
*Technical Reports Series No. 452*

An updated, tested and standardized reactor dosimetry cross-section database with associated uncertainty data and relevant decay data has been assembled to create a new data library for use in assessments of the service life of reactor pressure vessels. The resulting IRDF-2002 data library is available on CD-ROM and through the Internet, and the selection procedure and contents are described in this publication. This set of recommended high-quality data is also appropriate for use in other neutron metrology applications, such as boron neutron capture therapy, therapeutic use of radioisotopes, nuclear physics measurements and reactor safety studies.

STI/DOC/010/452, 2006, ISBN 92-0-105106-9, English.

[http://www-pub.iaea.org/MTCD/publications/PDF/TRS452\\_web.pdf](http://www-pub.iaea.org/MTCD/publications/PDF/TRS452_web.pdf)

Subject Classification: 0306 - Nuclear data.



### **Quality Assurance for Radioactivity Measurement in Nuclear Medicine**

*Technical Reports Series No. 454*

This publication provides information on the implementation of QA/QC programmes for the measurement of radioactivity related to the practice of nuclear medicine. It is based on the QA principles in ISO/IEC 17025, which describes requirements that testing and calibration laboratories must meet to demonstrate that they have a quality system in place and are technically competent. This report provides information specific to implementing that standard at both the end user (clinic) and secondary radioactivity standards laboratory levels. If adopted to its greatest extent, it will provide the user with all the information (including measurement procedures) necessary to carry out most tasks associated with routine radioactivity measurement, including maintaining the necessary documentation.

STI/DOC/010/454, 81 pp.; 3 figures; 2006, ISBN 92-0-105306-1, English.

[http://www-pub.iaea.org/MTCD/publications/PDF/TRS454\\_web.pdf](http://www-pub.iaea.org/MTCD/publications/PDF/TRS454_web.pdf)

Subject Classification: 0101 - Nuclear medicine (including radiopharmaceuticals).



L-10680

## Retrieval and Conditioning of Solid Radioactive Waste from Old Facilities

*Technical Reports Series No. 456*

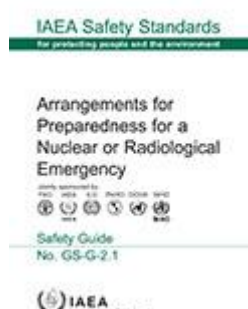
This report provides information and discussion on planning, methodologies and technologies for retrieval and reconditioning of radioactive wastes recovered from old, inadequate disposal or storage facilities. The objective of such projects is to improve waste safety and security in accordance with modern requirements. Selected international experiences in waste retrieval and recovery projects are included. The report serves as a guide for storage and disposal facility personnel responsible for the organization and implementation of waste retrieval and reconditioning projects, to optimize planning, selection and use of available and applicable technologies and resources.

STI/DOC/010/456, 161 pp.; 55 figures; 2007, ISBN 92-0-112406-6, English.

[http://www-pub.iaea.org/MTCD/publications/PDF/TRS456\\_web.pdf](http://www-pub.iaea.org/MTCD/publications/PDF/TRS456_web.pdf)

Subject Classification: 0804 - Waste management.

## Safety Standards Series



## Arrangements for Preparedness for a Nuclear or Radiological Emergency

*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 20 States information concerning methodologies, techniques and available results of research relating to response to such emergencies. The primary objectives of the Safety Guide, co-sponsored by FAO, OCHA, ILO, PAHO, WHO, are to provide guidance on preparedness and response for a nuclear or radiological emergency, to describe appropriate responses to a range of emergencies, and to provide background information on past experience, thus helping the user to better implement arrangements that address the underlying issues.

**Contents:** 1. Introduction; 2. Basic concepts; 3. General requirements; 4. Functional requirements; 5. Infrastructure requirements; 6. Concept of operations; Appendix I: Typical threat categories; Appendix II: Area and zone sizes; Appendix III: Dangerous sources; Appendix IV: Classification for emergencies at facilities; Appendix V: Overview of urgent protective actions; Appendix VI: Response time objectives; Appendix VII: Off-site urgent protective action; Appendix VIII: Emergency facilities and locations; Abbreviations; Annex I: Supporting information for zone sizes in Appendix II; Glossary.

STI/PUB/1265, 145 pp.; 4 figures; 2007, ISBN 92-0-109306-3, English.

[http://www-pub.iaea.org/MTCD/publications/PDF/Pub1265\\_web.pdf](http://www-pub.iaea.org/MTCD/publications/PDF/Pub1265_web.pdf)

Subject Classification: 0610 - Accident response.

## Commissioning of Research Reactors Safety Guide

*Safety Standards Series No. NS-G-4.1*



L-10595

The Safety Guide on the Commissioning of Research Reactors provides recommendations for the commissioning research reactors on the basis of the international best practices. The guidance and recommendations of this Safety Guide are applicable to most types of research reactor 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 IAEA Safety Standards Series No. 35-G-1. Commissioning is one of the major steps in the life cycle of a research reactor, and appropriate guidance for conducting the process is essential. Emphases in this Safety Guide are on the commissioning of a new research reactor, but guidance is also provided on the commissioning of new experiments and of reactor modifications.

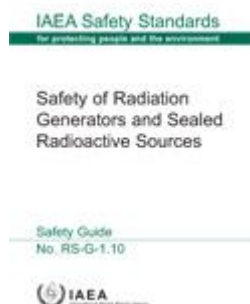
STI/PUB/1268, 65 pp.; 0 figures; 2006, ISBN 92-0-109606-2, English.

[http://www-pub.iaea.org/MTCD/publications/PDF/Pub1268\\_web.pdf](http://www-pub.iaea.org/MTCD/publications/PDF/Pub1268_web.pdf)

Subject Classification: 0604 - Research reactors.

## Safety of Radiation Generators and Sealed Radioactive Sources

*Safety Standards Series No. RS-G-1.10*



The objective of this Safety Guide is to assist Member States to implement 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.

**Contents:** 1. Introduction; 2. Regulatory infrastructure and responsibilities; 3. Safety assessment; 4. Design, manufacture and use of radiation sources and facilities; 5. Decommissioning of facilities and management of disused sources.

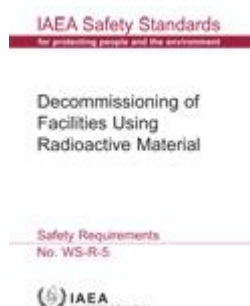
STI/PUB/1258, 59 pp.; 5 figures; 2006, ISBN 92-0-107506-5, English.

[http://www-pub.iaea.org/MTCD/publications/PDF/Pub1258\\_web.pdf](http://www-pub.iaea.org/MTCD/publications/PDF/Pub1258_web.pdf)

Subject Classification: 0605 - Radiation sources and accelerators; 0609 - Radiation protection.

## Decommissioning of Facilities Using Radioactive Material Safety Requirements

*Safety Standards Series No. WS-R-5*



The importance of decommissioning has come to light during the past few years. Previously the requirements for safety during decommissioning had been considered as part of general waste management, but recently it was decided that this important part of a facility's life needs to have definitive requirements specified. This publication provides such information.

STI/PUB/1274, 25 pp.; 0 figures; 2006, ISBN 92-0-110906-7, English.

[http://www-pub.iaea.org/MTCD/publications/PDF/Pub1274\\_web.pdf](http://www-pub.iaea.org/MTCD/publications/PDF/Pub1274_web.pdf)

Subject Classification: 0611 - Radioactive waste management; 0804 - Waste management



## NUCLEAR ENERGY AGENCY

### Indemnification of Damage in the Event of a Nuclear Accident

Workshop Proceedings, Bratislava, Slovak Republic, 18-20 May 2005

Language: English , Published: 12-JUL-06 , 152 pages, ISBN: 92-64-02625-8,

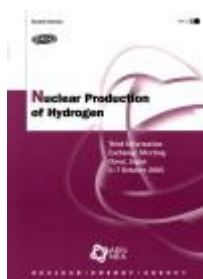
#### Synopsis

The Second International Workshop on the Indemnification of Nuclear Damage was held in Bratislava, Slovak Republic, from 18 to 20 May 2005. The workshop was co-organised by the OECD Nuclear Energy Agency and the Nuclear Regulatory Authority of the Slovak Republic. It attracted wide participation from national nuclear authorities, regulators, operators of nuclear installations, nuclear insurers and international organisations.

The purpose of the workshop was to assess the third party liability and compensation mechanisms that would be implemented by participating countries in the event of a nuclear accident taking place within or near their borders. To accommodate this objective, two fictitious accident scenarios were developed: one involving a fire in a nuclear installation located in the Slovak Republic and resulting in the release of significant amounts of radioactive materials off-site, and the other a fire on board a ship transporting enriched uranium hexafluoride along the Danube River. The first scenario was designed to involve the greatest possible number of countries, with the second being restricted to countries with a geographical proximity to the Danube. These proceedings contain the papers presented at the workshop, as well as reports on the discussion sessions held.

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<http://www.oecdbookshop.org/oecd/display.asp?sf1=identifiers&st1=662006071P1>



### Nuclear Production of Hydrogen

Third Information Exchange Meeting, Oarai, Japan, 5-7 October 2005

#### Synopsis

Hydrogen has the potential to play an important role as a sustainable and environmentally acceptable energy carrier in the 21st century. Since natural sources of pure hydrogen are extremely limited, it is necessary to develop technologies to produce large quantities of hydrogen economically. The currently dominant technology for producing hydrogen is based on reforming fossil fuels, a process which releases greenhouse gases. Hydrogen produced by water cracking, using heat and surplus electricity from nuclear power plants, requires no fossil fuels and results in lower greenhouse gas emissions. This report presents the state of the art in the nuclear production of hydrogen and describes its associated scientific and technical challenges.

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## **Perspectives on Nuclear Data for the Next Decade**

Workshop Proceedings, Bruyères-le-Châtel, France, 26-28 September 2005

Language: English , Published: 18-DEC-06 , 260 pages, ISBN: 92-64-02857-9,

### **Synopsis**

With a declining number of nuclear data evaluators in the world and an increasing demand for high-quality data, there is a risk that evaluators will concentrate on producing new nuclear data to the detriment of developing new models and methods for evaluating existing data. In this context, it is essential to identify the basic physics issues that are going to be important for future nuclear data evaluation processes. At the same time, demand for new types of data, which will be needed in emerging nuclear applications, could warrant new evaluation techniques that are presently only used in the context of fundamental research and not in nuclear data production.

These proceedings present the main findings of the "Perspectives on Nuclear Data for the Next Decade" workshop, which explored innovative approaches to nuclear data evaluation with the aim of opening new perspectives, building new research programmes and investigating prospects for international collaboration.

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<http://www.oecdbookshop.org/oecd/display.asp?sf1=identifiers&st1=662006101P1>



L-10678

## **Engineered Barrier Systems (EBS) in the Safety Case: The Role of Modelling**

Workshop Proceedings, La Coruna, Spain, 24-26 August 2005

Language: English , Published: 16-FEB-07 , 192 pages, ISBN: 978-92-64-00664-5,

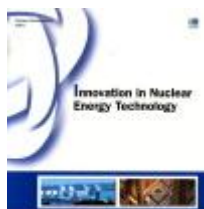
### **Synopsis**

In the deep disposal of radioactive waste, the presence of several barriers serving complementary safety functions enhances confidence that the waste will be isolated and contained to protect human health and the environment. The barriers include the natural geological barrier and the engineered barrier system (EBS). The EBS itself may comprise a variety of sub-systems or components, such as the waste form, container, buffer, backfill, seals and plugs. The Integration Group for the Safety Case (IGSC) of the Nuclear Energy Agency (NEA) is co-sponsoring a series of workshops with the European Commission to develop greater understanding of how to achieve the necessary integration for the successful design, testing, modelling and performance assessment of engineered barrier systems (EBS) for deep underground disposal of radioactive waste.

These proceedings include the main findings and presented papers from the third NEA-EC workshop on engineered barrier systems, which focused on the role of EBS modelling in the safety case for deep disposal. Some national programmes are placing increased emphasis on EBS and, as implementation of underground repositories approaches, more realistic assessments of EBS performance are needed. The workshop examined the modelling tools currently available and identified complex areas of assessment in which further dialogue is needed.

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<http://www.oecdbookshop.org/oecd/display.asp?sf1=identifiers&st1=662007021P1>



L-10677

## **Innovation in Nuclear Energy Technology**

Language: English , Published: 21-FEB-07 , 118 pages, ISBN: 978-92-64-00644-7,

OECD Ordering reference number: [662007011P1](#)

Cost: EURO 45, US\$ 60, £ 32, ¥ 6200

This publication is also available in French as: *Innovation dans la technologie nucléaire -*

### **Synopsis**

Innovation has been a driving force in the successful deployment of nuclear energy and remains essential today for its sustainable future. As nuclear energy is an attractive option for ensuring diversity and security of energy supply, as well as lower global climate change risks, the way to continue this innovation is a key issue for industry and interested governments. For greater innovation in the nuclear area to be realised, more in-depth discussions on ways and means for promoting nuclear innovation are crucial, and enhanced knowledge of nuclear innovation systems is required.

This report provides an overview of the state of the art in nuclear innovation systems, including their driving forces, main actors, institutional and legal frameworks, and infrastructure for knowledge and programme management. It also offers policy recommendations based on country reports and case studies supplied by participating member countries.

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<http://www.oecdbookshop.org/oecd/display.asp?sf1=identifiers&st1=662007011P1>

## **International Nuclear Law in the Post-Chernobyl Period**

Language: English , Published: 17-JUL-06 , 244 pages

### **Synopsis**

The accident at the Chernobyl nuclear power plant in 1986 heightened awareness of the need to improve the international legal framework governing the safe and peaceful uses of nuclear energy. Numerous legal instruments have subsequently been adopted.

This compendium examines the developments which have taken place in international nuclear law since 1986. It reproduces a number of articles which have been published in the OECD/NEA Nuclear Law Bulletin, accompanied by some previously unpublished works. The principal legal instruments examined in this publication govern early notification and assistance in the event of a nuclear accident, nuclear safety, the safety of radioactive waste and spent fuel, and nuclear liability and compensation.

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<http://www.nea.fr/html/law/chernobyl/welcome.html>



## **Nuclear Energy Data 2007/Données sur l'énergie nucléaire 2007**

Language: Bilingual , Published: 14-JUN-07 , 100 pages, ISBN: 978-92-64-03453-2,

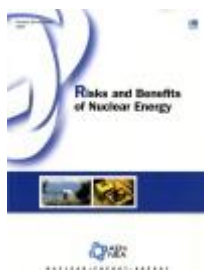
### **Synopsis**

This new edition of Nuclear Energy Data, the OECD Nuclear Energy Agency's annual compilation of essential statistics on nuclear energy in OECD countries, offers projections lengthened to 2030 for the first time and information on the development of new centrifuge enrichment capacity in member countries. The compilation gives readers a comprehensive and easy-to-access overview of the current situation and expected trends in various sectors of the nuclear fuel cycle, providing authoritative information to policy makers, experts and academics working in the nuclear energy field.

Cette nouvelle édition des Données sur l'énergie nucléaire, publication annuelle de l'Agence de l'OCDE pour l'énergie nucléaire qui rassemble les données statistiques essentielles de ce secteur dans les pays de l'OCDE, présente des prévisions qui pour la première fois vont jusqu'en 2030, ainsi que des informations sur la mise en œuvre de capacités d'enrichissement par centrifugation dans les pays membres. Cet ouvrage offre au lecteur un tour d'horizon complet et facile à consulter de la situation et des tendances dans les divers secteurs du cycle du combustible nucléaire, et notamment des informations qui font autorité à l'intention des décideurs publics, des experts et des chercheurs travaillant dans le domaine de l'énergie nucléaire.

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## **Risks and Benefits of Nuclear Energy**

Language: English , Published: 20-JUN-07 , 88 pages, ISBN: 978-92-64-03551-5,

### **Synopsis**

In the context of sustainable development policies, decision making in the energy sector should be based on carefully designed trade-offs which take into account, insofar as feasible, all of the alternative options' advantages and drawbacks from the economic, environmental and social viewpoints. This report examines various aspects of nuclear and other energy chains for generating electricity, and provides illustrative examples of quantitative and qualitative indicators for those chains with regard to economic competitiveness, environmental burdens (such as air emissions and solid waste streams) and social aspects (including employment and health impacts).

This report will be of interest to policy makers and analysts in the energy and electricity sectors. It offers authoritative data and references to published literature on energy chain analysis which can be used in support of decision making.

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## **Linkage of Geoscientific Arguments and Evidence in Supporting the Safety Case**

Second AMIGO Workshop Proceedings, Toronto, Canada, 20-22 September 2005

Language: English , Published: 22-JUN-07 , 275 pages, ISBN: 978-92-64-01966-9,

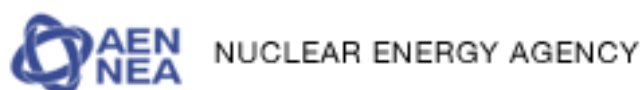
### **Synopsis**

The long-term safety of deep disposal of radioactive waste will be strongly dependent on the performance of the geological setting. The geology fulfils important safety functions including isolating the waste from human contact or intrusion, providing a stable physical and chemical environment, insulating against external disturbances, and preventing or delaying the transport of radioactive materials away from the waste. Thus, a sound understanding of the geology's history and evolution is central in supporting assessments that examine the long-term performance and safety of deep disposal. Geological data can also play an important role in other related activities, such as site selection and repository design.

Through a series of technical workshops, the OECD Nuclear Energy Agency (NEA) project on Approaches and Methods for Integrating Geological Information in the Safety Case (AMIGO), is devoted to defining and improving the collection and use of geological evidence that contribute to the understanding of long-term safety for radioactive waste disposal. The second AMIGO workshop was organised in Canada in September 2005. It examined how geoscientific arguments and data are compiled and linked to create a unified description of the geological setting to support a safety case. It also examined practical aspects and limitations in collecting, linking, extrapolating and communicating such information. These proceedings present the outcomes of the workshop.

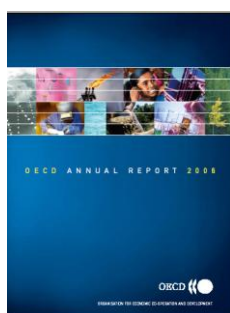


## *Instituições Internacionais – Relatórios Anuais*



### **Annual Report 2006**

<http://www.nea.fr/html/pub/annual-report.html>

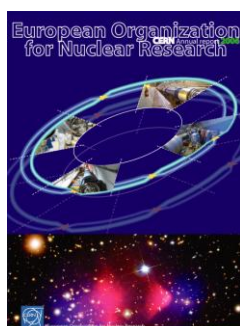


### **OECD – Annual Report 2007**

<http://www.oecd.org/dataoecd/37/61/36511265.pdf>



### **NRG – Annual Report 2006**



### **Annual Report 2006**

[http://preprints.cern.ch/cernrep/varia/annual\\_reports/AnnualReport2006-en.html](http://preprints.cern.ch/cernrep/varia/annual_reports/AnnualReport2006-en.html)

## Publicações Periódicas Internacionais – Oferecidas

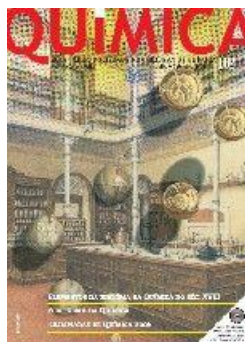


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Magazine on European Research  
February 2007 - EIROforum

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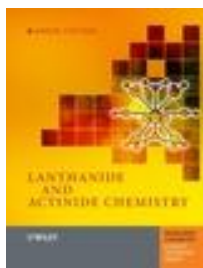


<http://www.oxfordjournals.org/>



<http://www.sciencemag.org/magazine.dtl>

## *Publicações adquiridas por Projectos do ITN*



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### **Lanthanide and Actinide Chemistry**

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Published Online: 20 Jun 2006

Author(s): Simon Cotton

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DOI: 10.1002/0470010088

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Indice: <http://www3.interscience.wiley.com/cgi-bin/bookhome/112657082?CRETRY=1&SRETRY=0>

### **LSC 2005, Advances in Liquid Scintillation Spectrometry**

(Proceedings of the 2005 International Liquid Scintillation Conference Katowice, )

Proceedings of the 2005 International Liquid Scintillation Conference

Katowice, Poland

17-21 October 2005

edited by Stanislaw Chalupnik, Franz Schoenhofer, and John Noakes

## *Publicações Periódicas adquiridas por Projectos do ITN*



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SANDRA ISABEL SILVA DAMAS CABO VERDE

*Avaliação de HACCP, Tecnologias de Irradiação e Métodos Moleculares no Controlo Higiéno-sanitário de Salmonella e Campylobacter em Ovos*

Faculdade de Ciências, Universidade de Lisboa, 2007  
Supervisor: Dr<sup>a</sup> Luísa Botelho (ITN)

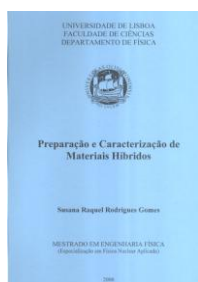
## **Mestrado**



ELISA VAZ MORGADO DE PALMA

*Complexos de Re e Tc Contendo Antagonistas dos Receptores Serotonérgicos 5HT<sub>1A</sub> Estabilizados por Fosfinas Heterofuncionalizadas*

Mestrado em Química Inorgânica Biomédica  
Faculdade de Ciências, Universidade de Lisboa, 2006  
Supervisor: Doutor J.D.G. Correia (ITN)



SUSANA RAQUEL RODRIGUES GOMES

*Preparação e Caracterização de Materiais Híbridos*

Mestrado em Engenharia Física  
Faculdade de Ciências, Universidade de Lisboa, 2006  
Supervisor: Doutora Fernanda Margaça (ITN)



BRUNO LUÍS JESUS PINTO DE OLIVEIRA

*Análogos da L-Arginina contendo a unidade fac-[<sup>99m</sup>Tc(CO)<sub>3</sub>]<sup>+</sup> para Detecção in vivo do Óxido Nítrico Sintase: Química, Radioquímica e Avaliação Biológica*

Mestrado em Química Inorgânica Biomédica  
Faculdade de Ciências, Universidade de Lisboa, 2007  
Supervisor: Doutor J.D.G. Correia (ITN)