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

.: editores 2005

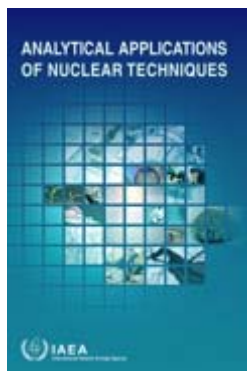
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Publicações Oferecidas

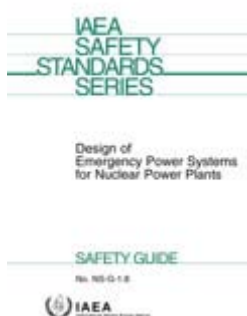


Analytical Applications of Nuclear Techniques

The contributions from some of the world's leading nuclear analysts included in this book describe a variety of nuclear techniques and applications, such as those in the fields of environment and health, industrial processes, non-destructive testing, forensic and archaeological investigations and cosmochemistry, and in method validation. The descriptive articles demonstrate the advantages of nuclear techniques in, for example, analysing trace elements in submilligram samples in a single strand of hair or in kilogram samples of municipal waste. Halogenated organic compounds as well as major and trace inorganic constituents are analysed in a variety of solid and liquid matrices. Several different techniques are applied to investigate the authenticity of art objects and the origin of extraterrestrial material. Many applications of nuclear analytical techniques in industrial process control or in the production of high-tech materials are described, highlighting the socioeconomic benefit of these techniques in our daily lives. The book is intended to stimulate students, teachers and non-nuclear scientists to take the 'nuclear' option into consideration when deciding on a new field of study or an alternative analytical technique.

STI/PUB/1181, 203 pp.; 41 figures; 2004, ISBN 92-0-114703-1, English. 25.00 Euro. Date of Issue: 3 December 2004.

Subject Classification: 0304 - Nuclear analytical techniques.
http://www-pub.iaea.org/MTCD/publications/PDF/Pub1181_web.pdf



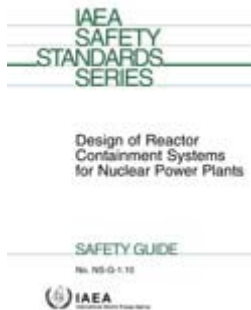
Design of Emergency Power Systems for Nuclear Power Plants Safety Guide

Safety Standards Series No. NS-G-1.8

This Safety Guide was prepared under the IAEA safety standards programme for nuclear power plants (NPPs). The basic requirements for the design of safety systems for NPPs are provided in Safety Standards Series No. NS-R-1: Safety of NPPs: Design. The Safety Guide describes how the revised basic requirements should be met for the design of emergency power supply systems for NPPs. This publication is a revision of Safety Series No. 50-SG-D7, Emergency Power Systems at NPPs. It takes account of developments in the design of emergency power supply systems in NPPs since 1991 and includes recommendations and guidance on non-electrical power sources. This Safety Guide was prepared through three technical meetings and extensive review of experts from 21 countries over a period of four years.

STI/PUB/1188, 61 pp.; 5 figures; 2004, ISBN 92-0-103504-7, English

Subject Classification: 0603 - Nuclear power plants; 0702 - Nuclear power operations



Design of Reactor Containment Systems for Nuclear Power Plants Safety Guide

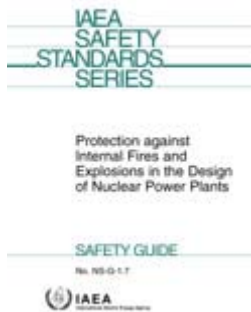
Safety Standards Series No. NS-G-1.10

This Safety Guide supersedes Safety Series No. 50-SG-D12, Design of the Reactor Containment Systems in Nuclear Power Plants, issued in 1985. 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 Standard 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.

STI/PUB/1189, 127 pp.; 11 figures; 2004, ISBN 92-0-103604-3, English.

Subject Classification: 0603 - Nuclear power plants.

http://www-pub.iaea.org/MTCD/publications/PDF/Pub1189_web.pdf



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

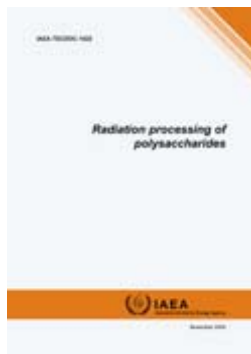
Safety Standards Series No. NS-G-1.7

Safety Guide NS-G-1.7 is a revision of an earlier Safety Guide, Safety Series No. 50-SG-D2. This and other new 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 operational 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.

STI/PUB/1186, 63 pp.; 2 figures; 2004, ISBN 92-0-103304-4, English.

Subject Classification: 0603 - Nuclear power plants; 0612 - Safety analysis; 0704 - Quality assurance.

http://www-pub.iaea.org/MTCD/publications/PDF/Pub1186_web.pdf



Radiation Processing of Polysaccharides

IAEA TECDOC Series No. 1422

Radiation processing is a very convenient tool for imparting desirable effects in polymeric materials and it has been an area of enormous interest in the last few decades. The success of radiation technology for processing of synthetic polymers can be attributed to two reasons namely, their ease of processing in various shapes and sizes, and secondly, most of these polymers undergo crosslinking reaction upon exposure to radiation. In recent years, natural polymers are being looked at with renewed interest because of their unique characteristics, such as inherent biocompatibility, biodegradability and easy availability. Traditionally, the commercial exploitation of natural polymers like carrageenans, alginates or starch etc. has been based, to a large extent, on empirical knowledge. But now, the applications of natural polymers are being sought in knowledge — demanding areas such as pharmacy and biotechnology, which is acting as a locomotive for further scientific research in their structure-function relationship. Selected success stories concerning radiation processed natural polymers and application of their derivatives in the health care products industries and agriculture are reported. This publication will be of interest to individuals at nuclear institutions worldwide that have programmes of R&D and applications in radiation processing technologies. New developments in radiation processing of polymers and other natural raw materials give insight into converting them into useful products for every day life, human health and environmental remediation. The book will also be of interest to other field specialists, readers including managers and decision makers in industry (health care, food and agriculture) helping them to understand the important role of radiation processing technology in polysaccharides.

IAEA-TECDOC-1422, 2004, ISBN 92-0-114104-1, English.

Subject Classification: 0501 - Radiation processing.

http://www-pub.iaea.org/MTCD/publications/PDF/te_1422_web.pdf



Advances in Radiation Chemistry of Polymers

IAEA TECDOC Series No. 1420

The radiation chemistry of polymers is one of the most important fields in the sciences concerning radiation induced chemical and physical changes in materials. Polymers are the most often irradiated materials, those most often modified and the main component of radiation sterilized medical products. The changes in their structure may be either beneficial or undesirable. This is the reason why the R&D concerning these materials is broad and most developments concerning radiation processing are foreseen in this area. Different aspects of basic research and R&D were presented during the meeting on "Advances in Radiation Chemistry of Polymers" held at the Notre Dame Radiation Laboratory, University of Notre Dame, Indiana, USA, and this TECDOC contains the proceedings of this meeting. The leading experts in the field participated at the meeting, and the present status of the subject and the foreseen trends in it were discussed. Therefore this publication is the most up to date available on the subject.

IAEA-TECDOC-1420, 2004, ISBN 92-0-112504-6, English.

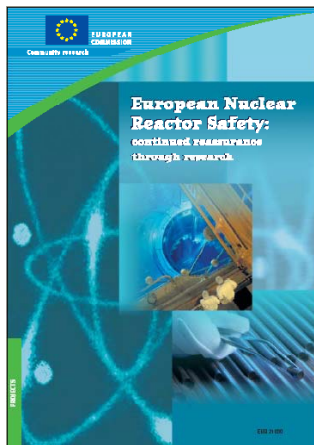
Subject Classification: 0501 - Radiation processing.

http://www-pub.iaea.org/MTCD/publications/PDF/TE_1420_Web.pdf



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This brochure presents the broad approach and outcomes of nuclear reactor safety research (NRS) undertaken in the Euratom Fifth Framework Programme (FP5) between 1998 and 2002. Although supported by the European Commission (EC), NRS in FP5 was driven by the clear research priorities identified by the wider European nuclear sector, including the electricity generation and distribution utilities, safety authorities, engineering companies and manufacturers, research establishments and academia.

http://europa.eu.int/comm/research/energy/pdf/new_reactor_safety_en.pdf

FISA-2003 / EU Research in Reactor Safety (Conf. Proceedings)

Context:

Since the Three Mile Island accident in the United States in 1979, regulatory authorities and electricity utilities have embarked on a wide-ranging review of nuclear plant performance and safety requirements. With an experience of approximately 10 000 reactor-years - the operating history of nuclear plants worldwide - scientists and engineers have learned much about how to run them safely. If the nuclear option is to continue to grow, though, the public, interest groups, governments and financial authorities have to be convinced that they are safer than before.

The European Union has played its role in this international safety improvement effort with a series of nuclear fission safety programmes. An average of 300 participants attended the previous FISA conferences in Luxembourg (FISA-95, FISA-97, FISA-99 and FISA-2001). The results of the EC co-sponsored RTD projects as well as issues of common interest for the reactor safety community were presented and discussed. Safety, performance and innovation are the keywords of the research co-sponsored by the EC and presented at FISA, each main actor obviously having its own priorities, namely: safety for the regulators; safety and performance for the electrical utilities; safety, performance and innovation for the vendors.

Aim of the conference / conclusions of FP5:

The purpose of FISA-2003 is to offer a comprehensive overview of the conclusions of the current FP5 (1998-2002) projects being conducted in the area of **"operational safety of existing installations"**. The emphasis will be on the applications of phenomenological research to plant life management and accident mitigation techniques, for present as well as future generation reactors. In addition to the presentations by the project co-ordinators, a series of invited lectures of general interest will be delivered addressing issues of common interest and prospects for future research in reactor safety. Of course, the objectives of the first activities conducted under FP-6 (2002-2006) will also be discussed, as well as proposals for future networks of excellence or integrated projects. A series of post-FISA workshops will also be organised to address networking activities aimed at strengthening the cooperation within the international reactor safety research community.



Boletim Informativo

Ano II - Nº 1-2/05
Fevereiro 2005

TESES DE MESTRADO

- JOÃO VICTOR DA SILVA CARDOSO, *Construção e Desenvolvimento de uma Câmara de Ionização para Medida Directa da Grandeza Equivalente de Dose Individual, a 10 mm de Profundidade, $H_p(10)$* , Mestrado em Engenharia Física, Universidade de Lisboa, Faculdade de Ciências, 2004. Orientadores: José Carvalho Soares e António Ferro de Carvalho.

TESES DE LICENCIATURA

- LUIS MIGUEL CABEÇA MARQUES, *Determinação da secção eficaz de captura neutrónica do ^{94}Zr utilizando o espectrómetro TOF no CERN*, Licenciatura em Engenharia Física, Universidade de Lisboa, Faculdade de Ciências, 2004. Orientadores: Isabel Ferro Gonçalves, Pedro Vaz e João Pires Ribeiro.