

# New publications

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## Economic and technical aspects of the nuclear fuel cycle —



### Management of Depleted Uranium

A Joint NEA/IAEA Report

ISBN 92-64-19525-4 – 68 pages – Price: € 20, US\$ 19, £ 12, ¥ 1 900.

Large stocks of depleted uranium have arisen as a result of enrichment operations, especially in the United States and the Russian Federation. Countries with depleted uranium stocks are interested in assessing strategies for the use and management of depleted uranium. The choice of strategy depends on several factors, including government and business policy, alternative uses available, the economic value of the material, regulatory aspects and disposal options, and international market developments in the nuclear fuel cycle. This report presents the results of a depleted uranium study conducted by an expert group organised jointly by the OECD Nuclear Energy Agency and the International Atomic Energy Agency. It contains information on current inventories of depleted uranium, potential future arisings, long-term management alternatives, peaceful use options and country programmes. In addition, it explores ideas for international collaboration and identifies key issues for governments and policy makers to consider.



### OECD Nuclear Energy Data 2001

Bilingual – ISBN 92-64-08707-9 – 50 pages – Price: € 20, US\$ 19, £ 12, ¥ 1 900.

*Nuclear Energy Data* is the OECD Nuclear Energy Agency's annual compilation of basic statistics on electricity generation and nuclear power in OECD countries. The reader will have quick and easy reference to the status of and projected trends in total electricity generating capacity, nuclear generating capacity, and actual electricity production, as well as to supply and demand for nuclear fuel cycle services.

## Nuclear regulation/nuclear safety —



### Collective Statement on the Role of Research in a Nuclear Regulatory Context

16 pages – Free: paper or web versions.



## Occupational Exposures at Nuclear Power Plants

Tenth Annual Report of the ISOE Programme, 2000

*ISBN 92-64-18473-2 – 104 pages – Free: paper or web versions.*

The ISOE Programme was created by the OECD Nuclear Energy Agency in 1992 to promote and co-ordinate international co-operative undertakings in the area of worker protection at nuclear power plants. The programme provides experts in occupational radiation protection with a forum for communication and exchange of experience. The ISOE databases enable the analysis of occupational exposure data from the 452 commercial nuclear power plants participating in the programme (representing some 90 per cent of the world's total operating commercial reactors). The Tenth Annual Report of the ISOE Programme summarises achievements made during 2000 and compares annual occupational exposure data. Principal developments in ISOE participating countries are also described.



## Policy Issues in Radiological Protection Decision Making

Summary of the 2<sup>nd</sup> Villigen (Switzerland) Workshop, January 2001

*ISBN 92-64-18474-0 – 28 pages – Free: paper or web versions.*

The societal aspects of risk governance are increasingly becoming a part of public decision-making processes. This tendency is particularly evident in matters dealing with the protection of human health and the environment. The NEA Committee on Radiation Protection and Public Health (CRPPH) organised a workshop to probe stakeholder involvement processes and their limitations in the field of radiation protection. An example of an area in which stakeholder involvement is particularly important is the clean-up of sites contaminated by accidents or by past industrial or research activities. Based on discussions during the workshop and previous CRPPH work in this area, this summary addresses the policy development and implementation issues that are key to identifying broadly accepted solutions for radiological protection situations in which stakeholders are an important part of the decision-making process. Applicable in a wide variety of national contexts, enhanced understanding of these policy issues will assist governments and regulatory authorities in better integrating stakeholder concerns in decision making.



## Second International Nuclear Emergency Exercise INEX 2

Final Report of the Canadian Regional Exercise

*Bilingual – ISBN 92-64-09532-2 – 80 pages – Price: € 23, US\$ 21, £ 14, ¥ 2 300.*

The Nuclear Energy Agency (NEA) initiated its programme of International Nuclear Emergency Exercises (INEX) by a table-top exercise (INEX 1) which allowed the 16 participating countries to examine how their response mechanisms addressed the international aspects of a large-scale nuclear emergency. Based on the experience thus gained, a series of more realistic exercises, INEX 2, was organised by the NEA. These exercises used as a basis a national-level emergency exercise at an existing power plant, and aimed to achieve three international objectives: the real-time exchange of information, public information and decision making based on limited information and uncertain plant conditions. This report summarises the experience gained and lessons learned during the fourth and final INEX 2 regional exercise which took place in Canada.



## Reversibility and Retrievability in Geologic Disposal of Radioactive Waste

Reflections at the International Level

*ISBN 92-64-18471-6 – 52 pages – Free: paper or web versions.*

Reversibility of decisions is an important consideration in the stepwise decision-making process that is foreseen for engineered geologic disposal of radioactive waste. The implications of favouring retrievability of the waste within disposal strategies and the methods to implement it are also being considered by NEA Member countries. This report reviews the concepts of reversibility and retrievability as they may apply to the planning and development of engineered geologic repositories. The concepts span technical, policy and ethical issues, and it is important that a broad understanding is developed of their value and implications. Furthermore, improved comprehension and communication of these issues will clarify the value of flexible, stepwise decision making in repository development programmes and may help to generate a climate conducive to the further progress of such programmes.



## The Role of Underground Laboratories in Nuclear Waste Disposal Programmes

*ISBN 92-64-18472-4 – 48 pages – Free: paper or web versions.*

Underground research laboratories (URLs) are essential to provide the scientific and technical information and practical experience that are needed for the design and construction of nuclear waste disposal facilities, as well as for the development of the safety case that must be presented at various stages of repository development. This report provides an overview of the purpose of URLs within repository development programmes; the range of URLs that have been developed, or are planned, in NEA Member countries to date; the various contributions that such facilities can make to repository development programmes and the development of a safety case; considerations on the timing of developing a URL within a national programme; and the opportunities and benefits of international co-operation in relation to URLs.



## Scenario Development Methods and Practices

An Evaluation Based on the NEA Workshop on Scenario Development, Madrid, Spain, May 1999

*ISBN 92-64-18722-7 – 244 pages – Price: € 65, US\$ 58, £ 40, ¥ 6 550.*

Analysis of the long-term safety of radioactive waste repositories, using performance assessment and other tools, is required prior to implementation. The initial stage in developing a repository safety assessment is the identification of all factors that may be relevant to the long-term safety of the repository and their combination to form scenarios. This must be done in a systematic and transparent way in order to assure the regulatory authorities that nothing important has been forgotten. This report is a review of developments in scenario methodologies based on a large body of practical experience in safety assessments. It will be of interest to radioactive waste management experts as well as to other specialists involved in the development of scenario methodologies.

## Nuclear law

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### Nuclear Law Bulletin

No. 67 + Supplement (Volume 2001/1)

*2001 Subscription (2 issues + supplements) – ISSN 0304-341X – Price: € 71, US\$ 80, £ 48, ¥ 9 550.*

*Single issues on sale on request – ISBN 92-64-19109-7 – 86 pages – Price: € 43, US\$ 50, £ 29, ¥ 5 750.*

Considered to be the standard reference work for both professionals and academics in the field of nuclear law, the *Nuclear Law Bulletin* is a unique international publication providing its subscribers with up-to-date information on all major developments falling within the domain of nuclear law. Published twice a year in both English and French, it covers legislative developments in almost 60 countries around the world as well as reporting on relevant jurisprudence and administrative decisions, bilateral and international agreements and regulatory activities of international organisations.

## Nuclear science and the Data Bank

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### Boiling Water Reactor Turbine Trip (TT) Benchmark

Volume I: Final Specifications

*ISBN 92-64-18470-8 – 96 pages – Free: paper or web versions.*

In the field of coupled neutronics/thermal-hydraulics computation there is a need to enhance scientific knowledge in order to develop advanced modelling techniques for new nuclear technologies and concepts, as well as for current nuclear applications. Recently developed “best-estimate” computer code systems for modelling 3-D coupled neutronics/thermal-hydraulics transients in nuclear cores and for the coupling of core phenomena and system dynamics (PWR, BWR, VVER) need to be compared against each other and validated against results from experiments. International benchmark studies have been set up for the purpose. The present volume describes the specification of such a benchmark. The transient addressed is a turbine trip (TT) in a BWR involving pressurisation events in which the coupling between core phenomena and system dynamics plays an important role. In addition, the data made available from experiments carried out at the plant make the present benchmark very valuable. The data used are from events at the Peach Bottom 2 reactor (a GE-designed BWR/4).



### Forsmark 1 & 2 Boiling Water Reactor Stability Benchmark

Time Series Analysis Methods for Oscillations During BWR Operation: Final Report

*ISBN 92-64-18469-4 – 152 pages – Free: paper or web versions.*

Events involving unnoticed power oscillations have occurred at different boiling water reactors (BWRs) in the past, and have led to the implementation of interim corrective actions to avoid their repetition. Despite these measures, power oscillations continue to occur. In response to this situation, a great deal of research and analytical activities have been undertaken to improve the knowledge of the underlying phenomenology, and to define final solutions to handle this type of event. An OECD/NEA expert group has carried out studies in which the predictive capability of the codes and models for stability analysis are compared. This report provides the results of a specific study investigating the possibility of determining the main stability parameters from the neutronic signals time series with sufficient reliability and accuracy. It is based on a series of six complex cases derived from measurements carried out at the Forsmark nuclear power plant in Sweden.



## International Evaluation Co-operation

Volume 10 – Evaluation Method of Inelastic Scattering Cross-sections for Weakly Absorbing Fission-product Nuclides

100 pages – Free: paper or web versions.



## Utilisation and Reliability of High Power Proton Accelerators

Workshop Proceedings, Aix-en-Provence, France, 22-24 November 1999

ISBN 92-64-18749-9 – 476 pages – Price: € 130, US\$ 116, £ 80, ¥ 13 100.

High power proton accelerators are being studied for their potential use in the transmutation of nuclear waste. The Second Workshop on Utilisation and Reliability of High Power Proton Accelerators, organised by the NEA Nuclear Science Committee, placed special emphasis on accelerator-driven system (ADS) concepts comprising a sub-critical reactor coupled with a high power accelerator. The information provided in these proceedings will primarily be of interest to scientists working on accelerator-driven systems, but also to those involved in the construction of high power accelerators.



## International Handbook of Evaluated Criticality Safety Benchmark Experiments

A Project by the NEA Nuclear Science Committee

CD-ROM – Free on request.



## International Nuclear Data Evaluation Co-operation

Complete Collection of Published Reports as of October 2001

CD-ROM – Free on request.



## JANIS

A New Java-based Nuclear Data Display Program

CD-ROM – Free on request.



## JEFF Reports

Complete Collection of JEFF Reports, Numbers 1-18

CD-ROM – Free on request.



## NEA Nuclear Model and Code Comparisons

Complete Collection of the Reports, 1982-1998

CD-ROM – Free on request.