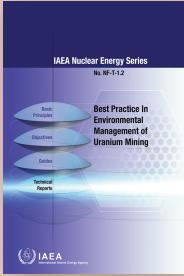


Forthcoming



Best Practice in Environmental Management of Uranium Mining

IAEA Nuclear Energy Series No. NF-T-1.2

This publication has been written to assist Member States in the development of their uranium mineral resources. It sets out the basic tenets of what are considered to be the best practices in terms of environmental management for uranium mining and processing operations from the viewpoint of both operators and regulators, and is accompanied by a collection of case studies from leading representatives in the global mining industry.

(Forthcoming 2010) • ISBN 978-92-0-105909-3 • STI/PUB/1406 • €35.00

Establishment of Uranium Mining and Processing Operations in the Context of Sustainable Development

IAEA Nuclear Energy Series No. NF-T-1.1

This publication provides guidance to Member States in the debate surrounding sustainable development in the uranium mining industry. It outlines the criteria necessary for sustainable development, analyses social and economic factors and refers to the role of governance in resolving conflicting demands. The publication includes a chapter with case studies, which provides stakeholders with practical information and historical examples of experience gained from introducing uranium mining and processing operations to an area and the subsequent effects of mine closure.

(68 pp., 7 figs; 2009) • ISBN 978-92-0-104409-9 • STI/PUB/1401 • €30.00

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Evaluated Nuclear Data for Nuclides within the Thorium-Uranium Fuel Cycle

The thorium based nuclear fuel cycle offers many advantages with respect to safety, reduced proliferation risk and waste management. Unfortunately, due to the relatively low interest in thorium fuel cycle in the past, the quality of nuclear data for the relevant material is lower than for the comparable materials in uranium or mixed oxide (plutonium) fuel cycle. This publication presents the results of a coordinated research project aiming to improve the database of experimentally measured nuclear data of nuclides appearing in the thorium-uranium fuel cycle. It includes complex and comprehensive data files with a broad consensus on quality and validated performance based on benchmark test cases.

(Forthcoming 2010) • ISBN 978-92-0-101010-0 • STI/PUB/1435 • €29.00

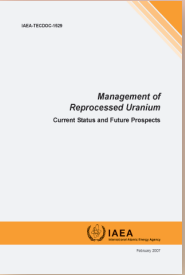
Good Practices for Qualification of High Density Low Enriched Uranium Research Reactor Fuels

IAEA Nuclear Energy Series No. NF-T-5.2

The conversion of research and test reactors from the use of fuel containing highly enriched uranium (HEU) to fuel that employs low-enriched uranium (LEU) has become an important issue in many Member States. The IAEA has supported several projects and activities assisting in the reduction of the use of HEU. However, no comprehensive publication addressing the rationale of qualification of these fuels had yet been available. Developed in order to meet this need, the present publication provides good practices and points of reference for the type, quality and completeness of the information to be generated in order to ensure acceptable performance of high density LEU fuels to be used in research reactors. Furthermore, it elaborates on the development and qualification of high density fuels of the type used in most research and test reactors and

assesses the different approaches to the qualification process.

(74 pp., 8 figs; 2009) • ISBN 978-92-0-104309-2 • STI/PUB/1400 • €20.00



Management of Reprocessed Uranium

Current Status and Future Prospects

IAEA TECDOC Series No. 1529

There is worldwide interest in developing advanced and innovative technologies for nuclear fuel cycles, minimizing waste and environmental impacts. As of the beginning of 2003, about 171000 tonnes of heavy metal spent nuclear fuel was in storage, while smaller amounts have been reprocessed. In several countries, including France, India, Japan and the Russian Federation, spent fuel has been viewed as a national energy resource. Some countries hold reprocessed uranium as a result of their commercial reprocessing service contracts for reprocessing the spent fuel of others. Reprocessed uranium has a potential value for recycling either directly or after appropriate treatment. This report analyses the existing options, approaches and developments in the management of reprocessed uranium. It encompasses the technical issues involved in managing reprocessed uranium, such as RepU arisings, storage, chemical conversion, re-enrichment, fuel fabrication, reactor irradiation, subsequent reprocessing and disposal options.

(2007) • ISBN 92-0-114506-3 • IAEA-TECDOC-1529 • €15.00

CD Edition (2007) • ISBN 92-0-114606-X • IAEA-TECDOC-CD-1529 • €15.00

Forthcoming

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.

Contents: 1. Introduction; 2. General safety recommendations; 3. Site evaluation; 4. Design; 5. Construction; 6. Commissioning; 7. Operation; 8. Decommissioning; Annexes.

(Forthcoming 2010) • ISBN 978-92-0-104809-7 • STI/PUB/1404 • €28.00

Forthcoming

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 (MFFFs) 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, 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.

Contents: 1. Introduction; 2. General safety recommendations; 3. Site evaluation; 4. Design; 5. Construction; 6. Commissioning; 7. Operation; 8. Decommissioning; Annexes.

(Forthcoming 2010) • ISBN 978-92-0-104709-0 • STI/PUB/1403 • €27.00

Forthcoming

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 (UFFFs) 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 UFFFs.

Contents: 1. Introduction; 2. General safety recommendations; 3. Site evaluation; 4. Design; 5. Construction; 6. Commissioning; 7. Operation; 8. Decommissioning; Annexes.

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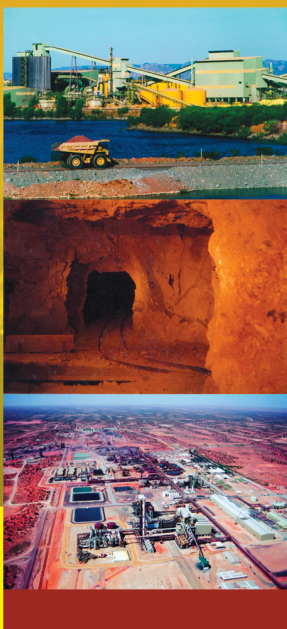
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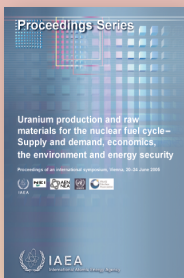
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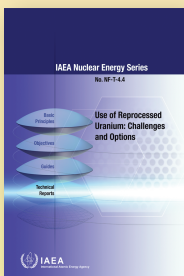
Uranium Production and Raw Materials for the Nuclear Fuel Cycle — Supply and Demand, Economics, the Environment and Energy Security

***Proceedings of an International
Symposium held in Vienna, 20–24
June 2005***

The IAEA periodically organizes technical meetings and international symposia on all areas of the uranium production cycle. This publication contains the papers and associated material presented at the 2005 international symposium on "Uranium Production and Raw Materials for the Nuclear Fuel Cycle — Supply and Demand, Economics, the Environment and Energy Security". The topic areas include uranium supply and demand; uranium geology and deposits; uranium exploration; uranium mining and milling; waste management; and environmental issues and regulation.

**(349 pp., 117 figs; 2006) • ISBN 92-0-107206-6 •
STI/PUB/1259 • €40.00**

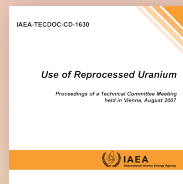
**CD Edition (2006) • ISBN 92-0-110106-6 •
STI/PUB/1259 • €40.00**



Use of Reprocessed Uranium: Challenges and Options

**IAEA Nuclear Energy Series No.
NF-T-4.4**

The issue of recycling and reuse of valuable fuel material is important in the context of sustainable growth of nuclear energy. Recognizing the importance of this subject, this publication reviews and summarizes the information on the management of reprocessed uranium (RepU). It covers technical and economic issues involved in storing, handling and reusing RepU for nuclear energy generation. Hence, it will be of significance to many Member States and will serve as practical handbook for nuclear power



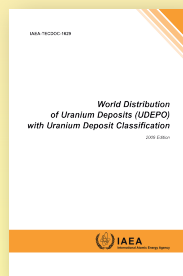
Use of Reprocessed Uranium

***Proceedings of a Technical
Meeting held in Vienna, 29-31
August 2007***

IAEA TECDOC Series No. 1630

Reprocessed uranium (RepU), the uranium recovered from nuclear processing, is produced by several Member States in their facilities or through commercial contracts. From a sustainable development perspective, recycling of this uranium has become an attractive option for improving the efficiency of natural resource management and reducing radioactive waste accumulation. This publication demonstrates that reprocessing of spent fuel could form a key part of advanced fuel methodologies and describes various reuse options of RepU. In particular, it includes detailed review papers on management, storage, packaging and transport of RepU, reprocessing, utility experience and potential use of RepU. The importance of market aspects, economics and long-term perspectives is also addressed.

**CD Edition (2009) • ISBN 978-92-0-157109-0 •
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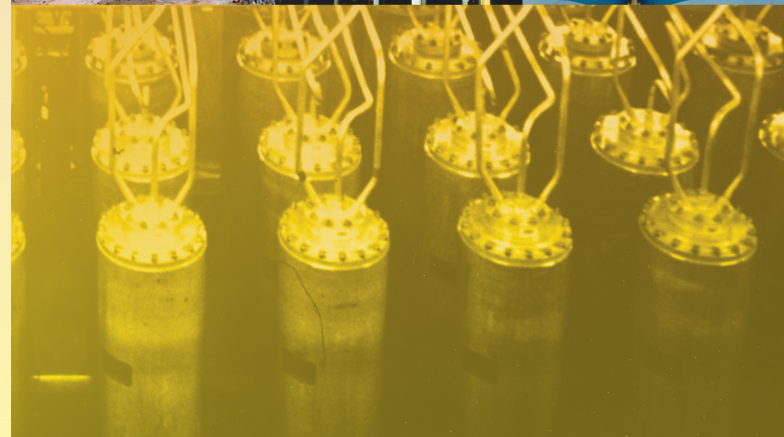
World Distribution of Uranium Deposits (UDEPO), with Uranium Deposit Classification, 2009 Edition

IAEA TECDOC Series No. 1629

The World Distribution of Uranium Deposits (UDEPO) is a database on technical, geographical and geological characteristics of worldwide uranium deposits. Its purpose is to provide reliable and up-to-date information on the uranium deposits in the world. The UDEPO

contains information on location of the deposits, the amount of uranium and average uranium grade in the deposits, geological type of the deposits, status of the deposits, operating organizations (in case the deposit is being mined) and other technical and geological details about the deposits. It covers not only operational mines but also depleted or dormant deposits in order to provide an overview of past operations and future possibilities in addition to the existing uranium production information. This publication, with attached CD-ROM, is a snapshot of the database as of the end of 2008.

(2009) • ISBN 978-92-0-110509-7 • IAEA-TECDOC-1629 • €15.00



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