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Presentation of the German Report for the Second Review Meeting

Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management
Second Review Meeting
May 17th 2006

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Nature Conservation and Nuclear Safety
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Results of the General Elections in September 2005

- According to the Coalition Agreement of 11 November 2005 between the Christian Democratic Union, the Social Democratic Party and the Christian Social Union, the German Atomic Energy Act of 2002, regulating the phase-out of the use of nuclear energy cannot be changed
- The Coalition acknowledge the responsibility to ensure the safe disposal of radioactive waste and will tackle this issue in a speedy and result-oriented manner

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Inventory of Radioactive Waste

Type of waste December, 31th, 2004	With negligible heat generation [m^3]	Heat-generating (without spent fuel) [m^3]
Untreated waste (raw waste with residues yet to be recycled)	29,773	56
Interim products	7,902 (2001: 4,675)	
Conditioned waste	82,645	1,743
Disposed waste in Morsleben repository and research mine Asse	83,753	

Zwischenlager Nord

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Inventory of Spent Fuel

Annual unloading per reactor	~ 15 to 30 tHM/a
Total annual production in Germany	~ 400 tHM/a
Produced by end 2005	11,810 tHM
Storage (December 2005)	5,140 tHM
Expected quantity produced by the year 2025	~ 17,200 tHM

NPP Obrigheim

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Reducing Transportation

- Since July 1th, 2005 the transport of spent fuel to reprocessing plants has been prohibited by law
- In line with the spent fuel management concept, spent fuel is stored on site at the nuclear power plants
- Transport of waste from reprocessing plants are limited

Interim Storage Facility Emsland

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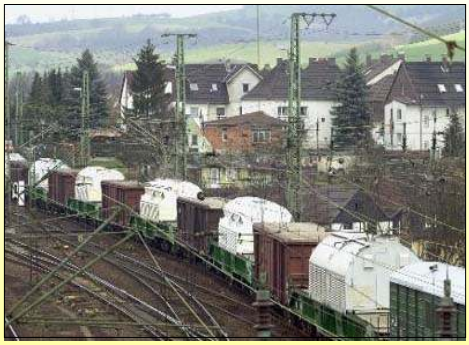
Reprocessing of Spent Fuel

- About 40 t Plutonium results from reprocessing of spent fuel
- All mixed-oxide fuel should be irradiated in NPP
- About 28 t Plutonium (70 %) is used recently in NPP
- Throughout the remaining residual operating lives of the NPP, all plutonium will be processed in the fabrication of mixed-oxide fuel assemblies and irradiated



Radioactive Waste from Reprocessing

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Interim Storage Facilities

- storage facilities are in operation or under construction at all sites
- storage license for 40 years beginning with the storage of the first container
- all interim storage facilities will be in operation beginning of 2007 at latest
- all spent fuel resulting from the remaining operational live of the plants can be stored

Interim Storage Facility Emsland

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Decommissioning of Nuclear Facilities

- Decommissioning of 12 nuclear power plants
- Decommissioning of five prototype reactors; release of 2 prototype reactors from regulatory control
- Decommissioning of 12 research reactors; release of 21 research reactors from regulatory control
- Decommissioning of 4 nuclear facilities; release of 5 facilities from regulatory control

View of the THTR-300, which currently is in safe enclosure

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Decommissioning of Nuclear Power Plants

View of the NPP Würgassen during operation

Artists view after completion of the dismantling

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Clearance

Clearance

- based on the 10 µSv concept
- annual collective dose from entire clearance operations in Germany checked against 1 person-Sv criterion

Clearance levels

- available for various clearance options
- derived from radiological analyses taking account of all relevant characteristics of particular clearance option

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Remediation of Wismut GmbH

- About 231,000 t Uranium were mined between 1946 and 1990
- Total costs 6.2 billion € for remediation of the former uranium mining and milling facilities until 2015
- About 4.6 billion € already used up to the end of 2005
- 2/3 of the remediation activities have already been completed
- Residues from the Wismut activities are generally not classified as radioactive waste in the sense of Germany‘s laws

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National Waste Management Plan

- In December 2001, the Bundestag ordered the Federal Ministry for the Environment, Nature Conversation and Nuclear Safety to present to it a „National Waste Management Plan“.
- The Plan is to be updated at the end of each further legislative period.
- It is intended to present the Plan by the end of the current 16th legislative period 2009 at the latest.
- The data base for the Plan is a comprehensive inventory of all kinds of radioactive residues and waste and includes spent nuclear fuel.
- A timetable associated with the steps on the way to the disposal of all kinds of radioactive waste is part of the Plan
- The Länder and further stakeholders are involved in the preparation of the Plan

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Disposal of Waste

- Germany remains committed to its national responsibility. All radioactive waste arising in Germany or which has to be returned to Germany will be disposed of in Germany.
- The primacy of safety established in nuclear technology also applies to the disposal of radioactive waste. Safety has priority over all other aspects.
- Transparency and comprehensibility have to be ensured.

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Facts about the Konrad Repository

- History	Abandoned iron ore mine
- Location	near Salzgitter, Federal State of Lower Saxony, Northern Germany
- Host rock	Coral Oolite
- Emplacement depth	800 m to 1,300 m
- Type of waste	Radioactive waste with negligible heat generation (i.e., LLW and ILW)
- Volume of waste packages	303,000 m³
- Total alpha emitter activity	$1.5 \cdot 10^{17}$ Bq
- Total beta/gamma emitter activity	$5.0 \cdot 10^{18}$ Bq
- Licensing procedure	August 31, 1982 to May 22, 2002

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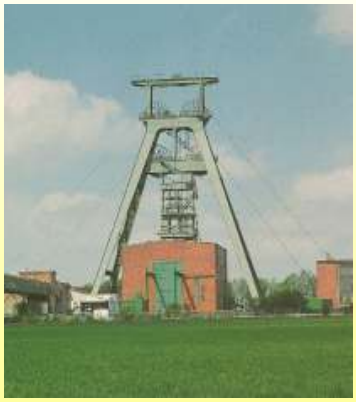
Repository Konrad

- Plan Approval in 2002 as a repository for the disposal of 303,000 m^3 of radioactive waste with negligible heat generation
- Decision of the Higher Administrative Court on 8th March 2006 to refuse the actions against the repository. The decision of the court is not unappealable yet.



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Repository Project Gorleben

- The exploration of the Gorleben salt dome was stopped for at least three but no longer than ten years to resolve safety-related and conceptual issues.
- The analysis of the safety-related issues came to the conclusion, that no clear advantages are discernible for any particular host rock type.

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Repository Morsleben and Research Mine Asse

- The plan approval procedure for the closure – according to the Atomic Energy Act – of the repository Morsleben is in preparation
- The closure of the research mine Asse according to the Mining Act is in preparation
- Irrespective of the different legal bases – mining law and atomic law – an equivalent and equally high level of safety is to be achieved for the two facilities in connection with their closure.

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Summary

- Summary of the essential boundary conditions for the safe and environmentally sound management of radioactive waste and spent fuel
- Issues concerning the disposal of all kinds of radioactive waste and spent fuel will have to remain open.

Thank you very much for your attention.