



International Atomic Energy Agency

**CS on Development of a Specification
of a Small Cask for Spent Fuel Sample
Transportation between Hot
Laboratories**

4-6 May, 2010

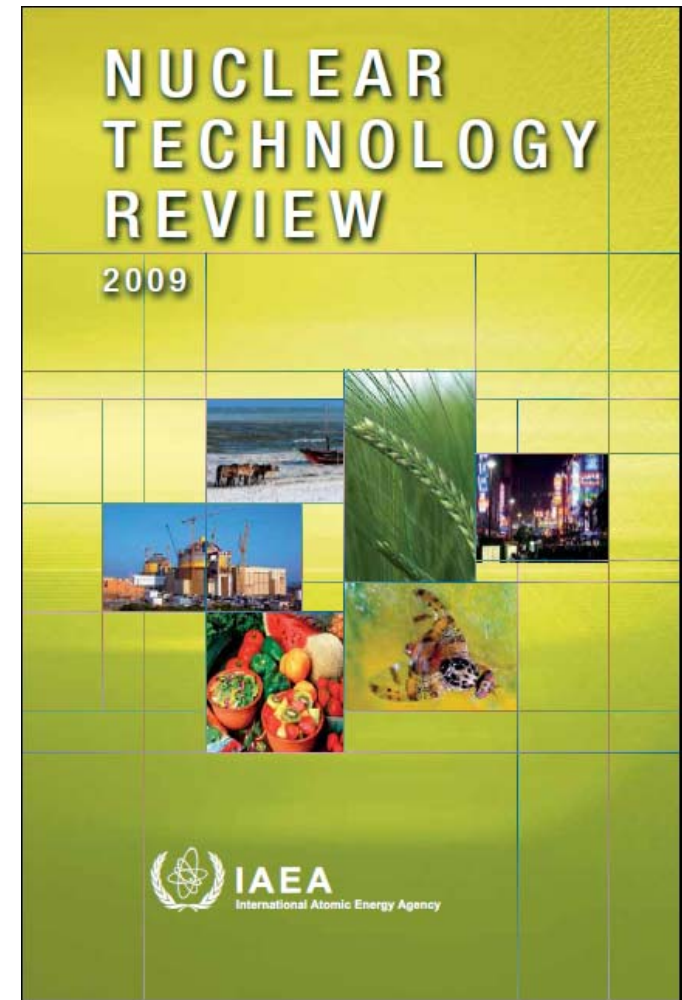
Opening remarks by

Hans Forsström, Director

Division of Nuclear Fuel Cycle & Waste Technology

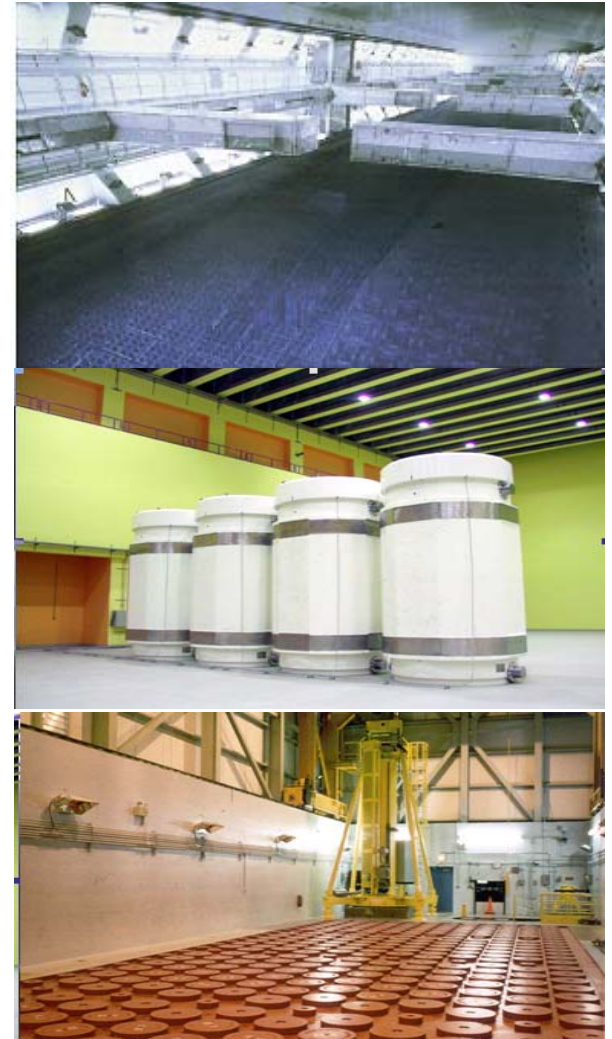
Trends

- **Rising expectations of increased use of nuclear energy – new countries**
- **Increasing interest for recycling in a longer time perspective**
 - Challenges in developing fast reactors
- **Slow developments in disposal**
- **More fuel will be stored and for longer times**
 - About 10 000 t (HM)/a spent fuel are discharged worldwide;
 - Good experience to date with storage technologies – flexible “buffer” pending decisions on next steps



Challenges - Spent Fuel Management

- Strategy for spent fuel management – Resource or waste;
- Long term storage becoming a progressive reality...storage durations up to 100 years and even beyond possible;
- Use of MOX and higher burnup lead to higher decay heat levels and more brittle fuel;
- License extensions for existing facilities;
- Storage to transport issues;
- Preservation of information, expertise and knowledge.



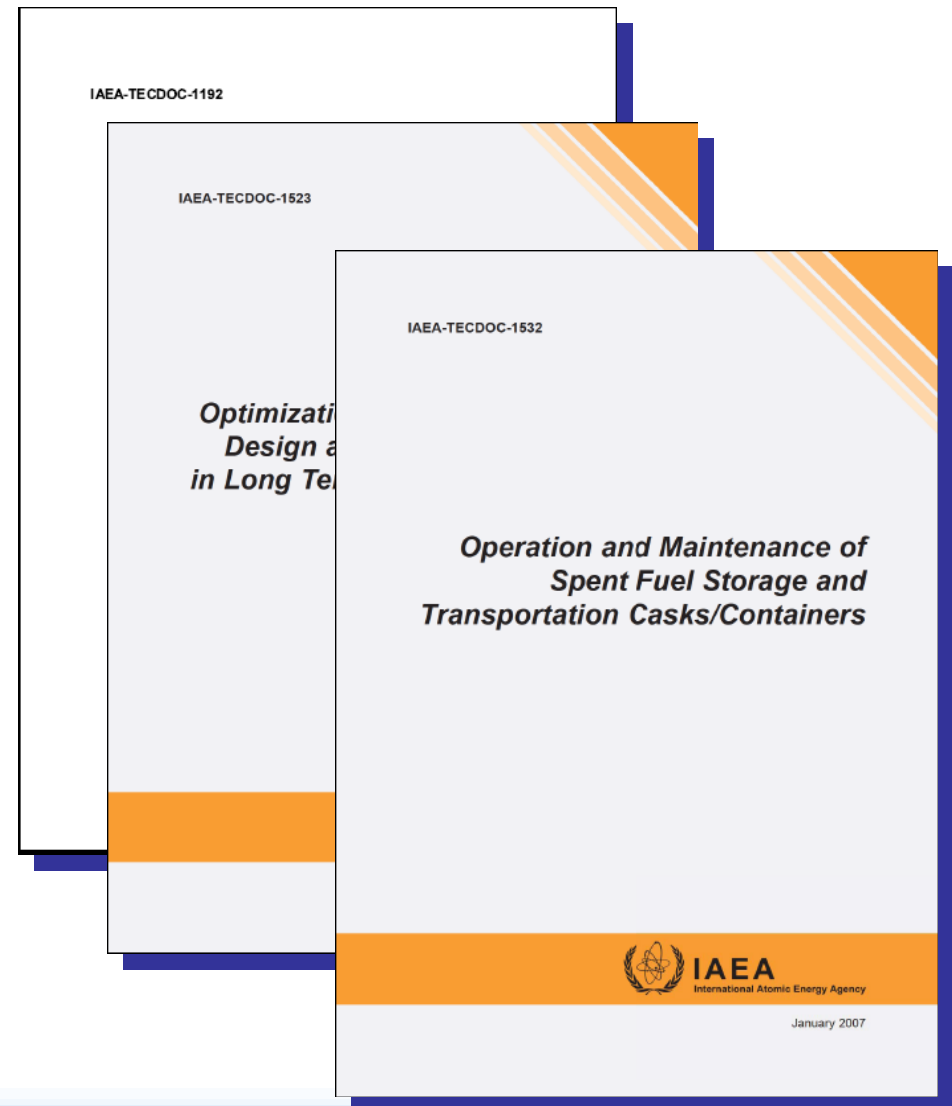
IAEA Activities on Spent Fuel Management

- International Conference on Spent Fuel Management (May 31-Jun 4, 2010, Vienna)
- Spent fuel performance assessment and research (SPAR-III)
- Influence of high burnup and MOX fuel on storage design
- Burnup credit application
- Regional spent fuel storage
- Spent fuel treatment options
- Design and operation of storage casks/facility



Agency's Work on Cask Development

- **NEFW's work on cask development**
 - Multi-purpose container technologies for spent fuel management (TECDOC-1192, 2000)
 - Operation and Maintenance of Spent Fuel Storage and Transportation Casks/Containers (TECDOC-1523, 2006)
 - Operation and Maintenance of Spent Fuel Storage and Transportation Casks/Containers (TECDOC-1532, 2007)



Role of IAEA in innovation

53^d IAEA General Conference, Vienna, 14-18 Sep 2009

- Encourage and assist R&D and practical application of atomic energy
- Support international initiatives and their joint R&D
- Promote the exchange of relevant technical information among interested member states
- Identify and explore innovative institutional and infrastructural solutions
- Coordinate and strengthen research activities among member states



IAEA activities on innovative systems

- Technical Working Groups on
 - Fast Reactors
 - Gas Cooled Reactors
 - Small and Medium Sized Reactors
 - Nuclear Fuel Cycle Options
 - Fuel Engineering and Performance
- INPRO system studies and specific collaborative projects
- Fuel design, manufacturing and performance
- Increasing proliferation resistance

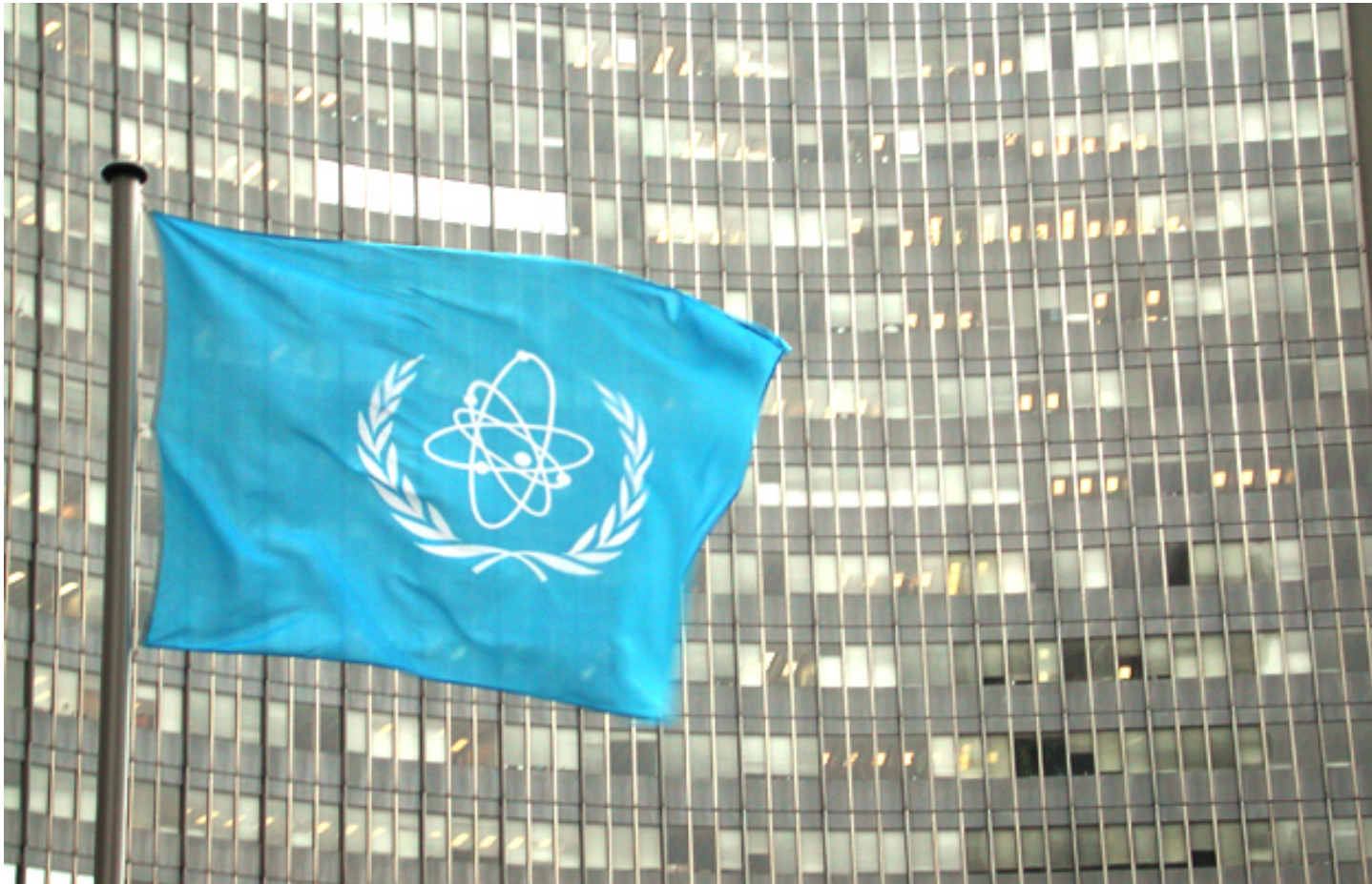
Fuel and material behaviour and understanding - key question in all activities

Consultancy Meeting

- **Background**
 - The necessity of transporting small quantities of radioactive samples for research purposes increases with the increased advanced fuel and materials research.
 - Because of the current unavailability of a small and inexpensive transport cask for such activities, the price of these transports often becomes prohibitive and programs are cancelled due to this.
 - **International HOTLAB Working Group have asked IAEA to coordinate a consultancy meeting to develop a specification of a small transport cask**
 - **IAEA has competence in safety and technology**
- **Expected outcomes**
 - Draft specification of a small cask
 - Action Plan



Thank you for your attention



...atoms for peace.