

Session 5 Safety and licensing of spent fuel storage and transportation

In this session, countries presented their arrangements for licensing and regulating spent fuel storage facilities. On the basis of the experience gained and lessons learned, improvements in safety guidance have been developed. Some research and assessment work related to the behaviour of spent fuel in storage and in transport was also presented and the IAEA provided an update on its safety standards for the storage of spent fuel.

There is a growing awareness that the storage and transport of spent fuel are linked because each stage in spent fuel management, whether it is related to open or closed fuel cycles, involves transport. The different timescales for transport and storage licensing have to be accommodated in regulations (short transport licence validity, usually less than a decade versus storage licences valid for several decades). To address the interface issues between storage and transport, a holistic approach to regulation is needed.

Casks were initially considered for transport only. The 'dual purpose' cask is now a well-established technology for storage.

Regulators are increasingly interested in obtaining information on spent fuel ageing for safety case development related to extended storage periods and also for transportation; those responsible for spent fuel management are starting to address these issues.

The evidence required by regulators to support proposed extended storage periods (>100years) is likely to be in the form of data from accelerated tests plus evidence from the monitoring of structures.

Globally, there is extensive experience of a variety of different types of spent fuel storage technology. However, access to operational experience is rather limited and it would be useful to be able to share the information between countries having the same storage systems.