



IAEA

Atoms for Peace: The First Half Century

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International Workshop

Demonstrating the Safety and Licensing of Radioactive Waste Disposal

A supporting event to the International Conference on Effective Nuclear Regulatory Systems: Further Enhancing the Global Nuclear Safety and Security Regime from 14-18 December 2009



**Cape Town, South Africa
14 December 2009**

BACKGROUND

The IAEA will convene the International Conference on Effective Nuclear Regulatory Systems: *Further Enhancing the Global Nuclear Safety and Security Regime* from 14 to 18 December in Cape Town, South Africa. The conference sessions commence on 15 December and will encompass the regulatory system for all facilities and activities. In view of current developments in radioactive waste disposal, including spent fuel which has been declared as waste, it has been decided to convene on 14 December an International Workshop: *Demonstrating the Safety and Licensing of Radioactive Waste Disposal*, as a supporting event to the international conference.

A revised and consolidated international Safety Requirements standard for radioactive waste disposal has been developed over the past three years and its approval and adoption is anticipated for the second half of 2009. The standard covers disposal in near surface facilities of all types, including those for very low level waste and mining and minerals processing waste, to disposal at depth; from tens to hundreds of metres, for intermediate and high level waste. At the same time a supporting Safety Guide is under development within the safety standards series addressing the safety case and supporting safety assessment for radioactive waste disposal.

A particular issue that has given rise to considerable deliberation during the development of the standards is the status of facilities beyond the end of their operational lifetime. Proposals have been formulated to clarify and address aspects such as longer term institutional control, the end of the licensing process and the consideration of human intrusion for near surface facilities. Use has been made of the recent recommendations of the ICRP in their publication 103.

In addition to developments with the international safety standards a number of countries are currently moving towards the licensing of geological disposal facilities. This has led to a realization of the potential benefits of having an internationally harmonized approach to the licensing process. Within the European region an initiative has been underway for some time on this harmonization process and at the international level the IAEA and the OECD NEA

both have projects underway namely the GEOSAF and IGSC projects.

These harmonization projects are addressing the long term nature of the projects and the need for step by step processes with the concurrent need for decisions to be made for moving from one step the next. Such decisions have to be made with some elements of uncertainty, which reduce as the process of site investigation and facility development evolves. Key issues are the structure and content of the safety case and its evolution over the project lifetime, the approach to supporting safety assessment and the safety criteria for assessing long term post closure safety.

The workshop will deal with both the safety standards and geological disposal in two sessions, with a view to identifying the regulatory implications for consideration at the subsequent international conference.

OBJECTIVE

The specific objectives of the workshop are (i) to create awareness of the developments taking place in the international safety standards for radioactive waste disposal and the international work aimed at harmonization of approaches to demonstrating the safety of geological disposal, and (ii) to identify the related implications for the licensing process. It is intended that the findings from the workshop will be reported and discussed at the International Conference *Effective Nuclear Regulatory Systems: Further Enhancing the Global Nuclear Safety and Security Regime*, which will take place immediately following the workshop.

SCOPE OF THE WORKSHOP

The main topics to be covered will be the developments that have taken place in the international safety standards for radioactive waste disposal and the international work on harmonization of approaches to demonstrating the safety of geological disposal and the implications for the licensing process.

AUDIENCE

The target audience is government and industry representative: policy makers, regulators and facility operators, and their technical experts. The workshop is