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THE NUCLEAR ENERGY AGENCY TAKES STOCK OF PROGRESS TOWARDS GEOLOGICAL DISPOSAL OF RADIOACTIVE WASTE

The OECD Nuclear Energy Agency (NEA) announces the publication of two new reports offering an international expert assessment of developments in the field of deep geologic disposal of radioactive waste over the past decade, and emphasising technical and societal aspects of confidence building in the safety case for such repositories.

Progress Towards Geologic Disposal of Radioactive Waste: Where Do We Stand? ()*

Radioactive wastes of all kinds need to be managed responsibly to ensure public safety and protection of the environment, as well as security from malicious intervention, now and in the future. The most challenging task involves management of the long-lived waste that must be isolated from the human environment for many thousands of years. The preferred option for eventual disposal is emplacement in repositories deep underground in well-chosen geologic media.

Since the geologic disposal concept was proposed, research and development efforts world-wide have increased understanding of how underground disposal facilities will function over very long periods of time, and have enhanced confidence in the ultimate safety of the concept. While significant progress has been made towards development of these facilities, there have also been delays and setbacks primarily due to failure of the waste management experts and institutions to win sufficient public or political support. In recent years, as the concept itself is nearing implementation in several countries, support is being voiced in some quarters for postponement of disposal and for more review of alternative waste management options. On the other hand, reflections in international groups of experts have repeatedly confirmed the conviction that geologic disposal is ethical, environmentally sound and safe, and other management options are, at most, complementary to geologic disposal rather than complete, long-term alternatives.

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This booklet, which draws on information and views collected from radioactive waste management experts from NEA Member countries, should be of interest to decision-makers with responsibilities encompassing radioactive waste management as well as to interested individuals and groups.

Confidence in the Long-Term Safety of Deep Geological Repositories (**)

Confidence in the long-term safety of deep geological disposal, and the ways in which this confidence can be obtained and communicated, are topics of great importance to the radioactive waste management community.

The technical aspects of confidence have been the subject of considerable debate, especially the concept of model validation. Development of a repository proceeds in stages, and the depth of understanding and technical information available to support decisions will vary from stage to stage. Decision making requires only that a description of the possible evolutions of the system has been compiled that gives adequate confidence in safety to support the decision at hand, and that an efficient strategy exists to deal at future stages with any uncertainties in the description which have the potential to compromise safety. Furthermore, flexibility within the process of repository development should allow for new understanding and technical information, as well as for the demands of societal review to be taken into account.

A viable repository project depends on confidence in long-term safety on the part not only of technical specialists in implementing and regulatory organisations and in the wider scientific community, but also of political decision-makers and the general public. This wider audience is also concerned with non-technical issues affecting the decisions related to repository development. Interaction with a wider audience on issues relevant to long-term safety is addressed in the report. Non-technical issues are identified, but not elaborated on in detail.

This report is aimed at practitioners of safety assessment and at technical specialists wishing to become versed in the subject. It is intended to improve communication among these specialists by clarifying the concepts related to the development of confidence, and by placing the various measures that are employed to evaluate, enhance and communicate confidence in the technical aspects of safety in clear and logical framework.

 (*) ***PROGRESS TOWARDS GEOLOGICAL DISPOSAL OF RADIOACTIVE WASTE: WHERE DO WE STAND? An International Assessment.***
 OECD, Paris, 1999 - 27 pages - Free on request.

(**) ***CONFIDENCE IN THE LONG-TERM SAFETY OF DEEP GEOLOGICAL REPOSITORIES Its Development and Communication.***
 OECD, Paris, 1999 - 80 pages - English only - Free on request.

Please quote title and reference in any review.

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