



An Initial Safety Case for disposal of Dutch radioactive waste

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The Netherlands has a policy of interim storage of radioactive waste for a period of at least 100 years prior to deep geological disposal. Although the reference date for implementation lies relatively far into the future, continuing research is required to explore possible options, to learn from the development of geological disposal programmes in other countries, to resolve outstanding scientific, technical and societal issues, and to develop progressively the disposal project for Dutch waste. It will be necessary to develop and preserve the expertise and knowledge for such a project over more than a century. Furthermore, decisions and actions taken throughout the sequential steps in radioactive waste management are closely interrelated. Accordingly, the technologies used today for collection and treatment of radioactive waste need to take account of the possible characteristics of the future Geological Disposal Facility (GDF) in order to ensure the wastes will be acceptable for disposal in the facility when it is implemented.

OPERA was the third national research programme on geological disposal of radioactive waste. After almost 7 years, OPERA has reached the stage at which the results can be presented to the public as input for a wider discussion on future progress. Information on the OPERA work is presented in an Initial Safety Case which is supported by more detailed reports available on COVRA's website. The main thrust of this Initial Safety Case is to provide an overview of the arguments and evidence that can lead to enhancing technical and public confidence in the achievable safety levels of a GDF of an initial design proposed for implementation at depth in the Boom Clay of the Netherlands. The Safety Case structure is based on recommendations by international bodies and parallel exercises in other national geological disposal programmes. However, the specific Dutch boundary conditions and the wider than usual range of objectives and target readership, together have resulted in significant differences between the OPERA Initial Safety Case and safety cases published in other countries. The present Dutch case is less comprehensive, given that it is an initial analysis that will be followed by further iterations. On the other hand, this Initial Safety Case for the Netherlands is wider in scope than many other national Safety Cases. To make the report accessible to a wide readership, explanatory material has been included to describe the basic concepts involved in geological disposal and to summarise the current international consensus on the recognised approaches to achieving safety and to structuring a technical Safety Case for a GDF. In addition, proposals for future scientific and technical studies have been developed, using the information gathered during preparation of this Initial Safety Case. These are presented in a roadmap, leading eventually to implementation of a GDF in the Netherlands.