



THE BEIJER INSTITUTE

The International Institute for Energy, Resources and the Human Environment
The Royal Swedish Academy of Sciences

Director: Prof. Gordon T. Goodman

FOREWORD

This Study is the second issued by the Beijer Institute on the subject of high-level radioactive waste. It has been produced in cooperation with the Swedish National Board for Spent Nuclear Fuel (Statens Kärnbränslenämnd - SKN). The first study, published in 1984, largely focussed on the technical and environmental issues; this one is focussed on the policy aspects. The purpose has been to provide a comprehensive, integrated socio-political and technical analysis of how six countries (FR Germany, France, Sweden, Switzerland, U.K. and U.S.A.) have responded to three key problems in the management of high-level radioactive wastes:

- what constitutes "safe" or "absolutely safe" storage,
- how has the site selection process been handled, and
- what are the key issues regarding timing and type of interim storage.

In addition, a fourth issue, sub-seabed disposal, has also been treated because of its complicated international aspects.

These two reports considered together cover the most important aspects of radioactive waste disposal, i.e. those related to technology and environmental effects on the one hand and to policy and management on the other. However, given the time that has elapsed since the earlier report was published, various sections of the first report have been included here in a revised and augmented form in order that it can be read as a stand-alone document. The political landscape in the field of radioactive waste management is changing rapidly. As emphasized by the recent events in Sweden and F.R.G. the life of much of the relevant information given is therefore limited. Inputs to this report are

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valid up to late 1986, and we should like to call the attention of our readers to this limitation.

In order to carry out this study, the Institute assembled a small research team consisting of

- Professor Frank L. Parker, Vanderbilt University, U.S.A.
- Professor Roger E. Kasperson, Clark University, U.S.A., and
- Tor-Leif Andersson, Tellus Energi, Sweden

The Research Team has been assisted in its work by Stephan A. Parker and Jimmy Levy.

The Institute also brought together a Review Panel to critique the first draft of the Report and to assist with advice and suggestions to the Research Team when preparing the Final Report reproduced here. The Panel consisted of the following members:

- Prof. G. de Marsily, France
- Dr R. Papp, F.R. of Germany
- Prof. L. Roberts, U.K.
- Prof. T. Westermark, Sweden

We are extremely grateful to the Research Team for the highly competent and penetrating way in which they have prepared the material for this report. Not only is the topic an inherently difficult and complex one from the scientific point of view, but a series of extra complications were added by the consequences of the Chernobyl accident which happened during the course of the Study. This made several drastic revisions of the original workplan necessary. Finally, the whole issue of radioactive waste management is so highly politicized that serious social controversies are the order of the day. We are sure that readers will be able to appreciate the team's efforts in analysing, assessing and presenting the issues and problems in a fair and comprehensive way.

Finally, our sincere thanks go to the funders of this work, the Swedish National Board for Spent Nuclear Fuel, and particularly to its Director, Olle Söderberg and Chief Engineer, Nils Rydell, for their continuing support.

Stockholm, April 1987

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