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ECOLE DES MINES DE NANTES

ABSTRACT

The proposed coordinated action attempts to assess the uncertainties in models describing the dissolution mechanism of spent nuclear fuel in a repository for geological time periods. Most worldwide leading experts in the field from research and waste management and organisations are present in the project, representing different approaches to the prediction on the performance of disposed spent fuel for very long times: based on either electrochemical, geochemical and/or radiolytical viewpoint. Simplified operational models are used by waste management and regulating organisations for the predictions in more complex systems. The objective of the project is threefold:

- ▶ **1.** To compare the different approaches and underlying hypotheses in the context of an evaluation of the quality of key experimental data. In this context two types of uncertainties are assessed: uncertainties governed by the divergence between the various models and the experimental databases and uncertainties in predictions that arise by comparing the outcomes of the various models
- ▶ **2.** To share the knowledge about the approaches and methodologies used in spent fuel performance analyses between the various participating organisations and
- ▶ **3.** To identify future research needs to reduce the observed uncertainties.



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SIXTH FRAMEWORK PROGRAMME

EURATOM SPECIFIC PROGRAMME FOR RESEARCH AND TRAINING ON NUCLEAR ENERGY

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