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NORTHERN REGIONAL GROUP OF THE GEOLOGICAL SOCIETY

What is a geological disposal facility and what opportunities does it present for the geoscience community?

Presented by

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Tunnel boring machine in Callovian-Oxfordian claystone some 500m beneath the eastern Paris basin at ANDRA's underground rock laboratory, Bure.
Photo: ©Jonathan Turner

This presentation has two main aims: to give a flavour of the range of geoscience skills that will be needed to support the deep geological disposal (GDF) programme; and provide an introduction to some of the 'whats' and 'whys' of radioactive waste disposal.

Britain has been accumulating radioactive waste for more than 70 years. RWM is engaged in delivering one of the largest environmental projects ever undertaken in Britain: a GDF in which higher activity radioactive waste from England and Wales will be disposed of permanently. RWM will evolve to become a prime investor in the UK subsurface and GDF delivery creates attractive new career opportunities for a broad range of geoscience practitioners.

The by-words for delivering deep geological disposal safely are containment of radionuclides such that they cannot harm people or the environment, and deep isolation of the higher activity waste from surface processes and from inadvertently mining into the GDF. A key component of RWM's disposal concept is the multibarrier system, in which the natural geological barrier works together with engineered barriers, such as the canisters, plugs and seals.

There is a diverse range of geological settings that could be suitable for a GDF and the National Geological Screening reports give communities a flavour of how their local geology would contribute to its long-term safety. For example to demonstrate the integrity of the GDF over the hundreds of thousands of years post-closure period RWM will need to model the effects of continental glaciations and earthquakes.

GDF delivery is one of the most challenging major infrastructure programmes with direct bearings on the current debate on our energy future. Its unique blend of science and technology, design and engineering, and science communication means that the GDF programme offers exciting possibilities for training and career development across the geoscience community.

Thursday 10th December 2020
Start at 17:30hrs

Talk to be held online via Zoom. Please register in advance for the meeting by copying and pasting the below link into your browser:

<https://us02web.zoom.us/meeting/register/tZ0rf-yqpj0oGdC5ZXWl4Qf9WNId9cn847n6>