

#### 4.1. Participants (applicants)

Please provide, for each participant, the following (if available):

- **a description of the legal entity and its main tasks, with an explanation of how its profile matches the tasks in the proposal;**

The BGS was founded in 1835 and is the UK's foremost supplier of geoscience solutions and custodian of much of the country's geoscientific information. It is responsible for providing impartial geological advice to UK and overseas Government departments, industry and universities. Relevant research includes state-of-the-art studies on: (1) the movement of fluids through clays and mudrocks; (2) the hydromechanical behaviour of engineered materials e.g. the development of the engineered damaged zone; (3) the role of biofilms and particle transport relating to radionuclide transport in the geological environment; and (4) the provision of kinetic data describing fluid-gas-rock interactions and their impact on repository systems. The Radioactive Waste team has for several decades provided geoscientific information nationally and internationally and its clients include: NDA-RWMD; NIREX; UKAEA; the EA; DECC/DEFRA; ANDRA; JAEA; SKB; Nagra; Ondraf /Niras and the EU

- **a curriculum vitae or description of the profile of the persons, including their gender, who will be primarily responsible for carrying out the proposed research and/or innovation activities;**

Dr J Harrington (M), Principal Scientific Officer, Head of Fluid Processes Research Laboratories, PI on EC-FP7 Fate of Repository Gases, PI on EPSRC CONTAIN, Co-I on EPSRC Safe Barriers. A Milodowski (M), Principal Petrologist, >30 yrs experience radioactive waste management research, specialist in the petrographic characterisation of pore systems/fracture flow paths. Managed natural analogue system research for UK & international radwaste programmes. Dr S Gregory (M), Principal Microbiologist.

- **a list of up to 5 relevant publications, and/or products, services (including widely-used datasets or software), or other achievements relevant to the call content;**

Harrington, J.F., Volckaert, G. and Noy, D.J. (2014). Long-term thermal impact of temperature on the hydraulic permeability of bentonite. *Geol. Soc. Special Pub.* DOI: 10.1144/SP400.31.

Graham, C.C., Harrington, J.F., Cuss, R.J., and Sellin, P. (2014). Pore-pressure cycling experiments on Mx80 bentonite. In: Norris, S., Bruno, J., Cathelineau, M., Delage, P., Fairhurst, C., Gaucher, E. C., Höhn, E. H., Kalinichev, A., Lalieux, P. & Sellin, P. (eds) *Clays in Natural and Engineered Barriers for Radioactive Waste Confinement*. Geological Society, London, Special Publications, 400, doi: 10.1144/SP400.32.

Graham, C.C., Harrington, J.F., Cuss, R.J. and Sellin, P. 2012. Gas migration experiments in bentonite: implications for numerical modelling, *Mineralogical Magazine*, Vol. 76(8), pp. 3279–3292.

Coombs, P., Wagner, D., Bateman, K., Harrison, H., Milodowski, A. E., Noy, D. and West, J. M. (2010). The role of biofilms in subsurface transport processes. *Quarterly Journal Engineering Geology*, 43, 131-139.

- **a list of up to 5 relevant previous projects or activities, connected to the subject of this proposal;**

- Jon Harrington - Project Manager and lead PI for SKB for the Large scale gas injection test (Lasgit) study examining up-scaling issues associated with the processes and mechanisms governing gas and water flow in compact bentonite.
  - Jon Harrington - Project Manager and lead PI for SKB funded study on the hydraulic properties of compact bentonite following prolonged thermal exposure.
  - Jon Harrington Co-I - EPSRC Safe Barriers
  - A Milodowski Co-I - NERC BIGRAD
- **a description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work;**

BGS's Fluid Processes Research Laboratories provide state-of the-art facilities for understanding complex fluid processes in the geo- and -biosphere. This project will exploit the wide network of laboratories within BGS including analytical geochemistry, mineralogy and petrography.

- **[any other supporting documents specified in the work programme for this call.]**