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The high-level radioactive waste disposal program in Japan

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The Nuclear Waste Management Organization of Japan (NUMO) was established in 2000, based on the "Specified Radioactive Waste Final Disposal Act", as the implementing body for the safe disposal of vitrified high-level radioactive waste (HLW). This Act specified three stages of site selection, with increasing levels of characterization activities; selection of preliminary investigation areas (PIAs), selection of detailed investigation areas (DIAs) and selection of a repository site (Fig. 1). NUMO recognized that local acceptance is an issue critical to the success of this project and thus decided to initiate the siting process by calling for volunteer communities willing to consider hosting this facility.

As most other countries, Japan has selected geological disposal with multiple natural and engineered barriers to provide the necessary long-term isolation of HLW from the human environment. However, in Japan, particular concerns arise from the complex geology and tectonically active setting of the Japanese archipelago. Documentation sent with the call for volunteers to all municipalities thus specifies the requirements for long-term geological stability and very clearly defines technical exclusion criteria (e.g. with regard to volcanism and active faulting) which will be used to rigorously exclude unsuitable sites. In addition to documentation aimed at the general reader, more detailed background to the siting process is provided in a technical report [1]. While waiting for volunteers to come forward, NUMO is moving ahead to establish international expert teams who will ensure that our understanding of key tectonic issues is maintained at the state-of-the-art [2].

Keywords: HLW; Geological disposal; Stepwise site selection; Volunteering

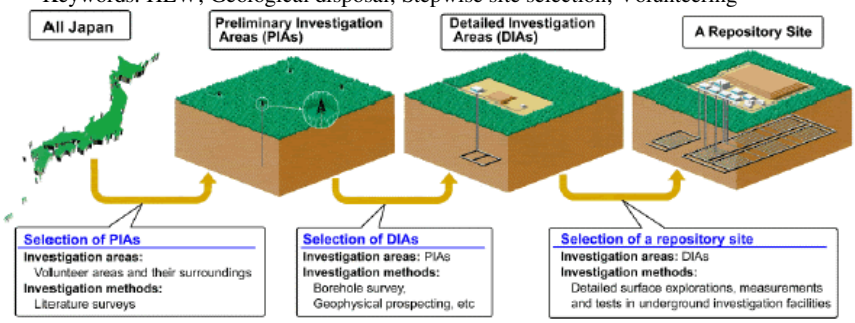

Figure 1. Three Stages of Site Selection

References

[1] NUMO, **NUMO-TR-04-04** (2004)
[2] N. Chapman, et al., *EOS,* **85**, 45 (2004).