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Knowledge based on the Groundwater Pressure Monitoring during Excavation of Mizunami Underground Research Laboratory

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In recently year, increasing emphasis has been placed on the importance of evaluating not only the safety of the human environment but also the social and environmental impacts of geological disposal projects.

Environmental impact assessments are therefore required, as is the case for other large scale projects such as tunnel excavation and construction of dams.

In the MIU project, the investigations will proceed in parallel with the actual construction of the underground facilities and the effects of constructing the underground facilities in the volume of rock extending from ground surface to deep underground on the surrounding environment (e.g. groundwater levels, water chemistry, etc.) should be evaluated as a case study.

Some kinds of monitoring are carried out to evaluate the environmental impact caused by the shaft excavation in the Mizunami Underground Research Laboratory (MIU) Project which is now carried by Japan Atomic Energy Agency.

Long term groundwater pressure monitoring which is a kind of geological environmental monitoring is carried out to confirm the change of groundwater flow caused by the shaft excavation.

This report shows the results of long term groundwater pressure monitoring and knowledge based on the groundwater pressure monitoring during excavation of the MIU.

Keywords: Geological disposal projects, Mizunami Underground Research Laboratory, Long term groundwater pressure monitoring