Collection and Organization of Geoscientific Information for Improvement of Impacts Assessment Model of Seismic and Fault Activities for HLW Geological Disposal

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To evaluate the hydraulic and mechanical effects associated with seismic and fault activities, "conceptual model of seismic and fault activities" has been developed. This conceptual model is, however, a qualitative method focused on general versatility; therefore, possible numerical data applied to parameter setting for numerical analysis has not been organized.As for the seismic and fault activities, distribution of active faults in particular, is characterized by surface surveys using topographical and geological methods. With the surface surveys, investigation and observations are available for visible range from ground such as surface outcrop; though, the continuity to the deep underground exceeding 1,000 m below ground required for geological disposal R & D is not characterized. Moreover, it is very difficult to characterize the behavior and extent of the damage zone that considered to have been formed around the fault, especially here in Japan, where there is a lot of vegetation on the surface ground. In this study, we collected and organized the information on the large earthquakes and fault activities occurred in the past, which are published by research institutions including the Japan Meteorological Agency and universities, and then specified the information that contributes to improvement of the conceptual model. As a result, we obtained the prospect of developing more specific conceptual model by combining geophysical methods such as seismic observation with the information obtained from conventional topographic and geological methods. Acknowledgements: This study was carried out under a contract with METI (Ministry of Economy, Trade and Industry) as part of its R&D supporting program for developing geological disposal technology.

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