JNC developed a scenario construction method for potential effects of natural phenomena on a HLW disposal system condition and performance. The characteristic of this method is that a series of works to construct scenarios is divided into pieces and categorized into two types. For first type pieces, investigators of natural phenomena or performance assessors have responsibility for individual piece. For second type pieces, collaboration of both sides is needed. Those pieces are organized to elicit the features of potential effect of natural phenomena on a HLW disposal system and create reasonable scenarios with consistency, traceability and adequate conservativeness within realistic view.