Research regarding stability assessment method and design method of dam foundation rock and excavation slope.

[Point]

In recent year, along with increasing dam construction under complicated geological conditions, basic excavation rate is increasing, as the result; cases of producing big and long slopes are increasing. For this reason, to make economic dam construction possible with sufficient safeguards, development of assessment and design method for stability of dam foundation rock and excavation slope.

As the actual condition research of dam foundation rock and excavation slope objecting 51 dams in the country, many of excavation slope deformations are caused by discontinuous surface structure, pore water pressure increase in rainfall time, and loose by excavation, were verified. And also, we verified that limit equilibrium method（LEM）represented by surface slipping method, is used heavily as stability analysis method. From these facts, we aimed to rationalize slope design, analyzed the stability using surface slipping method with rock slope model having discontinuous slope, and distinct element method（DEM） to clarify calculated properties of LEM and DEM, and effects of discontinuous slope structure, pore water pressure and slope excavation on stability of slopes.

Keyword：dam, slope design, slope stability analysis, limit equilibrium method（LEM）, distinct element method（DEM）