

### NAM THEUN 2 HYDROELECTRIC PROJECT

LAOS PDR

#### Determination of the in-situ modulus of rock mass using the rigid plate loading method

The Nam Theun 2 Hydroelectric Project is developed by Nam Theun 2 Power Company, owned by Electricité de France (EDF), Government of the Lao PDR, EGCO of Thailand and Italian-Thai Development Public Company (ITD).

The underground water conveyance system of the Nam Theun 2 Hydroelectric Project consists of concrete and steel lined tunnels and shafts. The selection of the lining type and design depends on rock characteristics and has to be verified with series of tests.

SolData was awarded to perform rigid plate jacking tests in the drainage tunnel in order to:

- Evaluate the deformation modulus of the rock mass by plate jacking tests.
- Validate the proposed drill hole pattern.

- Applied pressure up to 10MPa in five load – unload cycles

- Required accuracy of displacement measurement +/- 0.0025 mm and sensitivity 0.0013 mm

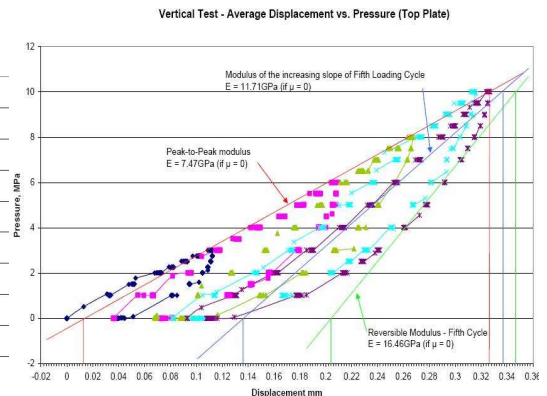
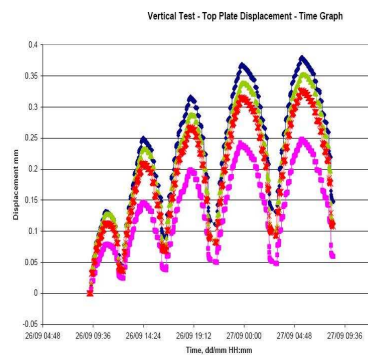
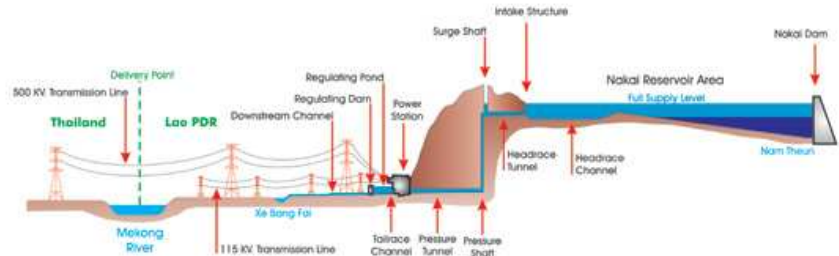
- Data logged and visualized in real time, using GEOSCOPE WEB software.

- 14 Burster 8741 LVDT sensors

- Campbell Scientific Type 108 Temperature sensors

- Campbell Scientific CR10X Datalogger

- Data collection interval 1min.



OWNER :	NAM THEUN 2 POWER COMPANY
DATE OF WORKS :	2005 – 2006 (2 tests)
<b>SCOPE OF WORKS:</b>	<ul style="list-style-type: none"> <li>• Design of the equipment and test setup for tests in 2 different locations, both horizontal and vertical test in each location</li> <li>• Preparing the rock for Jacking test – smoothness of the rock surface better than 2.5 cm</li> <li>• Performing the test, data analysis with calculations of In Situ Modulus of Deformation of Rock Mass</li> <li>• Report, including all the collected Data and Calculations.</li> </ul>