



Saiko Hydraulic Power Station Seismic Strengthening

Japan has had a long history of earthquakes and seismic activity as it is located near major tectonic plate boundaries and is situated on the Pacific Ring of Fire.

Saiko Hydraulic Power Station is located in Yamanashi Prefecture close to Mt. Fuji. The owner of the Power Station is Tokyo Power Company.

The main building of the power station housing the generator was constructed in 1919. The building has only one floor made out of wood with a wall height of 8 m.

After the major earthquake of Tohoku area in 2011, Tokyo Power Company was requested by the Japanese government to check all its power stations for seismic capacity.

As a very old wooden building, evaluating the seismic capacity of the building was a major challenge. A testing program to evaluate the capacity of identical wooden wall was conducted with the Graduated School of Engineering University in Tokyo.

The testing program data was used to perform a dynamic analysis to evaluate the seismic capacity of the building. In a next stage Tyfo[®] SHE-51A System was implemented in analysis model to evaluate the enhancement of the building seismic capacity.

All the strengthening works were completed from outside the building without any disruption to work of the power generation center.