

Third Party Evaluator's Opinion on Lam Ta Khong Pumped Storage Project

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The following description provides an analytical viewpoint of the Lam Ta Khong Pumped Storage Project, Thailand. The objective of the project is to strengthen Thailand's ability to cope with peak power demand by using the existing Lam Ta Khong Reservoir as the lower pond and constructing an upper pond with effective water storage, underground power plant, steel conduits, and tailrace channel.

Criteria-1 Relevance

Thailand's economic expansion can be viewed in many ways, among which is an expansion of economic activities in the rural areas. Apart from Bangkok where most of the economic activities concentrate, there have also been surges of economic activities in many places throughout Thailand. No matter where these surges of economic activities take place, a demand for electricity will follow and hence put a pressure on peak power demands. It has been observed that, near the Lam Ta Khong Pumped Storage Project, there has been an expansion of the cement industry in Saraburi Province, an expansion of ceramic factories in Nakhon Ratchasima Province as well as the increasing number of tourist related activities in Pak Chong District. All these economic activities put an upward pressure on peak demand for electricity that is currently being supplied by the Lam Ta Khong Pumped Storage Project. What makes the project relevant in the Thai context is that the project has helped sustain the momentum of the rural industry expansion and hence helps maintaining rural income growth. Indirectly, an expansion of income by these rural industries also generates rural jobs. Particularly, most of the increase in demand for electricity takes place in a less-than-uniform pattern, which means that meeting such demands by using power storage facility will be a cost effective choice. The Lam Ta Khong Pumped Storage Project currently provides electricity with meeting the daily fluctuation in peak demands during 9:00-12:00 hr, 13:00-16:00 hr. and 18:00-20:00 hr.

Criteria-2 Sustainability

The project has proven its sustainability in many ways. Since the project was completed in 2002, the project has been widely expected. As the project daily activity is to utilize water from the lower pond and pump it up to the upper pond it means that the project will need to collaborate with the original operation of the Lam Ta Khong Reservoir. The Lam Ta Khong Reservoir needs to supply irrigated water to the provinces nearby hence supplementing it with the "power storage" function is challenging and its long term sustainability is of much interest. Since the project was operated in 2002, it has proven that it was able to integrate the irrigation function with the power storage function very well. Although the water level in Lam Ta Khong Reservoir became lower than usual in 2005, it managed to run the power storage together with using the irrigated water without many conflicts. This has proven the project's sustainability, being able to integrate itself well with the existing system. On the environmental issue, the project site has been hidden well underground, thus does not create visual distraction to the visitors who pass by. Furthermore, the surrounding area of the project site has been used as an attractive recreational place for the visitors, hence enabling them to entertain the scenery of Lam Ta Khong Reservoir. The villagers living near the project site may have been given a negative impact at first during the project construction phase, but, as the construction has been completed, there have not been reports of any conflicts between the project execution and the local community. On daily operation, the project has been well integrated within the overall power generation activities of Thailand under EGAT (Electricity Generating Authority of Thailand). EGAT provides adequate training of all their staff at the project site. Many visitors have also visited the project site regularly, and they find the Lam Ta Khong Reservoir Project very beneficial and educational.

**Photographs of the Field Survey of Lam Ta Khong Pumped Storage Project:
Thailand as of Sunday, December 2, 2007**



Lam Ta Khong Reservoir serves as the Lower Pond



The Project Site blends in well with Lam Ta Khong Reservoir Scenery



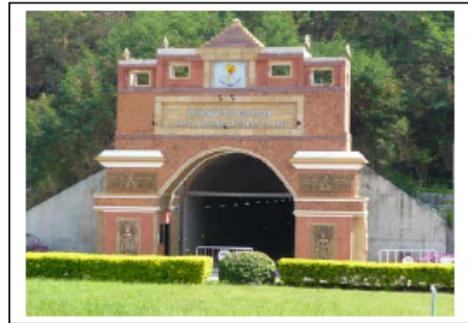
The Upper Reservoir on top of the mountain



Left: Mr. Duang Mekpung (Project Engineer)
Right: Dr. Adis Israngkura (Evaluator)



The Project Surrounding is kept tidy and clean



The Project tunnel entrance down to the power pump station underground