



Theun-Hinboun
Power Company

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THE THEUN-HINBOUN EXPANSION PROJECT

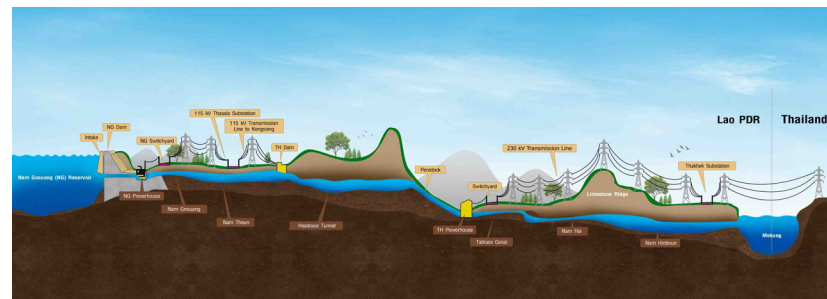
To optimize the potential of the Nam Theun basin to deliver energy during the dry season, when many other Lao power plants run at reduced capacity, THPC began researching alternatives for expanding electricity generation in 2004.

After review of various options, a detailed feasibility study was conducted on building a storage reservoir on the Nam Gnouang (NG), a tributary of the Nam Theun, with the aim of providing a greater year-round water supply to the existing power plant at Khounkham. Completed in early 2007, the study was then complemented by an Environmental Impact Assessment, an Environmental Mitigation and Management Plan and a Resettlement Action Plan. Project Construction began in late 2008.

The NG Dam, 480 m wide and 65 m high, has created the NG Reservoir, which stores the rains that fall in the area from May-October each year. The dam has five gates that are opened only to discharge water to avoid flood events during the wet season. In normal operation the dam releases water through the NG Powerhouse, which generates up to 60 MW of electricity for domestic supply to Electricité du Laos (EDL).

From the NG Powerhouse the water flows into the Nam Theun and down to the original Theun-Hinboun (TH) Dam. This has been modified to take more water than before from the Nam Theun: a new intake and tunnel system channel water to an expanded TH Powerhouse, 240 m below in the Khounkham valley. There, a new 220-MW Francis Unit generator operates alongside the existing TH turbines. These give THPC an export capacity of 460 MW, sold to Thailand through two 230 kV transmission lines.

The Expansion Project was completed on schedule and within budget. Both new powerhouses were commissioned in late 2012 and the project was **inaugurated in January 2013**. In 2016-17 the turbines in the original TH Units were **replaced with a new and more efficient turbines**, bringing the total combined generating capacity of THPC to 520 MW, with much of the water from the new reservoir being used to generate power twice.



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