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Xayaburi Hydroelectric Power Project

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Background

The economic growth of Thailand demand cause the electricity supply to steadily increased every year.

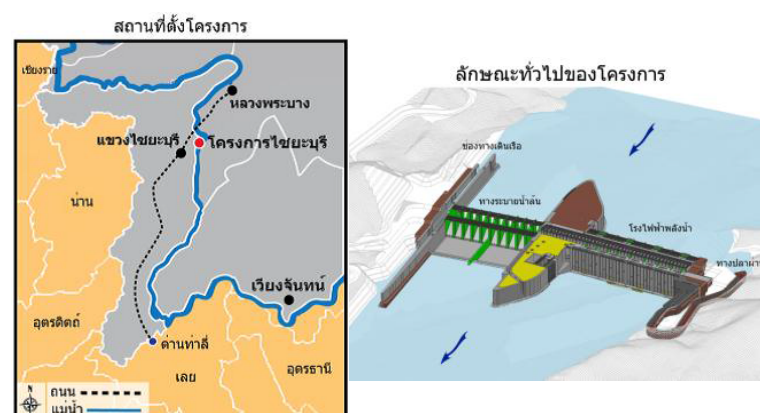
Ministry of Energy and the Electricity Generating Authority of Thailand have an important role to supply electricity to meet the power demand and provide adequate security with the reasonable tariff and with minimal environmental impact.

From the stated mission, Ministry of Energy and the Electricity Generating Authority of Thailand have developed power development plan (PDP) which prioritized to the domestic resources generation, Thermal power plants that use cleaner fuels such as natural gas, high quality coal, the hydroelectric Pumped and purchase from renewable electricity, etc, and which diversified to others source of fuel for power generation to achieve electricity system security.

In addition, the purchase of electricity from neighboring countries is the key option to supply electric power together with the domestic power generation. The government of Thailand has signed an MOU with the governments of neighboring countries, including Lao PDR., the Republic of the Union of Myanmar, Cambodia and the People's Republic of China to promote the production of electricity for sale to Thailand. The Xayaburi hydropower project is the one that produce electricity for sale to Thailand under a MOU between the governments of Thailand and Lao PDR

Project Description

Xayaburi hydropower project is located in Xayaburi province of Lao PDR. It was a diversion dam on the Mekong river to raise the water level on the upstream and release water along the river without the diversion of water from the river and no reservoir as others conventional dam. The Dam will raise the upstream water level close to the maximum water level in the flood season. The water from the Xayaburi province will reach the south of Luang Prabang but the downstream water levels are still at normal.



The Xayaburi hydro power project is a reinforce concrete dam with 810 meters long and 28.5 meters net water head. Ten floodgates were installed to produce electricity. Seven of 175 MW and one of 60 MW generators have been installed to generate electricity for sell to Thailand and Laos PDR., respectively. Total electric power generation is 1,285 MW and it can produce average 7,370 unit of electricity annually.

In this project, the dam is designed to have 12 meter wide and 120 meter long boat lane to accommodate the water transport for ships of 500 tons on the right and the fish ladder 10 meter wide for fish migration on the left. It is also designed to have the emergency spillway to drain exceed water in the flooding season. In the operation when the project

is completed, water inflow and water outflow will kept constantly without water retention, so the amount of water in the Mekong Basin will naturally flow throughout the year.

Benefits of the project



When the project completed, 1220 MW electric Power or 6,929 unit of electric energy per year will be delivered to Thailand at Thailand - Laos border transmission junction for a period of 29 years, starting from the year 2019 onwards. The tariff in this project is at constant price. This means that the price will be unchanged with the change of fuel prices in the world market. It is competitive when compared to other alternatives. The border tariff is average at 2.16 baht per kilowatt - hour over the 29 years contract. While the domestic power plant such as coal and liquefied natural gas (LNG) power plant produce electricity with the average tariff in the range of about 2.90 to 4.30 baht per kilowatt - hour.

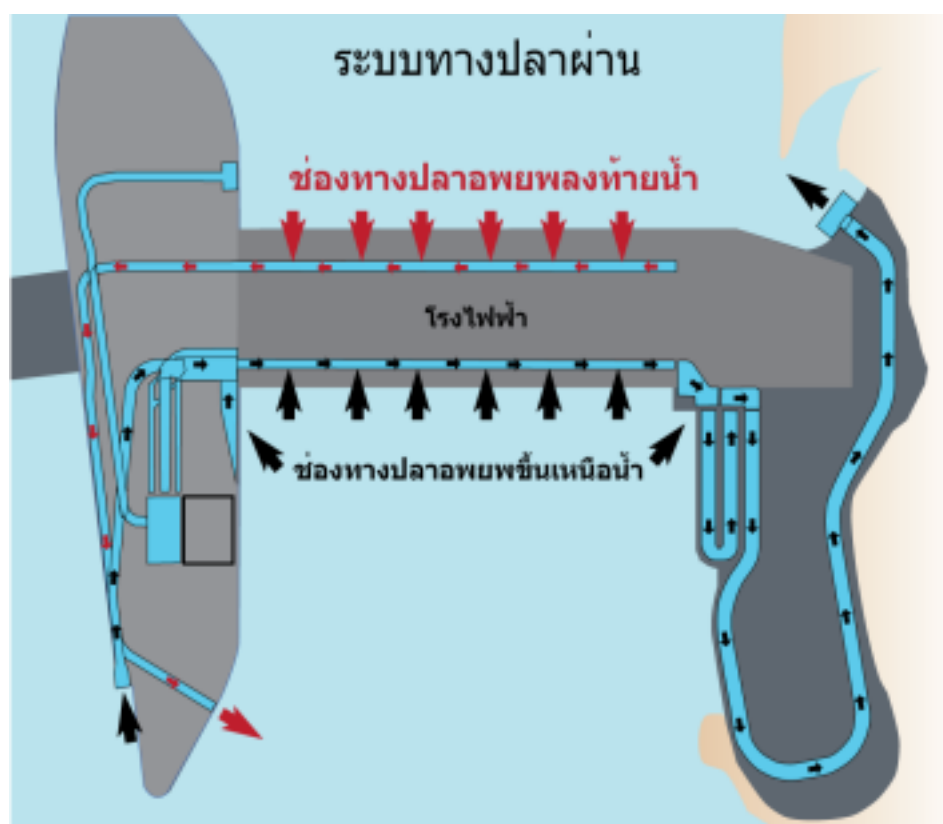
In addition, the purchase of electricity from neighboring countries is to promote economic and social relations of the two countries.

Environmental Impact management

Project developer, Xayaburi Power Company Limited, have conducted a study on the social and environmental impact. The impact on the quality of water, air, soil, forestry, wildlife and ecosystem were considered in the study. Results of the study and environmental prevention and remedial plan will be reported to the Government of Lao PDR. Because of the project located on the Mae Kong river, so the project was designed according to the guidelines of the (Mekong River Commission: MRC). The plan to reduce the environmental impact is summarized as follows:

1. Fish Ladder

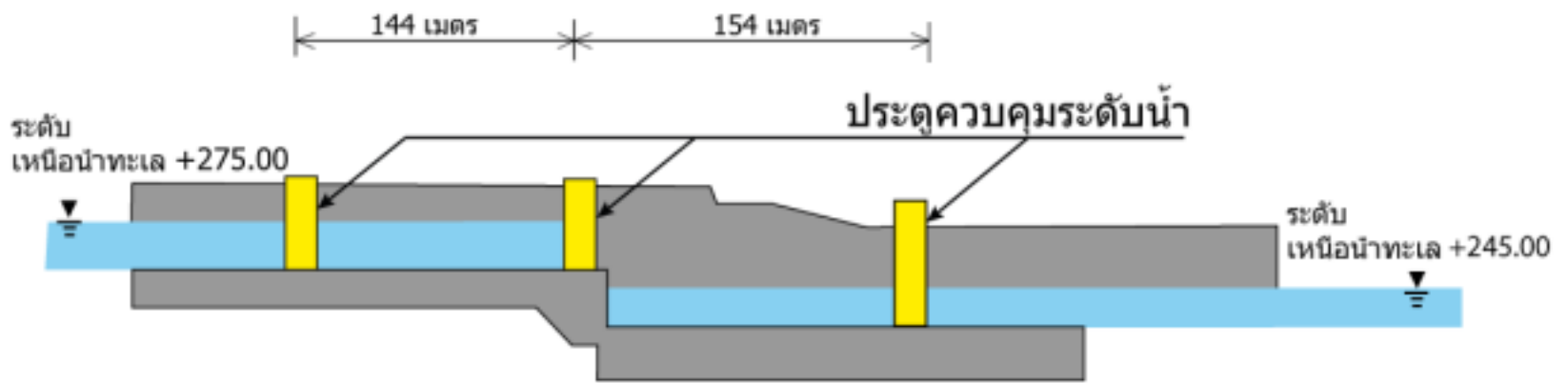
The project developer will arrange a Fish Ladder of 10 meters wide, which the fish can migrate through the dam every season. As well as provide fish breeding station to ensure that there is a reasonable amount of fish to the people living along the banks of the Mekong River.



2. Boat Lane

Currently, transport and shipping cannot be done all year round because of many islands have emerged in dry season. It is obstacle to big boat navigation. The project developer will build a boat channel to accommodate larger cargo ships of 500 tons, making navigation easier than ever.

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3. The Sediment Drainage

Naturally, the high suspended solid occur in flood season, with high volume and high velocity water flow in river but suspended solid will be less in the dry season. The project has a volume of water that flows naturally every day. The project release water flow through the dam without retention so the river flow rate does not change significantly from the natural flow. However, there is special drainage gate installed to release sand, sediment and aqua living feedstock in this project.

4. Bank Erosion Protection

To prevent bank erosion along the river, project will keep the river flow stable by release water flow throughout the dam every day. Therefore, water level on the upstream will be kept not exceeding 0.5 m and the downstream water level will vary in range of 1.5 m. This causes the water level above the dam does not change throughout the year and the downstream water level changes in according to the season.

More detailed information about the project design and guidelines of the MRC are available at www.mrc.com

The MRC's project consideration

Laos PDR.'s Government has proposed Xayaburi Project to the Mekong River Commission (MRC), the member consist of Laos PDR., Vietnam, Cambodia and Thailand, in accordance to the agreement on the Cooperative for the Sustainable Development of the Mekong River Basin. The MRC Joint Committee meeting on Prior Consultation process, as part of the process Procedures for Notification, Prior Consultation and Agreement (PNPCA) with representatives of the MRC Joint Committee of Thailand, Laos, Cambodia and Vietnam to consider the construction of the dam was held on April 19, 2001 at Vientiane, Lao PDR.

For detailed information of Xayaburi project, please visit www.xayaburi.com

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