Nam Sim Dam Hydropower Info by Hobo Maps - Home [Go Back to Hydropower Projects Web Page]

Nam Sim Dam image below while under construction:

Nam Sim (river) is located in Houaphanh Province, northern Lao PDR and forms part of the Nam Ma basin which has its sources near the border of Lao PDR and Vietnam. The project is located about 20 km southeast of Viang Xay and close to National Road 6.

The project is located downstream of the village of Kangmuang village, about 1.5 km downstream of the confluence between the Nam Sim and Nam Vong rivers in Vieng Xay District.

Geographic coordinates of the project are: Power House 20.3585°N 104.3868°E and Main Dam Site 20.3459°N 104.3810°E.

The project is a run-of-river type with a small reservoir and some daily regulation. The catchment area for the Nam Sim is 197 sq km.

The dam has a free-overflow spillway and a maximum reservoir surface areaof 3 hectares.

The project includes a 10 meter high weir, a 1.1 km long tunnel, a 500 meter long penstock and a power plant with two Francis turbines for a total 9 MW capacity and 32.5 GWh annual production capacity

The power generated is transferred to a 22 kV transmission line approximately 5 km in length connected to the Lao grid. Electricite du Laos is to buy all power produced for local distribution.

Funding for the project was aided by a US $6 million grant from the Norwegian Agency for Development Cooperation and a loan from Norfund and Finnfund development finance companies.

The project has a 25 years concession period and was estimated to cost about US$ 18 million.

Nam Sim Power Company was a joint venture between the French MECAMIDI-Norpower which held a 75 percent share and Lao Electrical Construction and Installation State Enterprise, holding a 25 percent share on behalf of the Lao government. Norfund and Finnfund have taken over the shares from French MECAMIDI-Norpower and now own 75% of the project.

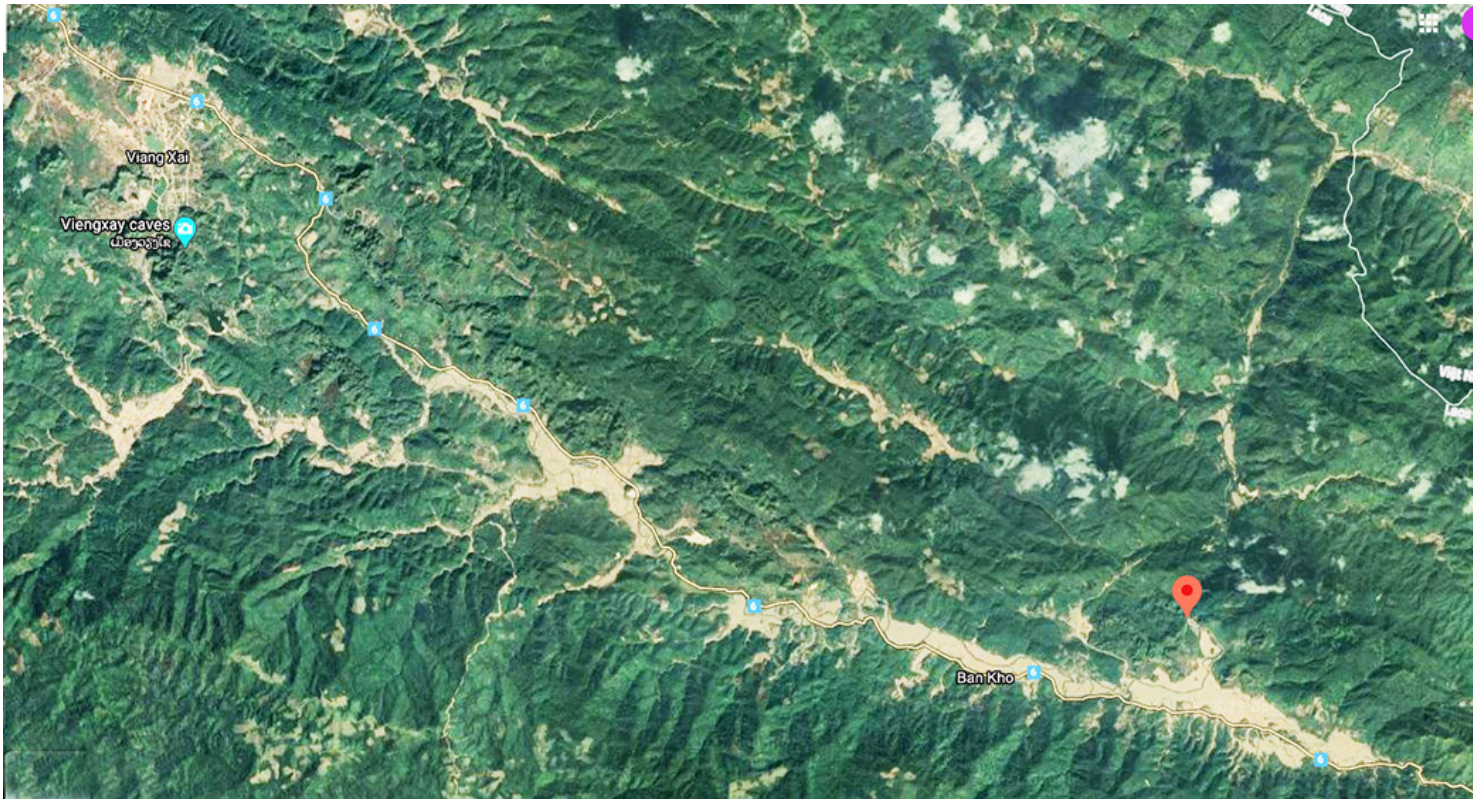
The project is designed to qualify as a greenhouse-gas-reducing CDM (Clean Development Mechanism) project under the Kyoto Protocol that may result in CO2 emission reduction, as it may displace power generation that otherwise would be based on burning of fossil fuels. Carbon dioxide emission reductions were estimated to be 17,995 tons per year for this project. View or download CDM application document HERE .

Project data charts below:

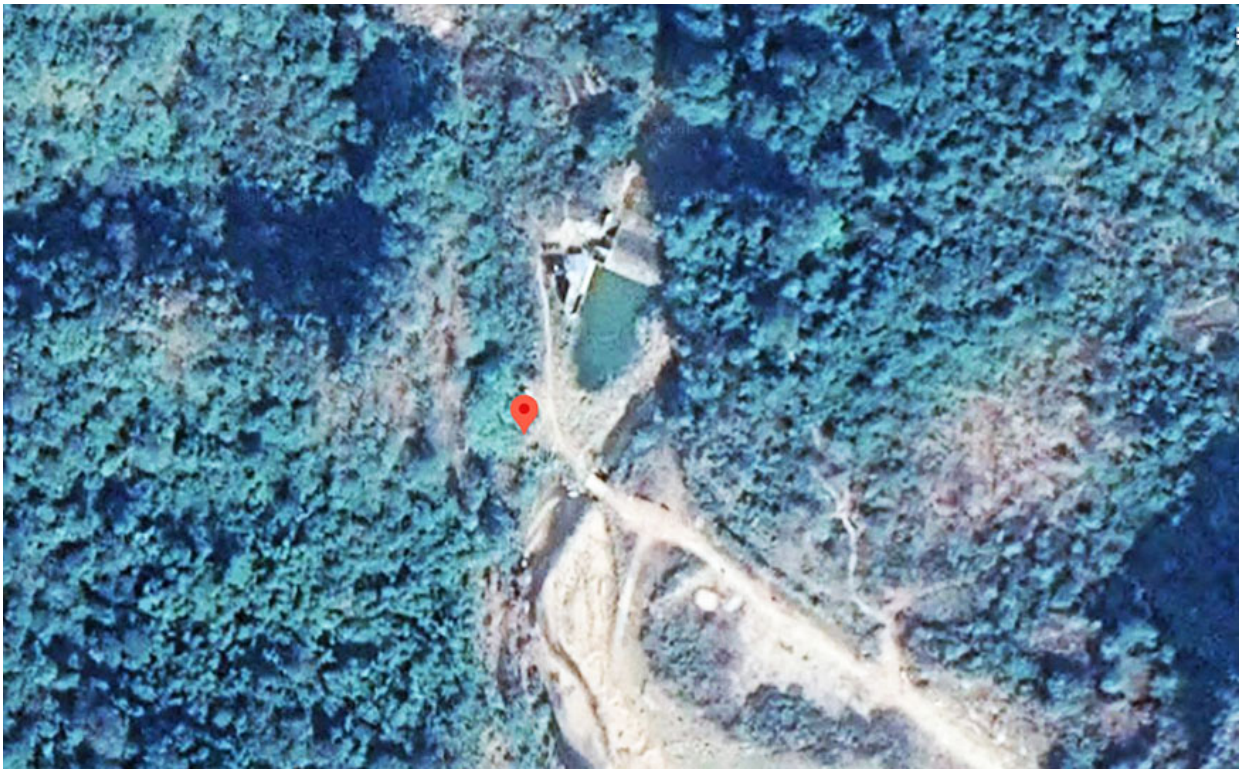
Project Main Data	**Feasibility Design**
Catchment and Hydrological data	
Catchment Area	196.2km²
Run-off Nam Sim and Bokay, Mean Annual	4.32 m³/s
Design Flood Estimation	300-800 m³/s
Dam and Reservoir Data	
Type of Dam	Concrete Gravity
Dam / Weir (L/H)	18m / 7m
Spillway Type	Free Overflow
Reservoir Area when full	30,000m²
Reservoir Storage (peak pond) including water tunnel	26.900 m³
Highest Regulated Water level (HRWL)	631 m.a.s.l.
Lowest Regulated Water Level (LRWL)	630 m.a.s.l.
Water Ways	
Headrace Tunnel (L/A)	1,100m / 18.7m²
Penstock (L/diameter)	1.4m
Diversion Pipe from Bokay	800m / Dia 0.40m
Power Plant Station Outlet (L/A)	12m / 5 m²

Gross Head	172.5 m
Net Head (Gross Head less Head Loss in Waterway)	170.5 m
Total Rated Discharge	5.4 m³ / s
Type of Turbines	Francis, horizontal
Number of Units	2
Normal Capacity	4.568 MW
Access Road. Length (strengthening of existing dirt road)	5 km
New Access Road (from existing dirt road)	200 m
Transmission Line	
Voltage	22 kV
Alignment, length	4.70 km
Mean Energy Production	
Mean Annual Production	32.50GWh

Nam Sim Dam and Powerhouse locations near red marker on satellite image below - not far off National Road 6:



Nam Sim Dam on satellite image below:



Nam Sim Powerhouse site shown on image below: