ASSOCIATION INTERNATIONALE DES TUNNELS ET DE L'ESPACE SOUTERRAIN
AITES | ITA
INTERNATIONAL TUNNELLING AND UNDERGROUND SPACE ASSOCIATION

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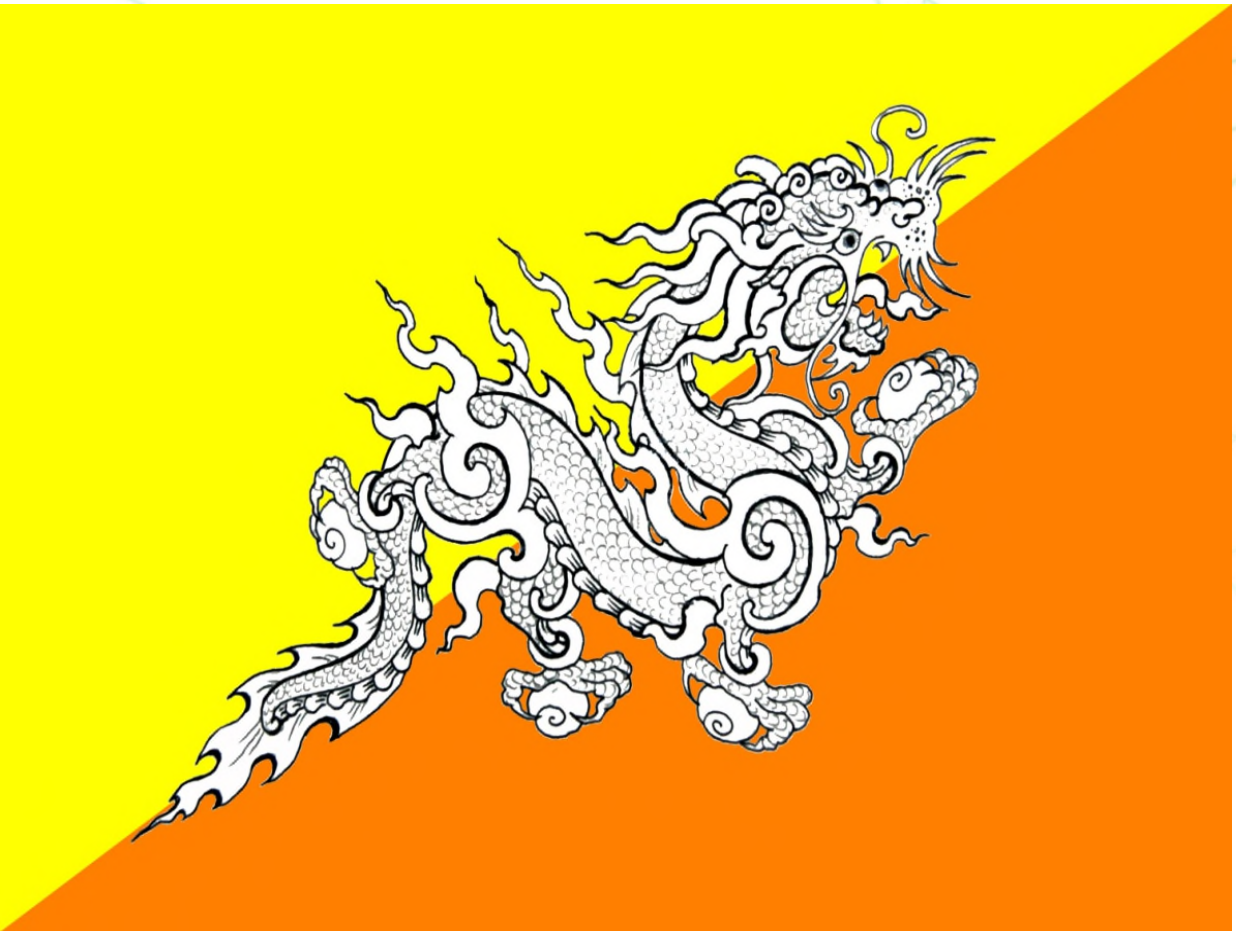
DrukGreen

MEMBER NATION ACTIVITY REPORT - 2015



BHUTAN

2015 - ACTIVITIES

1. Construction of Punatsangchhu-I (1,200 MW), Punatsangchhu-II (1,020 MW) and Mangdechhu (720 MW) Hydropower Projects.

2. Training on Conventional Tunnelling was conducted in September 12 & 13, 2014 in Thimphu, Bhutan.

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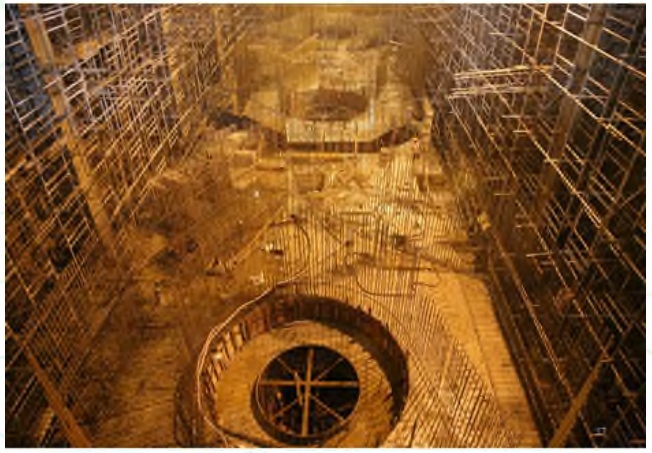
TUNNELS – UNDERGROUND WORKS

1. Punatsangchhu – I Hydropower Project (1,200 MW)

Desilting chamber

10 m dia. HRT

24.5 m dia. Surge Shaft



Underground Power House

Work Done

- Total UG excavation = 67,487.30 m^3
- Total length of tunnels & galleries = 116m

2. Punatsangchhu –II Hydropower Project (1020 MW)

Desilting chamber

Pressure Shaft

Head Race Tunnel

Surge Shaft

Work Done

- Total UG excavation = 565,906.00 m^3
- Total length of tunnels and galleries = 1174.79 m

Power House & Transformer Caverns

- Power house cavern (236 m x 23 m x 51 m) – excavation of machine hall
- Transformer cavern (215.4 m x 14 m x 26.5 m) - excavation

3. Mangdechhu Hydropower Project (720 MW)

Desilting chamber

Head Race Tunnel

Surge Shaft

Power House

Work Done

- Total underground excavation = 883,234.01 m^3
- Total length of tunnels and galleries = 5159.15 m

FUTURE ACTIVITIES

1. Kholongchhu Hydropower Project

- Run-of the river hydropower project of 600 MW capacity.
- Total tunnel system = 27 km.
- 2 nos. underground desilting chambers of 350m x 13m x 17.5m
- Underground Power house and transformer caverns of 132m x 21m x 42.5 m and 130m x 16m x 24m

2. Nikachhu Hydropower Project

- Run-of the river hydropower project of 118 MW capacity.
- Total tunnel system = 21.50 km
- 2 nos. underground desilting chambers of 175 m x 11m x 7.5 m each
- Underground Power house of 67m x 19m x 41m