



Tamor-Dhungesanghu 220 kV Transmission Line Project



राष्ट्रिय प्रसारण ग्रिड कम्पनी लिमिटेड

Rastriya Prasaran Grid Company Limited

(An Undertaking Company of Government of Nepal)



Background

The Tamor–Dhungesangu 220 kV transmission line project, led by the Rastriya Prasaran Grid Company Limited (RPGCL), aims to bolster Nepal’s energy sector by addressing transmission infrastructure deficiencies. The Tamor Substation will be connected to six hydropower projects totaling 708.3 MW. With anticipated completion dates between 2026 and 2030, these projects are at various stages of development, from applied construction licences to awarded construction licences.



Sector:
Energy



Location:
Taplejung District

LOT 1:

Tamor–Dhungesangu 220 kV Transmission Line in lieu of Haitar–Sitalpati

Objectives

The primary objective is to alleviate the hindrances posed by inadequate transmission facilities, thereby enabling the efficient evacuation of electricity from potential hydroelectric projects in the region.

Salient Feature:

- Length: 32 Km
- No of circuit: 2
- Number of Tower: 103
- Conductor: ACSR Twin Moose
- Expected Transmission Power: 700 MW
- Starting Point: Tamor Substation
- Ending Point: Dhungesanghu Substation

LOT 2:

New Substation at Margem and extension at Dhungesanghu

Objectives

The project involves extending 220 KV line bays at the Dhungesanghu substation and constructing the 220 KV/132 KV new GIS Substation at Margem.

Salient Feature:

- 220/132 kV GIS substation
- Gas Insulated Switchgear
- Outdoor equipment
- Indoor Equipment
- Earthing, lightning protection on the extended area

Features/Components

- Towers
- Conductor
- Insulators
- Gas Insulated Switchgear
- Substation

- Outdoor equipment
- Indoor Equipment
- Earthing, lightning protection on the extended area

Project Outcome



Encourage power producers to invest in this corridor for hydroelectricity generation.



Reduced transmission and distribution loss



Improved reliability and quality (Voltage/Frequency) of power supply



Job creation and economic development

Financial Indicators



Project Modality & Requirement



Public Private Partnership (PPP model)

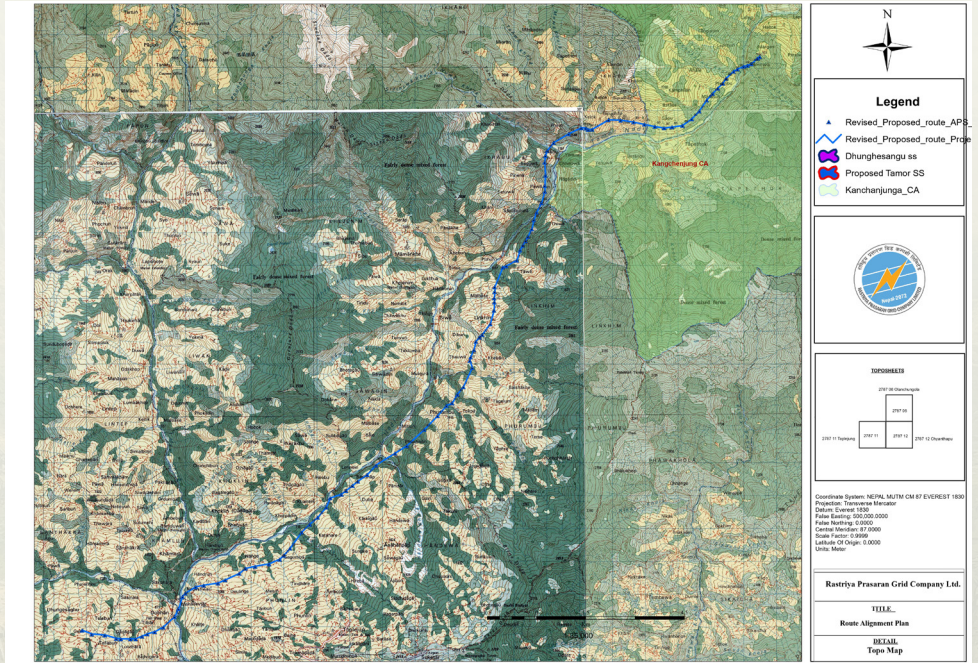
Build Own Operate Transfer (BOOT)

The RPGCL will form Subsidiary Company as Special Purpose Vehicle (SPV). The Subsidiary Company will be private entity, responsible for raising fund (equity and debt). The Subsidiary Company will be operated in BOOT Model i.e build, own, Operate and transfer the assets after 25 years to the RPGCL)

Project Implementation Timeline



Project Layout



Pic 1: Project Layout

Relevant Agencies

- Ministry of Energy, Water Resource and Irrigation (MoEWRI)
- Rastriya Prasaran Grid Company Limited (RPGCL)
- Nepal Electricity Authority (NEA)

About the Agency

Agency: Rastriya Prasaran Grid Company Limited

Rastriya Prasaran Grid Company limited (RPGCL) is dedicated to building and managing the national power grid infrastructure. Their vision is to establish a reliable grid network that supports the country's energy needs sustainably. Their mission includes constructing and maintaining an efficient grid, minimizing transmission losses, and promoting technological innovation. RPGCL aims to collaborate with stakeholders to improve grid efficiency and reliability. Their objectives involve expanding and upgrading transmission infrastructure, integrating renewable energy, ensuring regulatory compliance, developing workforce capacity, and facilitating regional energy cooperation.

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