Full Title of the Project:
400 kV D/c Patratu-Latehar Transmission line

NECESSITY OF THE PROJECT

The **400 kV Patratu–Latehar Transmission Line** is a critical component of Jharkhand power infrastructure and will evacuate generated electricity from the Patratu Vidut Urja Nigam Ltd. (PVUNL) i.e. **Patratu Super Thermal Power Project (PSTPP)** of 3x800 MW capacity. Its optimum capacity to carry power is 2 x 515 MW, i.e. 1030 MW.

Here are some reasons why this transmission line is required:

- **Power Evacuation:** The **Patratu–Latehar** transmission line is planned to evacuate power from the Patratu generating stations, particularly from the Patratu Thermal Power Station (PVUNL), embedded in the Jharkhand power network, to the national grid with a total capacity of 4000 MW (3 x 800 MW phase I and 2 x 800 MW phase II). Jharkhand state shall draw 85 % of the power generated from the project (PVUNL).

  It is to mention that the 400 kV Patratu -Latehar Double circuit transmission line is part of planned network comprising of 400 kV, 220 kV, 132 kV transmission lines and substations.

- **Reliability and Stability:** The said transmission line will improve the reliability and stability of the power system scenario in Jharkhand especially around Latehar, Ramgarh, Lohardaga and Ranchi area ensuring a reliable electricity supply to meet the growing demand.

- **Economic Growth:** By providing a reliable and efficient power transmission infrastructure, the Latehar-Patratu transmission line will support economic growth in the region by enabling industries, businesses, and households to access electricity without interruptions. It will also significantly enhance the Total transmission capacity (TTC) and Available Transmission Capacity (ATC) of the network from PVUNL power generating station to the National Grid via the Latehar -Chandwa 400 kV D/c line. Any surplus power available from the generation shall benefit other Bulk Consumers inside/outside of Jharkhand State under the Open Access for Utilities. This results in enhancing revenue for the Jharkhand State assembly as well. Absence of the Patratu -Latehar Double Circuit transmission line or its any further delay in completion shall restrict the total installed power generation from the project with reliability leading to congestion and uneconomical natural resource utilisation.

- **Reducing Transmission Losses:** The new transmission line will help reduce transmission losses, ensuring that more power reaches the end-users, thereby improving the overall efficiency of the power system.

- **Meeting Energy Demand:** With the increasing demand for electricity in Jharkhand, the Latehar-Patratu transmission line will play a crucial role in meeting this demand and supporting the state's development and growth.

The Latehar-Patratu transmission line is a vital infrastructure project that will contribute to the overall development of the power sector in Jharkhand, promoting economic growth, energy security, and sustainability. Hence, this transmission line shall be a vital part of the power evacuation of the PUVNL generating station, and construction of the line is essential.

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Ranchi / राँची

Signature & Seal of User Agency

Date : 15.07.25

Full Title of the Project:

400 kV D/c Patratu-Latehar Transmission line

ALTERNATIVE ROUTE ALIGNMENT

Head	Alternative Route-I (RED)	Alternative Route-II (BLUE)	Alternative Route-III (PINK)
Line Length	110 Kms.	116 Kms	123 Kms
Forest Area (ha.)	127	156	168

From above comparative statement it is observed that the **Alternative Route–I** is the best feasible option as compared with other routes due to following :

- Involves Minimum Forest area.
- Minimum Tree Felling.
- Proper approach/connectivity with roads for construction as well as maintenance afterwards.

Hence, Alternate Route-I, it has been selected on the above grounds and involvement of minimum forest area.

Date : 16.05.25

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