JUSTIFICATION FOR LOCATING THE PROJECT IN FOREST LAND AND DETAILS OF ALTERNATIVES EXAMINED: -

Odisha Power Transmission Corporation Limited (OPTCL) is a Govt. of Odisha Undertaking Organization. This proposal is formulated to supply power from 400/220/132/33 KV Grid Sub-Station at – Lapanga to RTSS Rengali (East Coast Railway) in Sambalpur District, Odisha. This line is a 132 KV SC (2 Conductor) line, which emanates from 400/220/132/33 KV Grid Sub-Station at Lapanga and will be connected to Railway Traction Sub-Station (RTSS) at- Rengali (East Coast Railway).

This project will supply electric power to the Traction Sub-Station, which will result plying locomotives through electric Power instead of conventional diesel fuel. This will save huge quantity of mineral oils and will help in preserving the depleting Oil sources.

The main advantages in the electric traction system are Ease in control, wide range of flexibility in speed and Control, high Power to weight ratio, less pollution, no use of non-renewable fuels, less cost in running and faster acceleration.

Further, electric locomotives use a unique system of 'regenerative breaking' where the kinetic energy of the train is converted during breaking to electrical energy and pushed back in to the system. Besides, supply at EHT Voltage will also ensure uninterrupted power supply to the Railway Station, Which will prevent undesirable power supply outages and in conveniences to the passengers. Uninterrupted power supply will also help railway authorities to provide better amenities in the station such as lift and escalators, purified drinking water system etc.

During walk over survey of the routes, all possible alternatives has been explored to reduce the area of forest land, avoiding thick populated villages, Dense vegetation , Reserve Forests crossing Railway line, Transmission line and found Route no. 3 is involvement of least forest land convering an area of 6.278 Ha. revenue forest comparing to the other routes. Unlike Roads, EHT Transmission line can not take frequent turn because of limitation of maximum 60^0 turn and other technical constraints. This transmission line project will supply stable, uninterrupted power supply, improve the voltage profile and quality power to East Coast Railway.

Detailed alternate alignment route survey is given below.

Route No. 1:- The total length of the Transmission line is 17.00 KM and there are requirement of 25 Angle points. This line is also crossing Sambalpur – Jharsuguda Railway line (East Coast Railway) near village Dhurchuan. The total forest area is involve 12.282 Ha.

Route No. 2: - The total length of the Transmission line in 12.40 KM and there are requirement of 21 angle points. This line is also Crossing Sambalpur – Jharsuguda Railway line (East Coast Railway) near village Nisanbhanga. The total forest land is involve 10.132 Ha.

Route No. 3: - The total length of the Transmission line is 12.308 KM and there are requirement 20 no of angle points. The total forest land is involve 6.278 Ha.

After extensive exercise, the above the 3 routes (Route -1, Route – 2, & Route – 3) are analyzed for proposed construction. Out of the above 3 routes, Routes No- 3 has been finalized. No alternate suitable non-forest land is available for this project and this may be treated as barest minimum requirement of forest land.