Transmission Line Survey in Nepal

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SUMMARY

Nepal has an estimated capacity of 83,290 MW to produce hydropower out of which 42,133MW could be economically feasible of production. All the hydropower energy produced could not be used locally in Nepal and the majority of hydropower projects are located in remote areas. Therefore, transmission lines are needed to evacuate the power to main transmission grids and to neighboring countries like India, Bangladesh, and other countries. Nepal Government has enacted regulations and agreements for the transmission of high voltage power to India and Bangladesh to supply electricity.

The east-west transmission line (132 KVA) is constructed in Nepal and north-south and east-west transmission lines 132 or 400 KVA are being constructed. The main transmission lines will also be better used if they are planned in middle mountain highway areas.

The preliminary planning of the transmission line will be carried out on topographical maps at the scale of 1:25,000, updated using recent satellite imagery. After the decision of a suitable route, DGPS Survey for main control points and a Total Station survey were carried out for the location of angle points.

The detailed survey will be carried out by Total Station survey or Aerial Lidar Survey. A Strip map of 100m of width will be carried out for the location of pylons and a detailed study of areas. Sections and profiles of the transmission line will be prepared at the scale of 1:2,000 and vertical section 1:200 using recently prepared topographical maps at the scale of 1:500 or digital database and DEM.

The cadastral data will be supper imposed on strip maps. They will be used in land acquisition and

will be used to carry out environmental and social safeguard studies. The land will be acquired for the position of pylons and right of way of transmission line using supper imposed cadastral maps.

In this article, it will review all the processes and legislation of transmission line construction that need to revise to expedite the decision-making and construction works.