

66KV S/C to 110kV D/C Malappuram –Manjeri line



Project Details

Name of the Project	66KV S/C to 110kV D/C Malappuram – Manjeri line Transmission Line
Equity held	100%
Date of Project Completion	December 2017
Project Authority	Kerala State Electricity Board
Project Architect, Design & Engineering	Sterlite Power Transmission Limited

KSEB was struggling with thirty year old network around which the town grew, leaving no chance for a construction of any new line. As the town grew so did the power needs. This old line was built to cater to the need of the population on a S/C 66KV line, solution was required to facilitate the increase in load and improve quality of power.

To achieve this KSEB decided to voltage upgrade the line while providing double circuit line for reliability. Challenge was the space available due to dense vegetation and geography.

Customer’s Pain

The existing 30 years old infrastructure was ageing and needed an up gradation due to increase in load and improve quality of power. With increase in load & quality of power; it was required to convert from 66 kV S/C to 110kV D/C to further improve stability.

Pain Points

Ageing Infrastructure
Increasing Load
Convert S/C to D/C
Three decade old & ageing infrastructure

Sterlite's Solution

A thorough survey was conducted to understand the peculiar requirement. Sterlite offered its AL59 conductor solution technology which facilitated higher ampacity to accommodate peak load demand with reduction in line losses at normal loading conditions; Low sag resulted in better ground profile & increased clearances. Moreover, the use of monopoles to install the line enabling in reducing the foot print. Keeping the final need in mind, Sterlite introduced micropiles to reduce the excavation to build the foundation (first time in the India) and employed innovative stringing methods to reduce times.

Outcome/ Result

This upgradation helped in enhancement of the power transfer capacity in the existing corridor. To optimise the availability of land, Sterlite proposed monopoles along with AL59 conductor solution.

During the course of the project; to further reduce on the impact, micropiles were installed. This enabled in reducing the foot print.



Impact

The line not only has enabled more power to the region, but also quality of power with higher reliability.

The use of monopoles has enabled in huge impact by releasing back the land to the residents as the monopoles base occupies only half the area of that of the lattice tower.