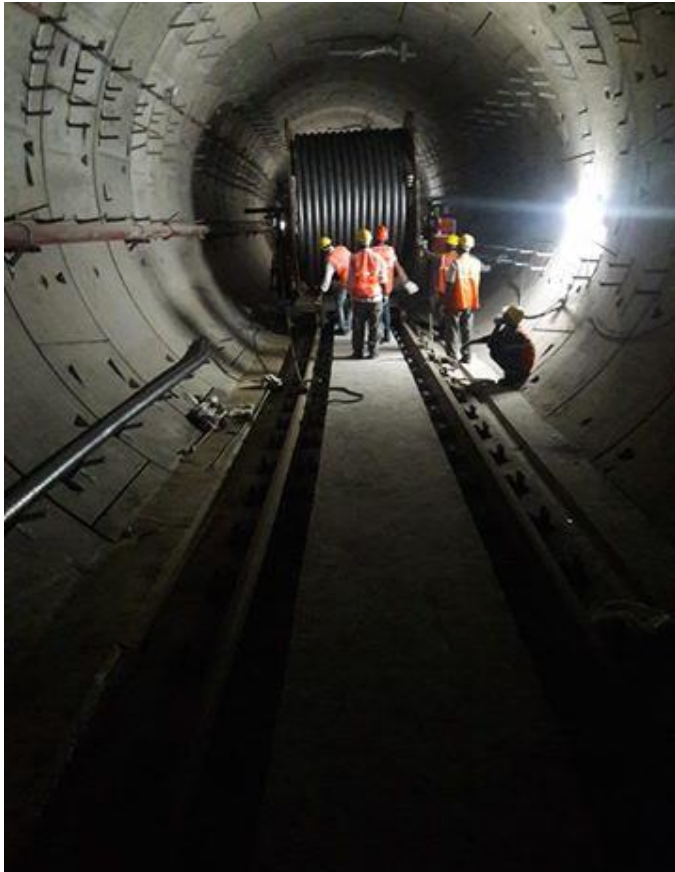


Delhi Metro Rail Corporation Limited



Project Details	
Name of the Project	Connecting 66kV INA RSS-66kV Dhaula kuan substation through Fibre integrated power cable
Equity held	100%
Project details	14.2 Kms of 66 kV 3Cx300 sqmm Fibre Integrated Power Cable installation
Project Authority	DMRC
Project Architect, Design & Engineering	Sterlite Power Transmission Limited

The Delhi Metro Rail Corporation limited (DMRC) was looking for solution to connect its INA substation with Dhaula Kuan substation.

Solution was sort to connect these two substations to ensure continuous power supply to the metro in the existing congested infrastructure.

Customer’s Challenge

Delhi Metro is the world's 12th longest metro system in length and 16th largest in ridership. The network consists of five regular lines and the faster Airport Express line, with a total length of 218 kilometres serving 164 stations.

Considering the busy network that keep the Delhi traffic smooth required to create a redundant circuit with reliable power supply.

DMRC wanted to connect its INA substation to Dhaula Kuan substation with circuit reliability & low maintenance solution along with higher service life of the circuit.

Solution was also required to minimize maintenance of the circuits specially at cross bonding chambers as around 40-50% of the cable is laid in tunnel.



Pain Points
Heavy Congestion area
Circuit reliability
Laying complication in tunnel
All power infeed from single source; with no redundancy in case of failure



Our Solution

With installation of Sterlite’s 3-Core 66 kV Cable facilitated in connecting two important substations of INA RSS and Dhaula Kuan on the existing infrastructure. The solution of 66 kV 3Core cable was appropriate as it could be laid in the congested urban areas.

Moreover these cables are low on maintenance with fewer faults unlike traditional single core cables. These 3 core cables does not require any cross bonding to be done, effectively making the system more stable and flexible for future LILO arrangements. Also these cables have small voltage drop and are non-susceptible to shaking and shorting due to vibrations, wind, accidents, etc.

Around 50% of the load requirement of the circuit can be carried by one run of 3 Core Cables, if other runs fails.

Apart from this, this cable is not easy to steal, make illegal connections or sabotage. The fibre Cable can be used for communication and SCADA for getting real time data of temperature rise in the cable system by connecting the Fibre with DTS.

This is the first time that DMRC has opted for 66kV 3 core cable and Sterlite Power is the only company globally to offer this solution.

Project Impact

Easy facilitation to design changes as LILO or feeder extension

No routine sheath current monitoring

No conditioning monitoring of any component

Higher service life of the circuit

Extremely low energy losses

Cables used for Communication and SCADA

