Case Study

Efficient power transmission systems

Thanks to larger issues such as global warming and cost cutting during recession, this topic has been taken Thanks to larger issues such as global warming and cost cutting during recession, this topic has been taken up seriously by the global industry, which is making conscious efforts to adopt green technology. Taking this issue to a slightly different landscape, it may be worthwhile to explore its relevance and significance when it comes to where powerconsumption actually begins – the power transmission and distribution network.

“Electricity is today a basic necessity. However, it is necessary that users remember it as an economic asset and hence, used judiciously. As a country of one billion people and a dynamic economy growing at rates of over 7% per annum, we are going to consume more energy and we will have therefore to generate this energy. We need to work towards more rational pricing and distribution policies to ensure the new investment required to sustain this growth process”, said Dr. Manmohan Singh, Prime Minister of India, at the launch of the Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY).

“The electrification of rural India is a key foundation stone in the modernisation of our agriculture and in improving the quality of life of our citizens particularly those living in rural India. We cannot delay the implementation of this basic commitment any longer”, he added. However, there are current challenges such as lack of sufficient generation, non-efficient &D networks and power thefts that might prove to be huge roadblocks in the path to India’s energy security. It must be emphasised here that a lot of attention needs to be laid on improvising transmission and distribution networks as there are significant power losses during the transmission and distribution phases. A little more than a decade ago, India’s Telecom Sector was privatised, and we all know how efficiently this sector has grown. It is a welcome initiative from Ministry of Power is to bring in private investment and creating a base for Independent Power Transmission Systems in India. The first set of such Independent Power Transmission System has already seen success with three mega Transmission Projects getting awarded and Sterlite Technologies won the contract for India’s first ultra mega power transmission project. Sterlite would build,own, operate and maintain a transmission network of two 400kV double circuit lines, approximately 430 km in the Indian states of Assam, Bihar and West Bengal.

Losses during power transmission and distribution have particularly been a concern for the Indian electricity sector for a very long time. Apart from the fact that the lines meander, along torturous routes, linking one village to another, the conductor sections are often inappropriate.

The evident challenge is to transmit more power over existing lines and to develop more efficient power conductors for new lines. Companies like Sterlite Technologies have taken heed of this pressing need very seriously and have introduced a range of high ampacity bare overhead conductors, manufactured from specialty alloys that offer superior thermal resistance, which improve the efficiency in high current transmission.

These specialty conductors are versatile in their deployment as they can be used for re conductoring and for new lines. These conductors offer numerous benefits that include enhanced current carrying capacity, higher corrosion resistance, cost effectiveness and reduction in overallop erating expenditure.

It is typically observed that there is a tendency towards early attrition among the younger, graduate student population. This is often due to the fact that organisations are unable to help students make a comfortable transition from campus to industry. To enable the students to make a smooth transition, quickly settle-in at Sterlite and start contributing to their best potential;

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