

## Northern Region System Strengthening 29 Bringing reliable power to Kashmir: 415Km long transmission line



The State of Jammu & Kashmir is striving to meet the growing power demand, and address legacy issues such as high peak deficit and lack of electricity access to unconnected households. The state government was looking for an alternate power corridor to light up Kashmir. The old transmission corridor that runs from Moga in Punjab and ends just ahead of Jammu at Kishenpur was required to be strengthen and extended further.

### Project Challenges

Jammu and Kashmir suffers from severe demand supply imbalance, particularly during the winter months, resulting in blackouts. The state produces only 800 MW of power and within three years will require almost 4,000 MW of power. In FY13-14, energy deficit of J&K stood at over 20%.

The existing transmission corridor, which passes through the Pir Panjal region, is prone to landslides, avalanches, and heavy snowfall, resulting in the snapping of lines and tower; impacting large parts of the state. Another big challenge for the project is the mountainous terrain, which is tough to conquer. During winters, the high snow and cold winds make working impossible and security issues often plague the politically volatile state of Jammu and Kashmir. The state utility was looking for solution of alternate power corridor for the area.

| Project Details                         |   |
|---|---|
| Name of the Project                     | Northern Region System Strengthening 29 (NRSS29)  |
| Equity held                             | 100%  |
| Project details                         | 268CKm transmission line/1150 transmission towers <ul style="list-style-type: none"> <li>• Three 400kV double circuit transmission lines /one 440/220 kV gas insulated substation.</li> <li>• Samba-Amargarh line of 307Kms</li> <li>• Uri-Wagoora line of 1.5Kms</li> <li>• Amargarh Substation</li> </ul> |
| Project Authority                       | JKSPDC  |
| Project Architect, Design & Engineering | Sterlite Power Transmission Limited   |



### Challenges

|  |
|--|
| 3000 meter high mountains                |
| 3 months brief window for work           |
| Material moment to the challenging sites |
| Unpredictable weather conditions         |
| Unrest situations                        |
| Challenging Terrain                      |



**Sterlite’s Technology Innovation**

Connecting J&K to the central electricity grid is a mammoth task. A project of this magnitude and scale comes with its own challenges. The mountainous terrain is tough to conquer with movement of man and material time consuming. Added to that is the brief work window of only 3-4 months a year on account of weather.

Innovation is in the DNA of Sterlite Power. Innovative solutions have led to increased efficiency and crunching of project delivery timelines.

The traditional method of using hundreds of mules to carry material up the treacherous mountainous paths is slow and cumbersome as each transmission tower can weigh a mammoth 40 tons. The tower foundation requires additional tons of cement, concrete, gravel, soil, steel etc.

To surmount the issues, Sterlite Power deployed **helicrane** for the first time in India to transport materials and erect towers. The helicrane, a former war machine, is capable of carrying weight of up to nine ton (vs 40 kgs per man per day) per sortie.

During the short work window, the helicrane transported over XX tons of concrete over remote and inhospitable locations, and also helped erect towers.

The helicrane completed week’s job in hours and also helped protect the environment since movement of dozens of men and hundreds of mules in ecologically sensitive mountainous areas were negated.

Post deployment of the helicrane, infrastructure project implementation in India is never the same. Now no region is too remote, no location is too inaccessible, and no project is too tough!

Sterlite Power commissioned the first element of the project, the Jalandhar-Samba transmission line, 10 months ahead of schedule and is confident of delivering the full project before the scheduled time.

The Project will enable more than 1000MW of power exchange between Jammu & Kashmir and the Northern grid, thus increasing the current power transmission capacity by over 70 percent.

This will bring about a major economic transformation as reliable power supply has proven to be a major transformational catalyst for communities across the globe.

Sterlite Power is proud to have introduced this aviation technology for the first time in the continent.

Innovation is in the DNA of Sterlite Power.

| Project Impact  |
|---|
| Over 12.55 million people will be benefited                   |
| Power in 11 district of J&K will improve                      |
| Increase in ampacity by over 70%                              |
| Employment to over 500 people                                 |
| More than 1000MW power exchange between J&K and Northern grid |

