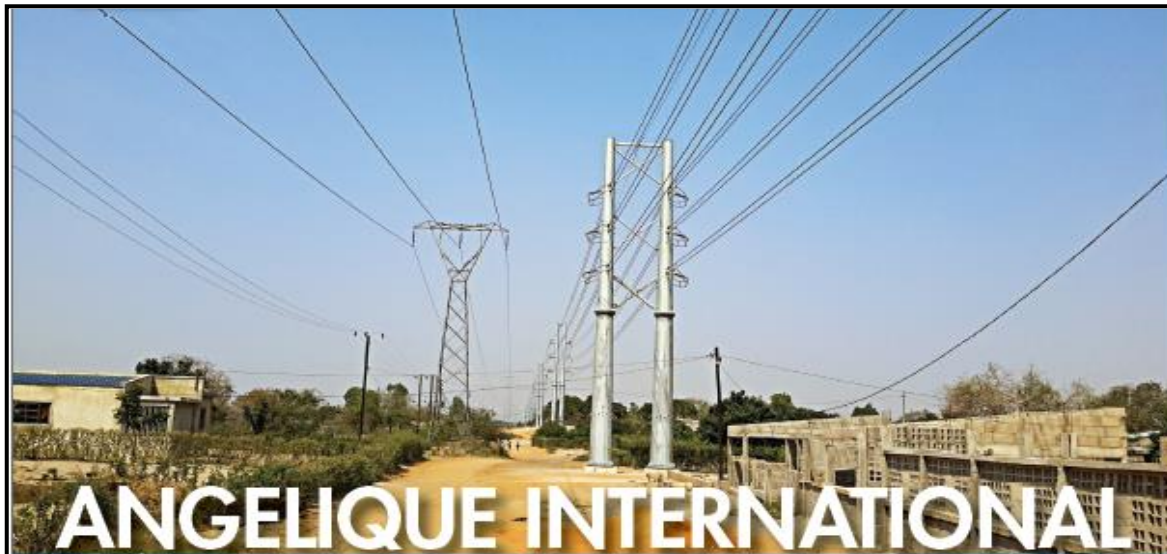


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# ANGELIQUE INTERNATIONAL

## Overcoming challenges in power sector

Indian power sector is undergoing a significant change that has redefined the industry outlook. The EPC market in India has evolved over the last few years with increased project size and complexity, in the last financial year, EPC companies had suffered due to tepid demand from generation business. By shifting gears to T&D, the companies expect to make up for the revenue loss.

The Government of India has added 10.2 Giga Watts (GW) of conventional energy generation capacity and 12.5 GW of renewable energy capacity in Financial Year 2017. Around 293 global and domestic companies have committed to generate 266 GW of solar, wind, mini-hydel and biomass-based power in India over the next 5–10 years.

The EPC sector has a lot to do in this. Riding on India's power requirements over the next five years, the EPC sector is likely to make major advances. The sector is also attracting an increased interest from global majors, Indian conglomerates, as well as plant developers.

However, even in this rising trend the EPC companies face some stiff challenges such as Project cost & Time overruns, ROW & environmental clearances (specially in Transmission Line Projects), realization of timely payments hitting the cash flow

of the organization.

The key challenge for the sector in the backdrop of market turmoil and fears of a slowdown is the ability to realise financing required in effective execution of Projects. Fluctuating steel, cement & LME prices also give rise to cost overruns. Despite of all above bottlenecks, we at Angelique International limited keep abreast with the flow and primarily give weightage to customer satisfaction.

Angelique International is also striving to capitalize on the road paved by government of India for growth of the power sector. We have recently bagged some prestigious projects from Power Grid Corporation of India for strengthening the Transmission & Substation network in the states of Sikkim, Arunachal Pradesh, while some 2 more projects from State utilities in Orissa & Himachal Pradesh.

There are a few challenges also due to the terrain of the locations. We expect more business from this segment looking into the Power development scenario in India. One similar experience of Angelique has been in the project recently executed by AIL in outskirts of Maputo, Mozambique. The project was primarily focused to rehabilitate and reinforce the primary network of hugely populated Maputo City which is also the capital of the

country. The scope involved setting up a 66/33 kV Substation in Kongolote Region at the outskirts of Maputo City and setting up 66 kV feed line from Infulene substation. The Project has crucial importance to meeting the power requirement of the capital city of Maputo. The setting up of the new substation will bring down the severe loading on the Infulene substation and create a new route for feeding the capital City.

AIL faced quite a few challenges in the project, especially in case of transmission line. The line route was passing through a densely populated area, wherein space availability was inadequate to cast conventional foundations for Lattice tower designs. Thereby, looking into the issue the line design was modified and construction of 66 kV Line on H-Pole was done. Another Challenge was the passing of the 66 kV line from the populated area, in order to safeguard from clearance aspect the H pole was designed with a 21 Meters Height with different shipping sections. Adding to the odds, sometimes non availability of specialized machinery such as cranes, created a bottleneck to the erection process. Despite of all the problems faced, the project has been successfully commissioned in September last month and is well appreciated by the people of the country. The newly built 66 kV outdoor and 33 kV GIS substation is now loaded and working on optimum capacity. The Project has expanded the Grid base of the Maputo City and aided in convenient power flow thus making power more reliable and available to the common people.

Angelique International has on the execution and many similar projects which aim at increasing the power scenario of the region and making power affordable and reliable. One such project which is under execution is in the Southern African Country of Zimbabwe.

The country faces scarcity of resources and major power earning is through the inter country wheeling of power through their 330 kV network. The southern Zimbabwe region which shares boundary with South Africa & Mozambique is the most strategic region in terms of power. The Substations located in this region have direct lines to South Africa and Mozambique which see huge power inflows from Mozambique and outflow to South Africa. Having said this, the grid substations of Marvel and Chertsey in Zimbabwe are of prime importance. There arises an emergency requirement



to install a 175 MVA power transformer as well as a 90 MVA power Transformer in the substation as the existing transformers faulted and were irreparable.

Angelique was awarded this contract and looking into the timeframe available, the long lead items such as transformers, breakers, protection system were ordered in no time. We hope to complete the project within expected time frame of Client. Further, it was appreciated by client that although time frame available was less, there was no compromise done on aspect of quality of the ordered material by Angelique.

However, the challenge being faced by Angelique in the project is the non-availability of existing designs for linking with existing system, since the installations dates back to the 1980's and the utility also do not have in their records the designs available.

Despite the shortcomings we expect to keep the pace and go on in completing this project timely. *EP/WH*



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