

# EPR

electrical & power review



**powerPLAY**

Setting New Rules

**5<sup>th</sup>**  
ANNIVERSARY



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## Can Saubhagya ease India's power problem?

### Government initiatives

The infrastructure sector holds the key to national economic revival. Over the last three years, the Indian government has energised the sector through landmark initiatives directed at streamlining processes, enhancing transparency and reinforcing sectoral viability to bring the Indian economy back in the high growth trajectory.

India was ranked at 81 out of 140 countries for its infrastructure in the World Economic Forum's Global Competitiveness Report 2015-16. The country needs close to ₹ 31 trillion (USD 455 billion) to be spent on infrastructure development over the next five years, with 70 per cent of the investment needed across the power, roads and urban infrastructure segments.

India, with installed capacity of 329.23 GW is the fifth largest power generation country in the world and the current renewable energy contribution stands at 58.3 GW (or close to 17.7 per cent as of 31 August 2017). The power generation target from conventional sources for the year 2017-18 has been fixed as 1229.400 Billion Unit (BU), a growth of around 6 per cent over actual conventional generation of 1160.141 BU during the previous year (2016-17).

For decades, India has invested extensively in the area of power generation over transmission. The Indian government has outlined a transmission sector investment of ₹ 2,600 billion by 2022. In order to fix the weakest link in the power value chain, the Ujwal Discom Assurance

Yojna (UDAY) was rolled out in November 2015 to solve the present and potential future problems of discoms with support from their state governments. Loss-making discoms in the country have piled up a massive load of debt to the tune of ₹ 4.8 trillion. Under the scheme, state governments take over three-fourths of the debt of their respective discoms and then issue 'UDAY bonds' to raise money and pay off banks. The remaining 25 per cent of the discom debt is dealt either via conversion into lower interest rate loans by lending banks or through money raised using discom bonds backed by State Government guarantee. Improvement in operations of several discoms is already visible via reduction in AT&C (aggregate technical and commercial) losses, power purchase cost, narrowing gap between cost and revenue and interest cost savings. In about 18 months since its inception, the scheme has been successful in achieving its objective of restoring financial health of discoms; out of the ₹ 48,800 crore debt, about ₹ 32,900 crore was repaid till the third quarter of FY17 resulting in 67 per cent of discom debt being settled up. The improved cash flows will help revival in power demand by the discoms which will show benefits of UDAY scheme over the next two to three years.

To enhance rural electrification and for modernisation of transmission and distribution network, the Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY) was launched in December 2014. The scheme is projected as 'power sector reforms for rural India' that promises round-the-clock electricity supply to farmers and rural households to transform rural India. While ₹ 43,000 crore has been earmarked

Continued to 38 →

for the DDUGJY for feeder separation, ₹ 32,600 crore is marked for strengthening sub-transmission and distribution systems, including 100 per cent metering and underground cabling. Under this scheme, capital subsidy is being provided for feeder separation, electrification of unelectrified villages and households, metering and system strengthening and augmentation of distribution system in rural areas. The erstwhile Rajiv Gandhi Grameen Vidyutikaran Yojana was subsumed in this scheme along with funds worth ₹ 40,000 crore was carried forward to the new scheme. This scheme has been successful as it has connected 78 per cent un-connected households with proper electricity. With a view to track the progress of this scheme and ensure transparency in the implementation of rural electrification, power ministry has launched an app, GARV-II to provide real-time data of all six lakh villages of the country. The new app also enables the citizens to participate in the developmental works by giving their feedback and inputs related to the rural electrification program. The village-wise works sanctioned under the scheme has been mapped to scrutinize the progress of work carried out in each village.

The Integrated Power Development (IPDS) scheme launched by the government to provide capital subsidy for strengthening and augmentation of the distribution system, reduction of AT&C losses, metering of distribution at transformers/feeders/consumers, IT enabled energy accounting/auditing, improvement in billed energy based on metered consumption and improvement in collection efficiency. The scheme which focuses on improvement of T&D networks across India launched in November 2014 with an outlay of ₹ 44,011 crore for 12th and 13th plans. All discoms including private discoms and state power departments are eligible to get financial assistance under the scheme as per plan to strengthen their infrastructure works. The projects supported under this scheme need to be completed within 24 months. By September 2017, the power ministry has already sanctioned ₹ 26,731 crore under IPDS scheme for system strengthening and

IT enablement in 3606 towns in 32 states and union territories for which work is under various stages of execution.

The Unnat Jyoti by Affordable Lighting for All (UJALA) Scheme was launched in January 2015 with a target of replacing 77 crore inefficient bulbs with energy-efficient LED bulbs. The main objective of the scheme is to promote efficient lighting, enhance awareness on using efficient equipment which reduce electricity bills and preserve environment. Its purpose is not only to help reduce electricity bills of consumers but also contribute to energy security of India. Currently, over 25 crore LED bulbs, 36 lac LED tube lights and 13 lakh energy-efficient fans have already been distributed across 25 states and 7 union territories. Thus saving of 1.54 lakh GW of electricity per year. This has led to daily energy savings of more than 8 crore kilowatt-hours, resulting in avoidance of over 5,956 megawatts of peak demand. The estimated cumulative cost reduction in bills of consumers per day is ₹ 32.45 crore and the scheme has also resulted in daily CO2 emission reduction of 65,800 tonnes.

The recently launched Pradhan Mantri Sahaj Bijli Har Ghar Yojana (Saubhagya) worth over ₹ 16,320 crore through which the government seeks to reduce import of fossil fuels, boost underutilised power plants and meet its climate change commitments. With an aim to provide electricity to all families with provision for free electricity connection to poor families, this scheme will cover 30 million households, 25 million in rural areas and 5 million in urban areas. "The scheme will take at least a few months to start implementation as the states will have to submit their detailed project reports that will be evaluated and sanctioned by an inter-ministerial monitoring committee. There is no upfront allocation of funds under the scheme. The electrification works under the sanctioned projects shall be executed by respective distribution companies as per the laid down norms," says Subhash Sethi, Chairman, SPML Infra Limited.

#### **Saubhagya scheme will change the game in 2017**

Informing about the initiative that will change the game in 2017 Sethi says, 'The

Saubhagya scheme announced by the Prime Minister requires much attention and will be in focus for 2017 and 2018 for its implementation and speed. As of now there are about 40 million unelectrified households in India and as per the aim of this scheme to provide electricity connection to all, we will have to electrify about 2.7 million households every month to cover these in the next 15 months, as per the target laid under the scheme."

He adds, "Although the current rate of electrification is much higher than earlier and as per the data available, in September 486,924 households were provided with electricity connections, up from 447,112 in August and 338,569 in July. The rate of electrification needs to be multiplied by about six times of the current rate to meet the stringent timeline of December 2018 set for the Saubhagya Scheme. This scheme will certainly be a game changer for the current year and next year."

#### **Improving industry's health**

Achieving the objective of the 'power for all' will not be an easy task. But the number of initiatives under implementation with improved fuel availability to achieve the target capacity additions, increasing investments, and aggressive bids for renewable energy projects are some of the encouraging trends observed during the past one year. Sethi shares some other notable factors that have changed the power sector outlook are as follows:

- **FDI policy:** 100 per cent Foreign direct investment (FDI) is allowed under the automatic route in the power sector for generation from all sources (except atomic energy), transmission and distribution of electric energy and power trading, subject to all the applicable regulations and laws. Also up to 49 per cent FDI in power exchanges registered under Central Electricity Regulatory Commission under the automatic route, subject to applicable conditions.
- **Electricity Act, 2003:** Elimination of licensing for electricity generation projects, increased competition through international competitive bidding and demarcation of

Continued to 40 →





500 MVA Autotransformer, Mainpuri, Uttar Pradesh



220 Kv Substation, BWSSB, Bangalore



220 kV GIS Substation, Alipurduar, West Bengal



transmission as a separate activity.

- **National tariff policy, 2006:** The key objective of the revised tariff policy, 2016 are to ensure the availability of electricity to consumers at reasonable and competitive rates, ensure financial viability of the sector and attract investments.
- **Ultra-Mega Power Projects (UMPPs):** The government has taken initiative for setting up of UMPPs of 4000MW capacity each to reap the benefits of economies of scale and fast capacity addition.
- **Technology adoption:** IT and new technologies implementation systems such as smart grid projects, IoT and BI has significantly improved the operational efficiency of the power system.
- Institutional strengthening and capacity building of discoms have started showing results in order to get benefits of sector reform.
- Generation capacity has increased by more than 5 per cent from its previously installed capacity to meet the demand and support the targets of various schemes for rural and urban electrification.
- The technology has helped to get cogeneration and trigeneration power plants that are more efficient than central power plants with economic benefits and advantages.

#### SPML's performance and strategies

SPML Infra Ltd is engaged in the business of construction and maintenance of water distribution network, water reservoirs including irrigation systems (dams, canals), construction and maintenance of sewerage systems (treatment plants and pumping stations), construction and maintenance of power plants and construction, erection and maintenance of power substation and transmission lines. The company enjoys a palpable presence in power distribution and installation and utility management. SPML Infra has recently completed the construction and installation of 220 Kv Gas Insulated Substation (GIS) in Alipurduar, West Bengal with the charging of the system on 31st August, 2017. The GIS Substation is technologically advanced and more reliable than the traditional air-insulated substations (AIS). It is compact and lesser space is required for installation is maintenance free for next 20 years. It is an automated system that could be controlled from a computer. The company has also completed the construction and installation of 500 MVA Autotransformer

at Mainpuri, Uttar Pradesh for the extension of 400/220 Kv substation. With this much needed technological advancements, the state power utility will be able to provide quality electricity supply to consumers of the designated area. A similar project of installation of 500 MVA Autotransformer in Sikar, Rajasthan is under execution.

SPML Infra has also received good orders this year for power infrastructure development including 220 kV GIS Substation in Faridabad, Haryana; 132 kV GIS Substation at Burdwan, West Bengal; 16 Nos of new 132 kV Substations in Tripura under North East Region (NER) Power System Improvement Project being funded by the World Bank; Extension of 400 kV Substation with 2x500 MVA Autotransformer at Malda, West Bengal and other 6 locations associated with Eastern Region Strengthening Scheme; and Rural Electricity Infrastructure Development project for agricultural feeder separation in Murshidabad, West Bengal among others. All these projects are under various stages of execution and will be completed as per the given schedule.

SPML Infra is a major power transmission and distribution companies in India and it put very conscious efforts to quality and international best practices in its project execution. The latest and innovative technology has been adopted by the company in its various project executions. SPML Infra is currently executing a number of Gas Insulated Substation projects along with 500 MVA Autotransformer which are technologically advanced, efficient and manage effective distribution of electricity. "Our in house engineering team is on constant research and development to provide innovative and best engineering solutions without compromising on quality. SPML Infra strives for speed and perfection in all projects it undertakes and our well qualified and experienced project execution teams understands clients' requirement to deliver projects on scheduled time," says Sethi.

He adds, "With years of experience in power sector and successfully delivered projects, SPML Infra will remain competitive for various opportunities under different schemes initiated by government of India as we move to achieve the 350 gigawatts (GW) of power generation capacity by 2022 and target of providing electricity to all households in the country." ⚡