Rating Criteria – Rating of Power Distribution Utilities

Executive Summary

Distribution is one of the crucial components in the power sector value chain. As the interface between utilities and consumers, it forms the cash register for the entire sector. Under the Indian Constitution, power is a concurrent subject, and the responsibility for the distribution and supply of power to rural and urban consumers rests with the states.

The Government of India (GoI) provides assistance to states through various central sector/centrally sponsored schemes for the distribution sector. The Electricity Act of 1910 was enacted to regulate the use and supply of power. With the economic reforms of 1991, the entry of private generation companies took place in the sector, and the CEA was empowered to fix the norms for determining the tariff of all generating companies.

India is the third largest producer and second largest consumer of electricity in the world, with an installed capacity of 377.26 GW as of January 2021. As per the CEA, total generation for the period of 1 April 2020 to 11 February 2021 was approximately 10,54,131.57 MU.

Power distribution is one of the most crucial and weakest link in the electricity supply chain. Power distribution companies supply power to a largely retail consumer base within its service area and purchase the same from power transmission/generation companies. The power distribution segment is predominantly owned and operated by state entities, which cater to ~90% of the total energy demand, and the rest is owned by private players in the urban cities of some states such as Gujarat, Maharashtra, Madhya Pradesh, Uttar Pradesh, West Bengal and Delhi. These entities are regulated by State Electricity Regulatory Commissions (SERCs) at the state level and Central Electricity Regulatory Commission (CERCs) at the national level. These regulatory entities determine the tariff for supply to consumers by the distribution companies. It assumes great significance as this segment has a direct impact on the sector's commercial viability and ultimately, on consumers who pay for power services. The sector has been plagued by high AT&C losses and distribution losses, coupled with electricity theft, low metering levels and the poor financial health of utilities with low cost recovery. Due to this, distribution companies have not been able to undertake corresponding investments in infrastructure augmentation.

The distribution segment continues to carry electricity from the point where transmission leaves off, that is, at the 66/33 kV level. The standard voltages on the distribution side are therefore, 66 kV, 33 kV, 22 kV, 11 kV and 0.4kV/0.230 kV, besides 6.6 kV, 3.3 kV and 2.2 kV. Depending on the quantum of power and the distance, lines of appropriate voltages are laid. The main distribution equipment comprises HT and LT lines, transformers, substations, switchgears, capacitors, conductors and meters. HT lines supply electricity to industrial consumers, and LT lines carry it to residential and commercial consumers.

Power distribution companies collect payments from consumers against their energy supplies (purchased from generators) to provide necessary cash flows to the generation and transmission sectors to operate. Due to the perennial cash collection shortfall, often due to payment delays from consumers, Discoms are unable to make timely payments for their energy purchases from generators. This gap/shortfall is met by borrowings (debt), government subsidies and possibly, through reduced expenditure. Furthermore, subsidy dependence for state-owned companies has shown a substantial increase over the years. To come out of this, the GoI approved a scheme called Ujwal Discom Assurance Yojana (UDAY) in November 2015 to improve the operational and financial turnaround of Discoms. The state governments of 27 states and 4 UTs participated in the debt restructuring plan and issued Rs. 2.32 lakh crore worth of bonds towards the refinancing of debt on the books of Discoms. However, the Discoms' performance remained low. Furthermore, Discoms have received a much needed breather in the form of a Rs. 90000 crore financial package (later increased to Rs. 1.20 lakh crore) announced by the Finance Minister, which covers nearly the entire outstanding payables of the Discoms (outstanding dues of ~Rs. 1.38 lakh crore, of which Rs.1.26 lakh crore of overdues, according to PRAAPTI Portal as of September 2020). Therefore, a continuous increase in the Discoms' cost of borrowing (interest), will be inevitably borne by the consumer. This also undermines the ability of the Discoms to purchase and distribute power to fulfil their Universal Supply Obligation (USO), as defined in the Electricity Act 2003, or borrow for capital expenditure to meet load augmentation and growth requirements. Discoms must therefore,

- buy cost-efficient power for consumers
- ensure supply reliability with quality by minimising losses/leakages
- accurately meter, bill and collect payments from consumers and
- thereby, enable timely payments to the generators.

These are the key steps towards sustaining the entire energy value chain without power supply disruptions.

The total electricity consumption in India increased from 611.29 BU in 2008-09 to 1196.31 BU in 2018-19 at an annual growth rate of 6.9%. During this period, the per capita consumption of electricity has increased from 734 KWh to 1181 KWh, with an annual growth rate of 4.9%. However, despite this considerable growth, the level of per capita energy consumption in India is low compared to the international per capita energy consumption. The energy consumption in 2020 due to the Covid-19 situation and the government-mandated lockdown fell from 3586 GWh to 2652 GWh, with significant decline observed in the Western region including in Gujarat and Maharashtra, which exacerbated the working capital woes of power Discoms.

Scope of the Criteria

The document provides a brief analysis of the attributes considered by Brickwork Ratings (BWR) for rating distribution projects. The scope of this document is to capture key risks assessed by BWR while arriving at the rating of a discom. A brief summary of the effect of these attributes on the overall credit rating of discoms is highlighted, which helps ascertain the debt servicing capability as against the generation of cash flow and the ability of these Discoms to undertake large-scale power distribution networks.

Risk Assessment and Rating Criteria at Brickwork Ratings

BWR factors in various quantitative and qualitative risks that distribution companies are exposed to, while assessing the risks in these companies. As highlighted above, the key risks that power distribution companies may face are business, industry, financial and management risks. These risks are considered to arrive at the rating of a distribution utility. The risks and how they are incorporated in the rating framework are discussed in detail below.

1. **Business Risk**

   Business risks for discoms refer to the risks affecting their day-to-day working, risks related to the environment that the utility operates in, its margins, competitive position, operational efficiencies and profitability.

a) **Consumer mix and distribution network:** In a power distribution set-up, the consumer mix mainly comprises residential, commercial, industrial and agriculture sectors. A mix of customers and their purchasing power, service quality offered to customers and reliability offered are the key considerations within a service area of a distribution franchisee while assessing the risk. A higher proportion of High Tension (HT) customers in the consumer mix implies greater vulnerability to competition in a liberal regime for Captive Power Plants (CPP) and in an open access scenario that allows freedom to consumers to source power from alternative sources. A service area with a higher industrial customer base and demonstrated continuous growth is considered as a positive as margins remain higher with industrial customers, but the concentration of these customers should be within acceptable limits. A high proportion of agriculture consumers, wherein subsidized tariff or free power supply is prevalent in many states for the agriculture segment, implies a higher burden of the receipt of subsidy from the state governments. Additionally, it reflects a higher mix of unmetered billing, which in turn increases the chances of a lower collection efficiency and higher transmission and distribution losses.

b) **Operating efficiency:** This includes risks related to payment collection, transmission losses, metering, billing and collection efficiency, and minimising distribution losses, which is expected to have an impact the cash flows of the distribution utility. This also covers the tariff structure as against the actual cost of power purchase. The ability of discoms to procure adequate power at minimum prices and supply power to their distribution network coverage area, while maintaining adequate collection will be the key operational risk to assess.

c) **Timeliness and adequacy of tariff determination:** This includes risks related to delays in tariff petition, political intervention in tariff petition and true-up claims. BWR assesses the track record of tariff determination by SERC for the distribution utility and adequacy of tariff as against the cost of power to the utility. BWR also assesses the delays in filing the tariff petition and approval by the SERC for the recovery of such claims. Delays in tariff determination or the non-implementation of the tariff order could impact the overall credit quality of the distribution utility and impact the cash flow of the utility.

2. Industry and Regulatory Risk

a) **Regulatory risk:** This includes timeliness and transparency in tariff petition. Distribution utilities are regulated by the SERCs. The tariff revision is necessary for meeting additional costs due to an increase in generation and transmission costs, regulatory assets and legitimate expenses of Discoms. The revenue gap has emerged due to additional costs, which are beyond the control of any DISCOMs. A multi-year regulatory framework that supports the Discoms to mitigate such risks, has been put in place by the SERC. It also has provisions of a true-up order to compare the actual performance as against the approved level during the year. Over the years, it has been observed that the tariff hike approved by the SERCs has been inadequate as compared to the cost of power across many states, which has resulted in continuous losses for the Discoms. Furthermore, power distribution is politically sensitive in nature, implying many SERCs defer tariff hikes due to the political environment.

b) **Support from state government:** This includes subsidy support from the government and funding support in terms of debt takeover by the state. BWR analyses the credit quality of state-owned DISCOMs, along with the credit profile of the state and the extent of funding support offered by the state government. Apart from funding support, state governments provide other support in the form of capital support towards funding capital expenditure, subsidy support and political willingness towards regular tariff hikes and through the implementation of various reforms.

c) **Investment in updating technology:** This includes the exposure to technological changes and advancement, its lifecycle. Investment in technology in the power industry plays a key role in mitigating risk. BWR assesses that technological investment in smart metering and grid connectivity, among others, reduces T&D losses and improves the billing efficiency of the DISCOMs, which in turn generate greater cash flow and will be better placed to service their debt obligations, and generation and transmission charges.

3. Financial Risk

Since distribution is the most important link in the power sector, the financial health of discoms affects the viability of generation and transmission utilities as well. Therefore, the factors affecting the financial health of discoms are assessed critically by BWR.

a) **Profitability ratio:** This includes risks related to operating margin, growth in revenue and the Return on Capital Employed (RoCE). The ability of a discom to generate revenue from power distribution is an extremely important parameter to ascertain how much debt the company will be able to undertake. The main source of revenues for Discoms is customer payments received against electricity supply. Due to failures in appropriate billing, meter reading, the collection of payments from customers and so on, the financial health and operating margins of discoms are severely affected. Discoms must therefore, purchase cost-effective power from generation companies and ensure consistent electricity supply by avoiding outages, breakages and so on to ensure healthy and high operating margins.

b) **Leverage and coverage Ratios:** This helps ascertain the level of debt held by discoms to gauge their ability to pay-off their fixed interest obligations. BWR assesses a Discom based on its current debt servicing ability as compared to cash flow generation, future cash flow, the past track record of it meeting its debt obligations, its current capital structure and the ability to recover its past dues or cost of power supply through tariff revisions. Further risks will be assessed based on the current approved tariff structure by the SERC, subsidy and funding support from state government, capital expenditure, working capital funding and funding options available with the Discom.

c) **Turnover and liquidity ratio:** This includes risks related to payment to/from debtors/creditors and liquidity. BWR assesses the liquidity based on the past trends of collection efficiencies, cash balances with the Discom, utilisation of working capital limits and liquid investment to fund cash flow shortfalls, if any.

4. Management Quality

A strong, dedicated and highly experienced board of directors helps the organisation achieve its profitability and operational efficiency targets and also helps improve the company's financials. BWR assesses the consistency of the performance demonstrated by the management, and the quality of corporate governance adopted by the utility. Red flags, if any, highlighted by internal or external stakeholders, would negatively reflect in the rating. The financial flexibility of the management, funding and subsidy support from the state government, tested by the empirical evidence of successfully supporting the other companies/projects, past track record of debt servicing, and quality of corporate governance practices followed by the company are factored in while assessing the company's overall credit profile.

Conclusion

BWR analyses each of the above parameters after measuring the impact of each of the above-mentioned risks and attributes, along with financial projections over the life of the facility and the adequacy of cash flows to meet debt service obligations to arrive at the overall assessment of the credit quality of discoms. The major risks that a discom faces stem from distribution losses and a skewed tariff structure with high political intervention. In addition, risks related to billing, consumer metering and collection inefficiency are also taken into consideration to arrive at the final rating output.

rendering finality or completeness to a Rating assessment. A reference to criteria needs to be perceived in broad terms, only as an aid to a rating decision.

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