

Rating criteria for power generation utilities

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Executive Summary

As per the Constitution of India, power is a concurrent subject, on which both the central and state governments can exercise their control. Since Independence, the power sector has been dominated by integrated power utilities, which operate at the state level, and carry out functions of generation, transmission and distribution of power within the respective geographical area. The centrally-owned power generating utilities also contribute to a significant share of power distributed at the national level, with sales to various integrated power utilities at the state level. Subsequent to introduction of competitive bidding, participation by private players has seen a significant rise.

Scope

While the broader criteria of manufacturing companies¹ applies to all the firms, this note² brings out the parameters considered by CRISIL in credit ratings, which are specific to primarily thermal power sector utilities.

Business Risk

Industry and policy environment

The domestic power generation sector has been marked by significant demand-supply deficits in the past. However, such deficits have narrowed down in recent times, with an increasing power supply, aided by capacity additions, outpacing demand growth. Demand has risen at a subdued pace over the last few years, owing to a slowdown in economic growth.

Traditionally, the power generation function has been largely managed by integrated utilities, State Electricity Boards (SEBs) and central government-owned utilities. With the advent of reforms, most SEBs have been unbundled along functional lines, with separate generation companies at the state level. Share of private sector in energy generation has increased rapidly over the years, due to significant capacity additions. Generation companies (gencos) can sell power to discoms in their geographical area and to other private off-takers. This has led to a shift from a single party off-taker to multiple off-takers.

As per the mandate of Electricity Act 2003, tariff for generation projects is based on a competitive bid scenario (with some exceptions), and not on a cost-plus formula, as in the past. Cost of generation therefore, is the key differentiator between gencos. CRISIL will therefore, continue to view low-cost producers positively.

Viability of the generation sector is closely linked to development of the transmission network, which can evacuate power from the power plant to load centres, and development of the distribution network that can absorb additional power. Poor transmission and distribution networks in the gencos' areas of delivery are therefore, viewed negatively by CRISIL. Financial viability of gencos is intricately linked to the financial position of the distribution sector, which is the primary off-taker. Most distribution utilities in India are state-owned, and experience significant

¹ The detailed criteria is present on the CRISIL website under the 'Criteria and Methodology' section - 'Rating Criteria for Manufacturing and Services Sector Companies' and 'CRISIL's Approach to Financial Ratios'

² For accessing previous published document on "Rating Criteria for Power generation utilities", kindly follow below mentioned link: https://www.crisil.com/content/dam/crisil/criteria_methodology/utilities/archive/CRISIL-Ratings-criteria-power-gens_2007.pdf

financial losses, owing to their poor operational profile. CRISIL considers this as a significant constraint in the ratings of gencos. Pricing and availability of fuel also act as major constraining factors in the development of the generation sector.

Regulatory risk

The power sector in India comes under the purview of the Central and state regulatory agencies, and various functions distributed between multiple implementing agencies. The Central Electricity Regulatory Commission (CERC), the Central Electricity Authority (CEA) and the state electricity regulatory commissions (SERCs), are the three chief regulators.

The Ministry of Power works in close coordination with CERC and CEA. While CERC acts more like a regulator responsible for approving tariffs of central utilities and licenses, CEA is a technical advisor, focused on planning (estimating power demand and generation and transmission capacity addition). CEA also reviews the performance of the power sector on a monthly basis.

CERC regulates the tariff of generating companies, owned or controlled by the Central government, and inter-state transmission of energy, including tariff of transmission utilities; grants licences for inter-state transmission and trading; and advises the Central government in formulation of the National Electricity Policy and Tariff Policy.

SERCs determine the tariffs for generation, supply, transmission and wheeling of electricity, regulate the wholesale, bulk or retail sale of power within the state, and are responsible for issuing licenses for intra-state transmission, distribution and trading, and promoting co-generation and generation of electricity from renewable sources.

The Electricity Act 2003 and the National Tariff policy under the Act emphasise the implementation of competitive bidding for encouraging private sector investments in power generation, to reduce capital cost, promote efficiency in operations, and enable competitive pricing of electricity. The central government and the state government are hugely focused on this initiative, and have initiated various projects under the competitive bidding guidelines, typically called Case 1/ Case 2 bidding. Since January 2011, it has become mandatory for all power generation projects to be bid out through the competitive bidding process.

Hence, progressively, the cost-plus tariff formulation will be replaced with projects based on competitive tariff bids, which will further bring the genco's ability to manage cost under pressure. For competitive bid projects, operational efficiency resulting in competitive tariff, will be critical for minimising regulatory risks, arising from non-allowance of certain expenses.

Captive generation or direct sales to consumers, on the other hand, does not require an approval from the ERCs, and can be based on mutually agreed upon terms. However, regulatory intervention, in terms of wheeling charges to be paid to transmission companies and charges related to 'open access' to be paid to discoms for migration of high paying industrial customers, will persist. If regulators keep such expenses very high, it will dent the gencos' competitiveness to supply power to direct customers. Low open access charges are viewed favorably by CRISIL as they enhance the ability of gencos to access customers of high creditworthiness.

Market and service area

With long-term, cost-plus-based power purchase agreements, recovery of fixed costs is ensured, including return on equity, thereby resulting in minimal risks. However, this is subject to the plant being run efficiently and achieving the normative parameters set for fixed cost recovery. With competitive bidding, the tariff charged will become the single most important determinant of a generator's ability to capture the market, subject to availability of an adequate transmission network for evacuation of power from the generating plant to load centres.

Power has certain unique features: for instance, it cannot be stored. However, trading, as with any other commodity, is progressively expected to increase. Here again, the generator's capability to manage a competitive tariff would play a key role. The type of technology used, track record of the EPC contractor in setting up similar plants, and that of the plant operator, type of fuel used, and arrangements made for long-term procurement of fuel at competitive prices, are important factors that CRISIL analyses. These factors have a significant impact on the gencos' ability to deliver power consistently and competitively. Fuel prices and procurement practices, in particular, are the biggest risks here, as fuel prices generally constitute the largest cost component for power plants. Plants with long-term arrangements such as captive coal mining, will exhibit much lower fuel related risks, than those run on liquid fuel, which may be exposed to high fuel price volatility.

Given the poor credit profile of key off-takers, namely, the state-owned discoms, counterparty risk assessment constitutes another key factor that CRISIL looks into. Having a portfolio of off-takers, restriction of power sales to off-takers with higher credit profiles, or special payment security mechanisms are critical inputs for minimising counterparty risks. Since power cost comprises the single most important component in the expenditure of discoms, lower the tariff, better would be the ability of discoms to recover the entire amount from customers, and repay generators.

Operations

Only an efficiently run generating plant can ensure consistent delivery of power at low rates. The key operational parameters that shape the operational profile of a generating plant include:

1. The technology used: A well-tested technology lowers probability of unplanned breakdowns
2. Plant availability: High plant availability is not only dependent on technology used, but also on processes adopted for regular maintenance, and adequate fuel supply. Higher availability increases generating capability, and in a two-part tariff system, improves the actual recovery of fixed cost.
3. Plant efficiency: Low auxiliary consumption, plant heat rates and specific primary and secondary fuel consumption norms ensure that lesser quantity of fuel is used, thus reducing variable cost.
4. Administrative efficiency: Apart from fuel related expenses, minimisation of other expenses such as employee cost, interest and finance charges, is also necessary to keep the generation cost low. Both plant and administrative efficiency parameters should be benchmarked against those of other generators to analyse the relative efficiency.
5. Environmental issues: The type of fuel, location of plant and technology used can dictate the cost incurred over environmental related issues at the construction and operational stages. In fact, in extreme cases, non-compliance with environmental norms can put continuance of operations at risk.
6. Fuel price and availability: Each distribution utility is mandated by the regulator to procure power based on a merit order dispatch, with the least priority set for the plant with the highest variable cost. Low fuel cost ensures high priority in the merit order system for the plant. Though, in a two-part tariff system, a distribution utility would have to pay a fixed cost if the plant is available for generation; lower the actual generation, higher will be the per unit cost for the utility, thus making it non-competitive to sell.
7. Billing and collection: A build-up of receivables would exert pressure on cashflows of the generator. Credit profiles of off-takers, adherence to power purchase agreement, incentives/dis-incentives, and the average generation tariff in relation to average revenue raised by the discom, are factors dictating the level of receivables for generators.

Project implementation

The size of new projects being taken up, relative to the present size of operations, is a key indicator of the direction the company is moving towards. New projects generally entail higher risks than operational projects. Gestation period for a thermal plant is around 3-4 years, while that of a hydel plant is longer, due to delays caused by political and regulatory disruptions. The focus here is to determine the risks faced by the company in completing the projects. CRISIL studies the pattern of financing employed by the company for approved and ongoing projects, and whether financing has been tied up. The financing mix, in terms of market debt and internal accrual /government support, is indicative of the company's financial policy. CRISIL conducts sensitivities on time and cost overruns to assess the company's ability to meet debt-servicing obligations. Projects nearing completion are viewed more favourably than greenfield projects because they entail a relatively lower construction risk. CRISIL also gives due weightage to the company's track record in setting up projects. Power offtake and fuel procurement agreements are the critical documents analysed, as these represent the covenants responsible for the commercial viability of the generation plan during the operational stage.

Financial Risk

In analysing a Genco's financial risk profile, CRISIL evaluates its accounting policies, current financial position, projected future cash flows and financial flexibility.

Existing financial position

CRISIL focuses on analysing the genco's past performance, and considers parameters such as trends in revenue from operations, cost and profitability analysis, management of receivables and payables, capitalisation, analysis of loans and borrowings, payment track record, coverage ratios and return on capital employed.

In a regulated tariff regime, which is the current scenario for most gencos, profitability is a reflection of operating efficiency, in relation to benchmarks. Cash profitability is dependent on effective management of receivables. CRISIL compares the actual achievement of benchmarks such as plant availability, plant load factor, and auxiliary consumption, against benchmarks for tariff in order to analyse the operations' profitability and sustainability at the gross level. CRISIL also analyses the trend in cost of inputs, such as fuel and employee cost to estimate their impact on the cost structure. A comparison with other gencos/SEBs on these parameters indicates the genco's relative position on the cost curve.

CRISIL looks for a credible track record in managing receivables and payables as this ensures that the genco's operations are not disrupted. As gencos sell their entire output to one or few customers only, the customers' ability to make payments, and their payment track record are also analysed. Though a genco may be receiving its entire fixed cost from the off-takers, any deficiency in delivery of actual power, against the contracted quantum due to high variable cost or non-availability of fuel, is viewed negatively by CRISIL. This is because it raises the per unit cost of purchase by the off-taker, which becomes uncompetitive. Higher cost of purchase would generate greater incentive among off-takers, most of whom already suffer from significant financial strain, to delay or default on payments to the genco.

CRISIL compares a genco's key debt protection ratios such as debt service coverage ratio (DSCR), interest coverage and net cash accrual to total debt ratios, with other gencos and companies across other industries. As generation projects are highly capital intensive, regulators allow a higher debt to equity ratio, as part of cost recovery. CRISIL does not view high gearing negatively as long as it is well within the industry-wide regulatory norms and debt protection ratios remain comfortable. However, presence of significant new project-related capital

work in progress is a key monitorable, due to various project-related risks and their negative impact on the current balance sheet of the genco.

Future cash flows and financial flexibility

CRISIL focuses on the genco's operational and financial forecasts to assess the degree of certainty in cash flow projections (under optimistic, pessimistic and most likely conditions). CRISIL attempts to predict the adequacy of projected cash flows to meet financial obligations after covering operational expenses, capital and working capital requirement. The key factors in CRISIL's analysis are projected coverage levels and the quality of coverage, that is, the certainty that actual cash coverage will match projections.

A sensitivity analysis is conducted with respect to factors such as fuel prices and availability, plant availability and load factors, and collection of receivables. CRISIL makes certain assumptions regarding these parameters to assess the impact of any variation on the genco's future financial profile. The potential risk on account of movements in interest and exchange rates and their impact on debt coverage ratios are also assessed. The financial risk arising due to the regulatory environment is also incorporated in assessing the genco's future cash flow adequacy.

CRISIL also attempts to determine the genco's flexibility in raising funds from conventional and alternative sources to meet its financial obligations. In addition to institutional and market borrowings, state-level gencos depend on respective state governments for loans to meet their capital expenditure needs. CRISIL's analysis covers the prospect of continued access to state government funds (which is related to the state's finances and priorities), higher access being a favourable feature, subject to credit quality of the state government. Alternative (non-governmental) funding sources could include supplier's credit, leasing or lines of credit from the World Bank. CRISIL assesses whether a capital expenditure plan may be deferred or curtailed during a financial crunch. Smaller capex plans, with lower gestation periods, offer greater financial flexibility, compared to a large capex project with an extended gestation period of no-returns. Also, availability of marketable investments and under-utilised bank lines are viewed favourably as they enhance the financial flexibility.

Management Risk

For the analysis of the management risk of power generation utilities, CRISIL follows the standard criteria used for all manufacturing companies. This criterion is presented in detail in our publication, 'Rating Criteria for Manufacturing and Services Sector Companies'.

Conclusion

Thus, in CRISIL's opinion, the key factors for analyzing players in the power generation utilities sector include:

- Industry and policy environment
- Regulatory framework governing the power sector
- Market and service environment
- Various operational parameters such as technology, plant availability, efficiency, and administrative efficiency

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