The Franchisee Model in Electricity Distribution: A case study of Torrent Power Limited in Bhiwandi, Maharashtra

Sangita Kamdar

Abstract

In India, the electricity industry is dominated by the public sector. Public sector utilities have been facing financial losses. The reforms introduced to make the industry more efficient include unbundling of the vertically integrated utilities and privatization. Focusing on the distribution sector of the electricity industry, the paper outlines the various models which have evolved in the distribution sector since the introduction of reforms in the industry in India. The Distribution Franchisee model is one of them. Using the case of the Distribution Franchisee, Torrent Power Limited in Bhiwandi, Maharashtra, the paper highlights how a private sector company transformed a downward vicious cycle to a virtuous cycle by reducing the distribution transformer failure rate which led to reduced Aggregate Technical and Commercial Losses (AT&C). The management strategy of combining long term capital investment in network infrastructure and customer centric practices led to improved billing and metering of electricity usage. The performance of the Distribution Franchisee with other private sector players in the distribution sector of the electricity industry on select indicators is commendable. What remains to be seen is the sustainability of the model. Will the distribution franchisee continue to deliver its performance? Or is complete privatization the answer to the problem faced by the loss making public utility? The research study raises these issues and concludes that the Distribution Franchisee model is a half-hearted attempt at privatization and is not sustainable in the long run.
Introduction

Electricity generation and distribution have traditionally been with the public sector in India. Legal provisions to support and regulate electricity were put in place through the Indian Electricity Act (1910). Electricity Boards in the States of India were established under the Electricity (Supply) Act, 1948 creating public sector monopolies. The performance of the public sector dominated electricity industry has been far from satisfactory. The peak hour consumer demand exceeds the available generating capacity leading to load shedding in most parts of the country except metropolitan cities and state capitals. Rural supplies are rostered and restricted to 8-12 hours a day in most States. State utilities tend to overdraw power from the larger grid making it prone to risk of collapse. Industries and commercial establishments need back up diesel generators and domestic consumers need battery-backed inverters for uninterrupted power supply when the grid is cut off (Bhushan, 2011). On the financial side, the gap between user charges and the rising costs of supply of electricity has led to financial losses for the State Electricity Boards resulting in inadequate investments in the distribution system. The financial health of the State Electricity Boards and reliable access to electricity by the people are matters of concern.

The exclusive jurisdiction of the state monopolies was sought to be diluted through the Electricity Act, 2003 which replaced the earlier three laws relating to electricity¹. The Electricity Act 2003 seeks to bring efficiency through competition. Under this Act, generation of electricity has been totally delicensed and opened up for private sector investments. In transmission, open access is to be introduced in a phased manner, and in distribution, the private sector has been allowed entry through multiple licenses in areas which are to be provided by the Regulators. However, after more than ten years of the Electricity Act, very few multiple licenses for distribution areas have been awarded because of administrative, regulatory and political considerations. Partial open access regulations have been introduced. Generators, whether standalone or captive, have not entered the distribution market in a significant way. The quantum of electricity traded is only 3 percent of total power sold (Patel and Bhattacharya, 2009, p. 19). There is thus a need to understand efforts made in privatization of distribution of electricity and to assess whether they have brought in competition and offer choices to consumers, which is the central theme of the Electricity Act 2003. The present paper is an attempt to critically analyse the effort at privatization of electricity distribution through the Distribution Franchisee model as introduced in the Bhiwandi circle in Maharashtra, a state of India.

The paper has been organized in the following manner: Drawing upon the experience of restructuring the electricity sector undertaken elsewhere, the literature review (section II) points to the need for undertaking a study to understand the implications of the reforms undertaken in India in the distribution sector. Objectives and methodology follow in section III. The distribution models in the electricity sector with special reference to India are studied in section IV and the case study of the Franchisee Model in electricity distribution of Torrent Power Limited (TPL) follows in Section V. Concluding remarks follow.

¹The three laws relating to electricity which were replaced were the Indian Electricity Act, 1910, the Electricity (Supply) Act, 1948 and the Electricity Regulatory Commission Act, 1998.
Literature Review

Various studies such as Al-Sunaidy and Green (2005), Joskow (2003) and Hunt and Shuttleworth (1996), Dubash and Singh (2005) provide an explanation of the terms and processes involved while discussing economic reforms in the electricity sector. Restructuring means that competition should be introduced wherever possible. Its components include corporatization, privatization and unbundling. Vertical unbundling creates separate generation, transmission and distribution companies while horizontal unbundling creates multiple and competing entities in each market segment. Accompanying these changes is a parallel set of changes in management as observed in commercialization and corporatization, and change in ownership pattern in favour of privatization. These changes prepare the public utilities for the world of competitive markets.

Global experiences show that while reforms in the developed countries were undertaken to reduce costs and to improve the efficiency of existing utilities, in developing countries efforts to reform the electricity sector have been primarily because of financial losses of state run electricity utilities, availability of private financing and the available ideology of electricity restructuring (Dubash, 2005; Blumsack et al, 2005).

Deregulation provides incentives to be technologically efficient and lowers production costs in order to maximize profits. Savings in production costs due to deregulation of electrical generation have been estimated by applying microeconomic theory to statistical analysis (Kleit and Tercell, 2001). In the US, the electricity sector was treated as a natural monopoly and private investors owned vertically integrated utilities subject to regulation. By deregulating the generation market in the 1970s, the US was able to move away from cost-based pricing. Increased competition leads to increase in generation capacity and reduction in wholesale energy prices (Das, 2010). Contrary views are found in Blumsack et al (2005). They argue that efforts at reducing costs and revitalizing the industry through competition have been disappointing as prices fell only in those cases where regulators intervened.

In the US model, the distribution sector (the wire business) is separated from the energy supply to the consumer, thus ensuring that distribution is a regulated activity while retail supply is deregulated. This ensures an electricity bill to the consumer which has two components - a delivery component which includes distribution costs and a competitive component which includes energy cost. The consumer purchases the regulated delivery component from the local distribution company but has the freedom to choose the supplier of energy (Das, 2010). The universal service obligation was given to the existing distribution company called the provider of the last resort (POLR). The regulator determined the price at which the POLR would supply electricity which was a discounted price from the prevailing market price. The distribution utilities were required to purchase power on a competitive basis for supply to consumers who continued with them by choice or default. Arguing that there is little competition in generation and no competition in retail supply in India, the US model of deregulating generation and retail supply whilst simultaneously keeping transmission and distribution under regulation will bring more players and investments to the sector which will benefit the consumers (Das, 2010). Mandating distribution utilities to procure power through open competitive bidding with a system of provider of last resort with the POLR price fixed with respect to the market price can
be the way forward (ibid). Critical views may be found in Blumsack et al. (2005). Successful deregulation requires markets to be competitive and complete, neither of which is true in the US. Creating competitive markets through additional investments or divestiture in order to mitigate the pricing power of pivotal suppliers would raise costs and may outweigh the benefits of deregulation (pp. 5279, 5288).

Reforms to the electricity industry in Britain in the 1990s had six elements. Creation of a wholesale spot market as the main price-setting arena; creation of retail competition so that all consumers can choose their electricity supplier; corporate separation of network activities from activities that would be market driven; corporate separation between generation and retail supply; adoption of incentive regulation to set the prices for monopoly activities; and sale of publicly-owned assets to private investors (Thomas, 2005). On whether these reforms have led to the creation of efficient markets in Britain, Thomas (2005) argues in the negative as the industry is close to an oligopoly with the wholesale market not being competitive and large consumers having gained from liberalization at the expense of the small consumer (p.5267). Drawing lessons from the British restructuring program, Wood and Kodwani (1997) conclude that regulation of utilities like monitoring the service quality and encouraging competition by leaving the task of distribution to regional companies makes accountability for performance more transparent (p. 2357).

Empirical evidence points out that on an average (though this is not a rigid rule), private electricity suppliers have lower costs than publicly owned electricity suppliers, other things being equal. This makes privatization of the generation segment more important than the other two segments, which need more public regulation. However, a good case can be made for privatizing the entire sector (Jaskow, 1998, p.32). Partial deregulation of price formation in wholesale and retail markets should be avoided (Crow, 2002). There must be deregulation of both generation and retail sales if either is to be deregulated. Drawing lessons from comparison of the features of restructuring in selected states of the United States and other countries, Crow (2002) observes that restructuring is like jumping across a chasm. ’You either jump all the way across, or you do not jump at all’ (p. 55). California jumped half way in wholesale markets by discouraging the utility distribution companies from participating in forward transactions which contributed to increased volatility of California’s wholesale electricity markets and higher average prices. Market risks mitigation should be a component of deregulation of wholesale markets.

Distribution is one of the weakest links in the electricity value chain in India. The sector is plagued by high Aggregated Technical and Commercial (AT&C) losses, power thefts, inadequate metering, subsided/free power, dilapidated networks and poor recovery of dues (Mishra, 2013; Patel and Bhattacharya, 2009). There have been initiatives to involve the private sector by setting up distribution franchisees (DF) and smart grids (Mishra, 2013). The gains from improving the financial performance of the distribution has led to reduction in the need for subsidies, lowering of fiscal deficit of the states, improved savings rate of the country and its credit rating as well (Bhattacharya and Patel, 2011). The onus of seeking regulatory intervention for resolving issues in procuring power through open access may work with retail consumers with structured organizations and resources. However, it would be a deterrent when consumers with demand
lower than one megawatt become eligible to seek supply through open access (Rani, 2011).

Given the problems faced by the distribution segment of the electricity sector in India, there is need to understand how restructuring and privatization will contribute towards its efficiency. The distribution franchisee model as introduced in India has unique features not observed in other models across the globe. It is therefore of interest to understand its components and implications for management strategy. 'Not invented here' is not an acceptable principle for introducing economic reforms (Crow, 2002, p. 43). Learning lessons from elsewhere, the Indian power sector needs to incorporate these lessons for its sustainability. In this paper, we attempt to study privatization as introduced in India in its electricity distribution segment using the case study of Torrent Power Limited as the Franchisee in Bhiwandi, Maharashtra.

**Objectives and Methodology of the Paper**

**Objectives**

1. To outline in broad terms, the major models existing in the distribution sector and the features of the Franchisee Model.
2. Examine the management strategy of a Distribution Franchisee in turning around a poorly managed circle into one of the most efficient ones.
3. To understand the conditions necessary for the continued existence (sustainability) of a Distribution Franchisee.

**Methodology**

The research paper uses the case study method to raise issues in the reform program undertaken to restructure the distribution sector of the electricity industry in India. Secondary sources of data are used to support the arguments presented. The paper also uses the interview method, though not exhaustive, to understand the complexities of the reform process in the distribution sector.

**Distribution Models in the Electricity Sector**

There are two models in the distribution segment (Jaskow, 1998) – the 'wholesale competition model' or the 'portfolio manager model' and the 'customer choice' or 'retail wheeling model'. Under the 'wholesale competition model' or the 'portfolio manager model', the distribution company arranges for a portfolio of generation supply resources through contracts with independent power producers chosen via a competitive procurement process, to provide generation service for retail customers it serves exclusively (in a specific geographic area). The model is in operation in the US and China. The buyers are distribution utilities and large industrial consumers. The other model is the 'customer choice' or 'retail wheeling model'. Under this model, retail customers would buy limited 'wires' services from the local distributor and arrange for their own power supplies directly with generators or with competing retail intermediaries. The same distribution wires are used regardless of which retailer has undertaken the commitment to arrange for the supply of electricity. This model is in operation in England and Wales, US, Norway, Sweden to name a few countries. The model requires unbundling of supply and price of generation service from that of transmission and distribution supply and price. Regulatory and contractual mechanisms must be in place to ensure contracts are honoured (ibid).

The distribution of electricity supply in India is done by utilities in the public sector, private sector and joint
sector. At the one extreme are State Electricity Boards which are government owned (public) utilities. State Electricity Boards (SEBs) have traditionally been unbundled entities which have performed all the activities in the electricity sector including generation, transmission and distribution. Under the Electricity Act 2003, several states have unbundled their Electricity Boards into generation, transmission and distribution companies. At the other end are privately owned distribution companies. Joint ventures have been set up in the distribution sector. Private entities are expected to lower the distribution losses, increase management efficiencies and make capital investment to improve the technical performance of the sector (Kale, 2004; Patel and Bhattacharya, 2009). Orissa was the first state to unbundle its State Electricity Board (SEB) in 1996 and later privatized the four resultant distribution zones by disinvesting 51 percent of its stake. Later, in 2002, the Government of National Capital Territory of Delhi unbundled Delhi’s Electricity Board into three distribution zones. The Government of National Capital Territory of Delhi has divested 51 percent of its stake in favour of Tata Power Company Limited and Reliance Energy (then BSES³). Of the three distribution zones, two were purchased by Reliance Energy and one by Tata Power. Noida Power Company Limited is a joint venture between RPG Group and Greater Noida Industrial Development Authority which is an autonomous body of the Uttar Pradesh Government and holds 27 percent stake in the company. This joint venture came into existence in 1993 and has a 30-year license to distribute electricity.

There is empirical evidence of gains from privatization of the distribution segment of the Delhi Vidyut Board, the State Electricity Board of Government of the National Capital Territory of Delhi. A two percentage point Aggregate Technical and Commercial Losses (ATC) reduction above the target would increase return on equity by about 7 percentage points. Additional revenue would contribute towards reducing consumer tariffs and increasing revenue to the State government of Delhi (Patel and Bhattacharya, 2009, pp. 21-23). The challenge lies in privatization in distribution of electricity to improve the quality of service in rural areas (Patel and Bhattacharya, 2009).

Between the two extremes of state owned distribution entities and completely private distribution companies lies the model of Public Private Partnership (PPP). A distinction has been made between the Public Private Partnership Model (PPP) and the Franchisee Model (Government of India, 2012). Public ownership of assets would continue in both the models while operations would be transferred to a private entity. The concessionaire would procure bulk power from the market at competitive prices and minimize transmission and distribution losses by modernizing the network to provide reliable power at reasonable prices. The Task Force recommended large scale replication of the Franchisee Model as it has helped to

³Calcutta Electricity Supply Company and Tata Power Company Limited are privately held and have been operating in the cities of Kolkata (West Bengal) and Mumbai (Maharashtra) respectively for several decades. The other private distribution companies operating in India are: Torrent Power Limited, Ahmedabad and Surat (Gujarat); Reliance Infrastructure Limited, Mumbai (Maharashtra); North-Eastern Electricity Supply Company of Orissa Ltd. (NESCO) (Orissa); Western Electricity Supply Company of Orissa (WESCO) (Orissa); Southern Electricity Supply Company of Orissa Ltd. (SOUTHCO) (Orissa); Central Electricity Supply Utility of Orissa (CESU) (Orissa); Noida Power Co. Ltd (NPCL) (Greater Noida, Uttar Pradesh); North Delhi Power Limited (NDPL) (Delhi); BSES Yamuna Power Limited (BYPL) (Delhi); BSES Rajdhani Power Limited (BRPL) (Delhi) (Crisil, 2011).

³Brihan Mumbai Suburban Electric Supply.
improve the performance indicators wherever implemented by the Discom\(^4\). The difference lies in the concession period which for the PPP model is longer at 25 years while for the Distribution Franchisee it is envisaged to be 15 years (Government of India, 2012).

In the distribution sector, several activities may be outsourced. Operations such as meter reading, bill distribution and revenue collection may be outsourced for a fixed fee or for a percentage of collection on the achievement of targets with a penalty for not achieving the targets and an incentive for exceeding the target. Operation and maintenance of network may be added responsibilities which may be outsourced. A distinction needs to be drawn between 'outsourcing of activities' and a Distribution Franchisee. A Distribution Franchisee is introduced in an area with distribution loss level higher than 20 percent. Distribution Franchisees purchase electricity from the licensee (generally the State Electricity Board) by paying pre-decided input rates. A contract period of 15 years is agreed upon to implement a program of reduction in losses through activities such as metering, billing and revenue collection, operation and maintenance of network, and improved customer support services. The right on revenue is retained by the Distribution Franchisee.

By the year 2012, there were five distribution franchisees, one in Agra in the state of Uttar Pradesh and 4 in the state of Maharashtra (Bhiwandi, Nagpur, Aurangabad and Jalgaon). Bhiwandi was the first input based franchisee and became operational in 2007 followed by Agra in April 2010. The other three franchisees in Maharashtra have commenced operations recently. The salient features of Bhiwandi, Agra and Nagpur have been elaborated in Appendix 1.

### The Bhiwandi Distribution Franchisee, Torrent Power Limited (TPL)

**Performance of MSEB, the state utility in Maharashtra**

The Maharashtra State Electricity Board (MSEB) was set up in 1960 to generate, transmit and distribute power to all consumers in Maharashtra excluding Mumbai\(^5\). With a total installed capacity of 7,781.59 MW in March 1997, MSEB was the second largest power producing company in India next only to National Thermal Power Company (NTPC) with 16,804 MW capacity in the central sector\(^6\). The power generated was supplied to the entire state of Maharashtra, except the city of Mumbai\(^7\). Total generation was 54186 MKwh in 1997-98 and increased to 62800 MKwh in 2001-02. However, the transmission and distribution (T and D) losses in 1997-98 were 9505 MKwh accounting for 17.1 percent of total availability (Government of India, 2002). These figures are an underestimate in the absence of accurate metering and billing. \(^9\)Plant availability was 85 percent and plant load factor (PLF) was 68.30 percent in 1997-98. The State faced a shortage in meeting peak requirements.

\(^4\) Distribution Company

\(^5\) The per capita consumption of electricity remained low in India at 348 Kwh as compared to 1783 Kwh in Brazil, 719 Kwh in China and 8747 Kwh in USA in 1997-98. In Maharashtra, per capita consumption of electricity was 577.37 Kwh in the same year (Government of India, 2002).

\(^6\) According to the fuel mix, the installed capacity was 1,359.22 MW in hydro accounting for 17.47 percent of total capacity, 6,417 MW in thermal accounting for 82.46 percent of the total installed capacity and 5.37 MW in wind energy accounting for 0.07 percent of the total installed capacity.

\(^7\) The Mumbai area was served by three power utilities – Tata Power Company Ltd., BSES Ltd. and BEST. BSES has now taken over by Reliance Energy.

\(^8\) The T&D losses can be categorized as technical losses and commercial losses. Technical losses are due to energy loss in the conductors and equipment used in the system for transmission. The commercial losses are mainly due to theft and defective meters. Guidelines issued by Government of India (GOI) stipulated that T&D losses in each State should not be more than 16%. Every 1% reduction in the T&D loss levels was equivalent to additional revenues of about Rs. 120 crore.

\(^9\) A transparent system of accounting and loss determination was introduced by the Electricity regulators under the Electricity Act, 2003.
The power supply position was a deficit of 5.6 percent in 1996-97 which increased to 8.8 percent in 2001-02. The peak deficit was 8.7 percent in 1996-97 and increased to 12.5 percent in 2001-02 (Government of India, 2002). The power purchase (net) in 1997-98 was 14567 MKwh which accounted for 33.8 percent of total sales (Government of India, 2002).

The consumers of power may be grouped into domestic, commercial, agriculture, industry and others. Their share in total sale of power in percentage terms was 12.16, 2.59, 35, 33 and 16.77 respectively in 1997-98. However, the share of revenue from agriculture in total sales revenue was low at 3.60 percent in 1997-98, that of the domestic sector at 8.85 percent and the commercial sector at 34.46 percent (Government of India, 2002). The cost of power supply was 215.6 paisa while the average tariff from sale of electricity was 208.81 paisa per Kwh in 1997-98. The consumer-wise average tariff was 151.8 paisa for the domestic sector, 430.33 paisa for the commercial sector, 21.46 paisa for agriculture and irrigation, and 374.44 paisa for the industrial sector in 1997-98 (Government of India, 2002).

This policy of keeping tariffs for domestic, power looms and agricultural segments lower than the average cost of supply of power, and cross subsidizing them by industrial and commercial consumers led to deterioration of the financial condition of the MSEB. MSEB made commercial profits without subsidy till 1994-95. Over time, the sales revenue as a ratio of cost continued deteriorating. It was 96.86 percent in 1997-98. The commercial profit with subsidy was Rs. 295 crore while without subsidy, it was a loss of Rs. 11 crore in 1997-98. The revenue arrears receivable by the State Electricity Board were Rs. 2219 crore in the same year (Government of India, 2002). With deterioration in its financial health, MSEB found it difficult to invest in maintenance and upgradation of infrastructure. A downward vicious cycle was in operation as it meant that the quality of supply of electricity was deteriorating and technical losses would continue. Caught in this downward spiral, MSEB was finding it hard to escape from declining performance and the need for reforms became eminent.

As per The Electricity Act 2003, the states were required to unbundle SEBs. Accordingly, the Government of Maharashtra unbundled MSEB in June 2005 into one holding and three subsidiary companies as given below:

- MSEB Holding Company
- Maharashtra State Power Generation Company Limited
- Maharashtra State Electricity Transmission Company Limited
- Maharashtra State Electricity Distribution Company Limited (MSEDCL)

A number of initiatives were proposed by MSEDCL to improve the distribution business in the state. They included improvement in the quality of supply, measures to minimize Aggregate Technical and Commercial losses and the introduction of customer centric initiatives. As part of its drive to improve the quality of supply of electricity, MSEDCL launched the urban distribution franchisee model.

MSEDCL was the first distribution utility in the country to implement the Distribution Franchising (DF) arrangement, wherein it franchised the circle of Bhiwandi to the private sector company, Torrent Power Limited (TPL). Under the input franchisee model, the Distribution Franchisee, in this case Torrent
Power Limited, had to buy power from the public utility, MSEDCL, as per the regulations and directives of the regulator, Maharashtra State Regulatory Commission (MERC). The DF was allowed to procure and supply additional power over and above the supply received from MSEDCL; but no guidelines were given for such power procurement or for recovery of related costs from consumers. Wheeling charges were to be paid by Torrent Power Limited to MSEDCL for distribution of power. The DF was required to bring about a reduction intransmission and distribution losses to 10 percent and increase collection efficiency to 98 percent by the end of the franchisee period.

**Bhiwandi**

The Distribution Franchisee (DF) scheme was introduced in Bhiwandi, a textile hub in Maharashtra, one of the worst performing circles of MSEDCL. 33 percent (6 lakh) of total powerlooms in India were located in Bhiwandi which was famous for communal riots and theft of electricity. The Aggregate Technical and Commercial (AT & C) losses were estimated to be 58 – 60% in 2006-07. Revenue collection stagnated at around Rs. 240 crore between 2001-02 and 2006-07 though the sale of power grew from 859 MU to 1225 MU during the period (IDFC, 2009). This implies that the revenue remitted was Rs. 2.79 per unit which deteriorated to Rs. 1.96 per unit in 2006. There was a deficit of 300 MVA in Extra High Voltage Network resulting in load shedding. Around 6 to 7 hours of load shedding was a routine practice in Bhiwandi. High AT&C losses led to effectively no capital investment in the Bhiwandi distribution network leading to network overloading and high transformer failure rate of up to 42 percent. Obtaining electricity connections was difficult and time consuming and so consumers resorted to illegal connections. In order to solve the problems of high distribution losses, low collection efficiency and inefficient distribution network, MSEDCL decided to utilize the provisions of Electricity Act 2003 and bring in private expertise through Distribution Franchising in the Bhiwandi circle.

**Franchisee Model in Bhiwandi**

MSEDCL started the process for the appointment of the DF through competitive bidding in May 2005. With lack of accurate data for computing AT & C losses, bidders were required to quote the annual input rate for power supplied by MSEDCL on the basis of the average revenue realization of the base year. Bidders had to base their financial bids on a minimum reduction of 30 percent in distribution losses and improvement of 33 percent in collection efficiency by the end of the contract period. The levelized values (present value) of the yearly input rates quoted by the bidders were determined and the contract was awarded to the bidder with the highest levelized value. MSEDCL had set a floor by projecting annual benchmarks for the input rate for the first seven years. The bidding process was concluded with the award of the Letter of Intent to Torrent Power Limited (TPL) which had quoted a levelized tariff of Rs. 2.04 per unit as the input rate in May 2006.

MSEDCL began the handover of operations in Bhiwandi to TPL in July 2006, the first franchisee in India. The model adopted was input based franchisee with TPL agreeing to purchase power from MSEDCL at the input point to Bhiwandi circle at an annual fixed input energy rate (Rs/Kwh) for a contract period of 10 years and executing distribution responsibilities.
including metering, billing, revenue collection, repair, maintenance, O&M cost of network, consumer service, capital expenditure, allocating new connections and so on.

**Strategy of Torrent Power Limited for Bhiwandi: From downward vicious cycle to a virtuous cycle**

Torrent Power Limited had been declared as the best “Power Distribution Management Company”. In 2006, Torrent Power Limited distributed 7 billion units of power to over 1.8 million customers in the cities of Ahmedabad, Gandhinagar and Surat in Gujarat, had one of the lowest transmission and distribution losses in the country at 9.67 percent and had one of the highest power reliability at 99.85 percent. Torrent Power had been the pioneer in providing customer friendly solutions like 24X7 call centre, mobile vans for providing onsite services, multiple payment options and so on as a result of which there existed a high degree of customer satisfaction.

Torrent Power adopted a strategy for its operations which focused on the three areas of reforms outlined by MSEDCL, namely:

A. Initiatives to improve the quality of supply
B. Initiatives to minimize AT & C losses (Aggregate Technical and Commercial losses) and
C. Customer centric initiatives or customer satisfaction

Technical losses were reduced through focused investments in strengthening and augmenting the network. Commercial losses were reduced by extending metering and replacing faulty consumer meters to ensure accurate metering, enhanced vigilance and most importantly, eliminating unauthorized use of electricity by regularizing illegal (illegitimate) connections under the “Ujjwal Bhiwandi Abhiyan” particularly in the slums. By simplifying the procedure for obtaining new connections, it was possible to minimize the time required to get a new connection. This helped regularize illegal connections and provide for new connections. The drive of regularization of illegitimate connections was done by a communication campaign which targeted women. The campaign urged women to pay their electricity bills. Out of the 55,000 new connections released between February 2007 and January 2009, almost 38,000 connections were on account of regularization (IDFC, 2009).

With investments in new assets and repair and maintenance of existing ones, TPL began the process of improved quality of power and improved customer satisfaction. A 24x7 call centre, quick response to customer complaints for fault repair, speedy and easy release of new connections, and mobile van for onsite services to the customer contributed to better quality of supply and service. In addition to these initiatives, TPL concentrated on improved communication with its customers. This was achieved by writing letters to consumers along with its bills and describing TPL’s activities and forming an advisory committee comprising of prominent citizens of the area. This committee met every quarter and addressed citizens’ concerns. In order to be identified with the community, TPL made the extra effort of mingling business with the social fabric of the community and area. By taking part in community development activities and local festivals, TPL removed the animosity experienced when public utilities are provided by private players which are for-profit in the market. The visible effects of improved supply and customer care services enabled TPL to win the confidence of the people and this helped positively in the process of acceptance of a private operator of a public utility.
The strategy of turning around one of the worst performing circles of MSEDCL included bringing about a change in the personnel management strategy. A major challenge was to handle the diverse workforce and iron out the major/fundamental differences in the working styles of the public sector and private sector. The diverse workforce included its own private sector employees, the new recruits and the public utility MSEDCL’s employees. It had to handle the inherent differences in the working styles of the public and private sectors. TPL was able to achieve this through a concerted effort at ironing out the difficulties and differences and motivating its employees through a performance reward mechanism. MSEDCL employees felt empowered as they could take operating decisions and execute them without waiting for formal approvals.

When the Vice President of Torrent Power Limited was asked what were the strategic steps taken by his company to gain consumer confidence and to improve efficiency parameters and what factors enabled him to take these steps which MSEDCL did not have recourse to and hence could not take such decisions, Mr. Amarnath Singh, Vice President of Torrent Power Limited replied:

Strengthening the network for reliable and regular power supply, creating confidence in meters / meter reading and bills, communication with consumers through various channels on developments / changes / improvements being done by the company on a quarterly basis, robust system to attend to faults, becoming part of society through participation in festivals and celebrations. All decisions could have been taken by MSEDCL but for investment strength which was not available with them and their management bandwidth at the local level.

Post Franchisee Performance of Torrent Power Limited in Bhiwandi

The performance of the franchisee has been commendable based on the following indicators which reflect quality of electricity supply. The Distribution Transformer Failure Rate was brought down by 93 percent. This brought down load shedding and improved power reliability in the Bhiwandi area. Upon experiencing the benefits of privatization, it was possible to ensure that the sale of electricity was metered and billed. The Distribution Franchisee was able to base 99 percent of the sale of electricity on actual reading. This brought down distribution losses. The end result was reduction in Aggregate Technical and Commercial Losses by 69 percent in a period of just three years.
Quality of Electricity Supply

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<th>Source: Data has been taken from the website of Torrent Power Limited.</th>
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<th>At the time of the takeover, 2007</th>
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<tbody>
<tr>
<td>1</td>
<td>Distribution Transformer failure rate</td>
<td>40 percent</td>
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<tr>
<td>2</td>
<td>Load shedding</td>
<td>10 to 12 hours</td>
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<td>3</td>
<td>Accurate metering</td>
<td>23 percent</td>
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<td>4</td>
<td>Aggregate Technical and Commercial Losses (AT&amp;C)</td>
<td>58 percent</td>
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Comparison of a Franchisee with other models of Privatization (Licensees) on Select Indicators

Using select indicators, a comparison of Torrent Power Limited, a Distribution Franchisee in Bhiwandi with other models of privatization such as North Delhi Power Limited (NDPL), a joint venture between Tata Power Company Limited and the Government of National Capital Territory of Delhi; Reliance – Infra, a private distribution company in Mumbai; Noida Power Company Limited (NPCL), a joint venture between RPG Group and Greater Noida Industrial Development Authority; over the period 2006-07 to 2009-10 is presented below.

The distribution losses\(^{11}\) expressed in percentage terms reflect the operational efficiency of a utility involved in the distribution of electricity. TPL was able to bring down the distribution losses by 59 percent, NDPL by 26 percent and others are either nil or insignificant, over the period under consideration.

<table>
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<th>Distribution losses (in percentage)</th>
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<td>NDPL</td>
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<td>NPCL</td>
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<td>TPL</td>
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Source: Crisil (2011)

\(^{11}\) Distribution losses = (Net energy input – Net energy billed)/Net energy input
Benefits to consumers were assessed using the indicators (a) time taken to respond to consumer requests such as attend fuse-offs, test or replace meters and issue new connections in 2009-10 and (b) estimated bills. While one cannot say that TPL has the best performance indicators as compared with the other licensees, it has a fairly respectable performance record as observed from the figures given in the table below.

**Time taken to respond to consumers**

<table>
<thead>
<tr>
<th>Source: Crisil (2011), pp35</th>
</tr>
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<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>NDPL</td>
</tr>
<tr>
<td>Reliance -Infra</td>
</tr>
<tr>
<td>NPCL</td>
</tr>
<tr>
<td>TPL</td>
</tr>
</tbody>
</table>

Estimated bills refer to bills generated without meter reading in percentage terms. For the period under consideration, TPL was able to bring down estimated bills by 84 percent over the period 2007-2010. In the case of NDPL, estimated bills have in fact increased while Reliance brought down estimated bills by 63 percent and NPCL showed no change for the period under consideration.

**Estimated Bills**

<table>
<thead>
<tr>
<th>Source: Crisil (2011), pp36</th>
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<tbody>
<tr>
<td>2007-08</td>
</tr>
<tr>
<td>NDPL</td>
</tr>
<tr>
<td>Reliance -Infra</td>
</tr>
<tr>
<td>NPCL</td>
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<td>TPL</td>
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</tbody>
</table>

The High Level Panel headed by Shri V K Shunglu, former Comptroller and Auditor General of India (CAG) observed: The Bhiwandi franchisee performance in loss reduction may be attributed to capital expenditure of approximately Rs. 500 crore in a period of five years, better management and operational practices (Government of India, 2012, p.10).
The Future of the Distribution Franchisee Model – Views of Vice President of Torrent Power Limited

In an interview, the Vice President of Torrent Power Limited, Mr. Amarnath Singh, expressed concerns over the limitations of the Distribution Franchisee model which would affect the future of such private-public partnerships.

1. Are you satisfied with your performance so far? What are you aiming at in the medium term in terms of improving efficiency?

Yes, we are satisfied with our performance so far. The franchisee period is of ten years ending January 2017. Hence, efficiency improvements are expected in a limited way towards customer services and will cater to natural growth only. No major investment is planned due to the short period left.

2. As a Franchisee, are you satisfied with the present arrangement with MSEDCL? What shortcomings or problems have you faced or are facing in running your enterprise in Bhiwandi?

The present arrangement with MSEDCL is satisfactory. There are a few areas of improvement, major being shifting and sometimes interpreting the DFA in a manner biased towards them. Dispute resolution mechanism needs to be strengthened and fair.

3. What kind of long term arrangement you would like to have to improve the Franchisee model to make it sustainable and beneficial to consumers?

The Franchisee should be of a longer period - 15/20 years. Power availability needs to be ensured. The dispute resolution mechanism should be fair and just. The franchisee employees need the (same) protection as that of utility employees. Clear guidelines should be provided to all government and semi-government authorities to pay regular bills and provide the same treatment to Torrent Power Limited as given to MSEDCL.

Conclusions

The focus of the above analysis has been to understand the effectiveness of the reforms undertaken in India in the distribution sector of the electricity industry. Restructuring and privatization of the distribution arm has led to the emergence of various models ranging from complete privatization i.e. a licensee, to joint ventures to a Distribution Franchisee. The case of Torrent Power Limited (TPL), the Distribution Franchisee in Bhiwandi in Maharashtra, highlights the spectacular achievement of reducing the Aggregated Technical and Commercial losses by 69 percent over a brief period 2007-10. The performance may be attributed to the management strategy of TPL which focused on capital investment and customer service. This enabled a private sector company to perform successfully where the public sector utility MSEDCL had failed. The performance results of the Bhiwandi model has led to its replication with some modifications in Maharashtra as well as outside Maharashtra (See Appendix 1).

In the long run, what matters is the sustainability of the model. The conditions of the franchise agreement impose several constraints on the working of the franchisee which has implications for the sustainability of the model. Fundamentally, under the law, the Licensee (in this case, the public sector utility, MSEDCL) still remains accountable to the consumers and to the regulators. The responsibility of supplying power still rests with the Licensee and all the tariff regulations of the regulators are applicable in the
franchisee area. Besides, in a franchisee arrangement, the assets have to be returned to the Licensee at the end of the contract period. This would adversely affect the incentives for sustained capital investments in the area by the private sector company. For sustained performance, besides long term investments in capital goods for continuous upgradation of the system, there is need for continuous investment in personnel training and development, freedom of choice in sourcing the input electricity, freedom and ability to adopt innovative management practices and finally be able to put up its own case before the Regulator as an independent entity. Under the given conditionality of the franchisee agreement, it is doubtful whether the Distribution Franchisee, Torrent Power Limited (TPL), would be able to continue to deliver services at the desired level, cost and efficiency.

The question arises as to how the benefits from a distribution franchisee arrangement would compare with the benefits which are likely to accrue in a more free and competitive environment where the Distribution Franchisee itself would be the Licensee. The Electricity Act 2003 provides for giving distribution licenses, the Licensee being directly responsible and accountable to the consumers and to the regulators. The distribution franchisee arrangement will have to be juxtaposed against the more long term and sustainable licensing arrangement. Obviously, development of franchisee arrangement cannot be a substitute for the licensing arrangement. At best, this can be an interim arrangement which should lead to grant of full distribution license under the Electricity Supply Act.

### Appendix 1: Key Terms of recent Distribution Franchisee Agreements

<table>
<thead>
<tr>
<th></th>
<th>Bhiwandi</th>
<th>Agra</th>
<th>Nagpur</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Rate</td>
<td>The bidder is expected to factor in a certain AT&amp;C loss reduction trajectory. The bidder offering the highest input rate, i.e. the maximum loss reduction won the bid.</td>
<td>The licensee explicitly stated the expected minimum input rate and the bidders offering the highest rates above this trajectory won the bid.</td>
<td>The licensee explicitly stated the expected minimum input rate and the bidders offering the highest rates above this trajectory won the bid.</td>
</tr>
<tr>
<td>Contract Period</td>
<td>10 years</td>
<td>20 years</td>
<td>15 years</td>
</tr>
<tr>
<td>Payment</td>
<td>Franchisee pays fixed input rates for the energy injected by the licensee</td>
<td>Franchisee pays fixed input rates for the energy injected by the licensee</td>
<td>Franchisee pays fixed input rates for the energy injected by the licensee</td>
</tr>
<tr>
<td>Performance Improvement Target</td>
<td>No loss reduction target has been specified by the licensee, but the franchisee benefit only if it is able to achieve or exceed the loss reduction trajectory assumed to calculate the input rates.</td>
<td>The franchisee is expected to achieve an AT&amp;C loss level of 15% within 7 years. Failure to realize the loss reduction target invites a penalty of 10% of the revenue loss.</td>
<td>No loss reduction targets have been specified by the licensee. However, the minimum input rates stated by the licensee in the Request for Proposal (RFP) were based on a loss reduction trajectory.</td>
</tr>
<tr>
<td>Overall</td>
<td>Bhiwandi</td>
<td>Agra</td>
<td>Nagpur</td>
</tr>
<tr>
<td>---------</td>
<td>---------</td>
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<tr>
<td><strong>Investment by DF</strong></td>
<td>Complete autonomy has been given to the franchisee to implement its capital expenditure. No need for any approval from licensee or the regulator.</td>
<td>The franchisee is to undertake capital expenditure, as per the Infrastructure Roll-out Plan submitted to the licensee, stating the investment to be carried out for loss reduction. Such investments would be subjected to the approval of the State Electricity Regulatory Commission. Licensee would facilitate such approval. Investments to be made from 16th year onwards would require licensee’s approval. Distribution franchisee to make a minimum investment of Rs. 200 crore of which Rs. 150 crore has to be invested in the first five years and the remaining Rs. 50 crore in the next five years.</td>
<td>The franchisee is to undertake capital expenditure, as per the Infrastructure Roll-out Plan submitted to the licensee stating the investment to be carried out for loss reduction. Such investments would be subjected to the approval of the State Electricity Regulatory Commission. Licensee would facilitate such approval.</td>
</tr>
<tr>
<td><strong>Transfer of Assets created by Distribution Franchisee during its contract period</strong></td>
<td>Asset will be transferred to the licensee at the depreciated value of the assets at the end of the contract period.</td>
<td>Asset will be transferred to the licensee at the depreciated value of the assets at the end of the contract period.</td>
<td>Asset will be transferred to the licensee at the depreciated value of the assets at the end of the contract period.</td>
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</tbody>
</table>


## References


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