CASE STUDY 12 DECEMBER 2013

# Public Private Partnership: Bhiwandi Electricity Distribution Franchisee, Maharashtra

## Background

Like many other Indian states, Maharashtra was facing the problem of power deficit; establishing another generation facility would have taken years by when the prevailing power deficit scenario would have gone worse. Meanwhile, the Electricity Act, 2003, came into effect, and introduced the concept of a distribution franchisee.[1] The Maharashtra State Electricity Distribution Company Limited (MSEDCL), a public sector company, therefore in an attempt to bridge the growing deficit, focussed on the demand-side energy management and decided to introduce private expertise along with their funds by way of forming a distribution franchisee.

Bhiwandi, a textile hub in Maharashtra was found to be a right place to establish a distribution franchisee, as the area was long standing defaulter of the power bills, with Aggregate Technical & Commercial (AT&C) losses being highest among other districts of the State and further, the area had poor distribution network. Thus, Bhiwandi Electricity Distribution Franchisee (BEDF) was formed. BEDF was formed under public private partnership scheme, to not only bring in more efficiency in the working of distribution network in Bhiwandi but also to develop it as a pilot project, which if successful, will become a model for other districts in the State of Maharashtra. BEDF was a PPP venture between the State of Maharashtra through MSEDCL and the private partner, Torrent Power AEC Limited (TPL) and has been operated by the latter.

## Project Description

As the distribution network was managed by MSEDCL, transfer of assets to TPL started in July 2006. However, in January 2007, TPL took over operations from MSEDCL. BEDF was formed as an input distribution franchisee (DF) as per the provisions of the Electricity Act, 2003. In an Input based distribution model the franchisee buys electricity from the utility at defined input point(s), which may be any voltage level and pay electricity charges to it at a pre-determined rate. The franchisee collects revenue from the consumers by raising bills at the tariff decided by the appropriate electricity regulatory commission and pays to the utility for the electricity measured at the input point(s).The input rate is decided through a competitive bidding process, to solicit highest revenue for the licensee, which in turn is based on projected AT&C loss reduction trajectory. The franchisee benefits financially if it reduces losses over and above the trajectory and has to suffer (financially) if it fails to do so. The financial impact, in terms of franchisee's ability to pay the licensee as per the quoted input rate is the sole incentive/penalty mechanism.

The situation in the Bhiwandi circle at the time of takeover was as follows:

- Aggregate technical and commercial (AT&C) losses - 58%.
- Mandatory load shedding of 6 hours per day.
- Distress load shedding due to a deficit of 300 MVA in Extra High Voltage (EHV) network.
- Transformer failure rate of 40%.
- Unregistered customers.
- Poor reliability of supply and frequent incidents of appliance failure.

This poor performance was on account of the following reasons:

[1] Section 2 (27) of the Electricity Act, 2003 defines 'franchisee' as a persons authorised by a distribution licensee to distribute electricity on its behalf in a particular area within his area of supply.

Section 5 of the Electricity Act, 2003 provides that, 'the Central Government shall also formulate a national policy, in consultation with the State Governments and the State Commissions, for rural electrification and for bulk purchase of power and management of local distribution in rural areas through Panchayat Institutions, users' associations, co-operative societies, non-governmental organisations or franchisees.

- There had been effectively no capital investment in Bhiwandi's distribution network over the last decade. This had resulted in a high level of network overloading and a high transformer failure rate.
- Getting official connections or an additional load sanctioned was very difficult and time consuming, leading to an increasing tendency on the part of consumers to resort to illegal connections.

Therefore, TPL was roped in by MSEDCL, to resolve these issues. In order to give effect to the operations of BEDF, a distribution franchisee agreement was signed between MSEDCL and TPL. According to the distribution franchisee agreement, following terms were agreed upon:

1. MSEDCL was to remain the distribution licensee and TPL would become the franchisee, responsible for distribution of electricity on behalf of MSEDCL in the Bhiwandi region.
2. MSEDCL was to provide for certain minimum quantum of electricity to DF. However, in case of shortfall, DF could arrange electricity from other sources. Rates for the electricity were pre-determined.
3. DF was given full autonomy to for planning and executing its capital expenditure, other than the minimum capital expenditure to be borne by MSEDCL.
4. The tariff rates for consumers were same as for the consumers of MSEDCL, i.e. as per the tariff rate fixed by the State Electricity Regulatory Commission.
5. Further, DF needed to meet minimum reduction in losses as jointly agreed upon by them and was to improve the collection efficiency.
6. MSEDCL would make termination payments to the franchisee upon expiry or in the event of default by MSEDCL / franchisee for the capital expenditure incurred by the franchisee at the depreciated value of the distribution assets created.

BEFD adopted a three point strategy for its operation as a distribution franchisee. It had to:

1. Reduce Technical Losses.
2. Reduce commercial losses and
3. Improve customer's satisfaction.

The technical losses were reduced through focused investments in strengthening the networks; commercial losses were reduced by arresting revenue leakages, i.e. by replacing faulty meters, extending metering and enhancing vigilance to combat power thefts.[2] BEFD started with *'Ujjawal Bhiwandi Abhiyan'*, a programme through which electricity in slums was regularised, which in turn, effectively reduced power thefts and increased the revenue. Customer satisfaction was brought about through provision of better quality of supply and service. Few of the initiatives included letters to consumers along with bills describing BEFD's activities and forming an advisory committee comprising prominent citizens of the area. This committee meets every quarter and takes up citizens' concerns. Besides pursuing business interests, BEFD made efforts to become a part of the social fabric of the area by taking part in community development activities and local festivals.[3]

### Financial Structure and Risk Allocation of the Project:

As this was not a sole infrastructure project but rather a continuous infrastructure service project, the initial capital expenditure of Rs. 61 crores, over a five years period, were to be invested by MSEDCL. However, TPL was to invest for bringing in network efficiency along with certain needed capital expenditure. Since its inception, TPL has invested around Rs. 250 crores, in the said project for increasing the network efficiency and improving the collection efficiency and other related services.[4] It was further estimated that around Rs. 50 crores were needed for the last financial year (2017) and a cash flow of Rs. 25 crores was needed in the last two financial years (2016 & 2017). Also MSEDCL was to provide credit to DF in weekly power purchase bill towards subsidy for supply of power to subsidised consumer categories. The procurement risk and tariff risk, i.e. risks pertaining to an increase or decrease in tariff, the input cost for the franchisee will also increase or decrease; such risks are equally shared by both the parties whereas market risk and financial risk were to be borne by the DF. However, for past arrears, pending more than three months prior to the effective date, DF was provided an incentive at the rate 10% of collections. The same is at the rate 20% of collections for disconnected consumers.

[2] The distribution losses have been reduced from 58% in December 2006 to 19.5% in September 2013. Available on: http://www.mahadiscom.in/consumer/CIRCLE_ENGLISH.pdf

[3] Policy Group Quarterly, 'Bhiwandi Electricity Distribution Franchisee Model: A Resolute step in Distribution Reforms', *IDFC,* No. 04/June 2009. Available on: http://www.idfc.com/pdf/publications/policy_group_quarterly_4.pdf. Last visited on 19.12.2013.

[4] *Ibid.*

| Box:1 Select Distribution Franchisee Models | | | |
|---|---|---|---|
| | Outsourcing | Revenue Franchisee | Input Based Franchisee |
| Responsibility | Metering, billing, collection | Revenue collection based on a given target | Supply onwards from input points; O&M; metering, billing, collection; release of new connections; capex |
| Compensation & Bid Criteria | Fixed fee | Fixed fee with incentive | DF has right on revenue. Utility receives input rate. DF gets depreciated value of capex at the end of the contract |
| Benefits | Operational efficiency | Collection efficiency | Operational & collection efficiency, reduced staffing, service improvement, technical efficiency |
| Source: Policy Group Quarterly, 'Bhiwandi Electricity Distribution Franchisee Model: A Resolute step in Distribution Reforms', *IDFC,* No. 04/June 2009 | | | |

## Learning and Observations:

Input based Franchisee model is a via-media between fundamental structural and ownership changes and continuation of status quo. Interestingly this model could be adopted without having changed any law in force. This model was one which demonstrated substantial potential to rapidly reduce AT&C losses, which it certainly achieved to an extent. But it doesn't necessarily imply large benefits to the licensee. With reference to collecting arrears to the tune of Rs. 1000 crores, only Rs. 10 crores has been collected so far[5].

It should be noted that one of the key reasons for the success of the Bhiwandi model was that the interests of various stakeholders (i.e. MSEDCL, the franchisee, consumers and MSEDCL employees) were considered in the process of evolving the structure of the business model. The model was designed keeping in mind various sector-specific issues such as power deficit, regulated tariffs, subsidy, nature of distribution assets, etc. In the input distribution franchisee model, the risks related to power purchase costs and regulated tariff are substantially mitigated for the private partner. Further, the franchisee has an incentive to implement operational efficiencies in the distribution system (i.e. reduction of distribution losses and improvement in collection efficiency) since this would result in higher margins to the franchisee for the same power purchase cost. The ability of this PPP model to harness these profit-motivated efficiency incentives was crucial to the success of the Bhiwandi project, especially in the Indian context of power deficit and a regulated tariff regime.

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Prepared by: Molshree Bhatnagar, CIRC

[5] Prayas (Energy Group), Review of the Distribution Franchisee model implemented by MSEDCL in the Bhiwandi circle, Presentation by Prayas (Energy Group) before the Planning Commission. 2009 Available on: www.prayaspune.org%2Fpeg%2Fcomponent%2Fk2%2Fitem%2Fdownload%2F108_ca5dd5510a738ccd7b9d874e7892b9eb.html&ei=QP67Ur_-HOahiAeWsoCwDQ&usg=AFQjCNHIj7exTRFSm43VAP-5RDpCJ7LJ6Q&sig2=yn5HcUI8e-Dx9q_NkSS3_w&bvm=bv.58187178,d.aGc Last visited on 26.12.2013.