

Competition in Power

Contracting Through Wards

Power has been an area of intense debate and discussion in recent times in Delhi. Whether it was privatisation process of 2002, or the evaluation of that process, delivery of services and fixation of tariff, power situation in Delhi has been closely monitored and scrutinised by the Government as well as civil society organisations. This chapter is an attempt to discuss various government agencies related to provision of power in Delhi and their relevance in the process. It analyses the problems of power distribution in Delhi, especially with regard to consumers and introduces feasible short and long-term solution to the power problem.

Department of Power

Prior to privatisation of electricity distribution in Delhi, the Department of Urban Development had an Electricity Branch that dealt with the subject of power . The Delhi Vidyut Board (DVB) was the statutory body that was responsible for generation, transmission and distribution of power in Delhi. However, in 2002, DVB was broken into seven components, one holding company, one transmission company, two generation companies and three private distribution companies. When Delhi Government decided to implement electricity reforms, the Electricity Branch was converted into Department of Power to facilitate the process. The main aim of the Department is to provide quality power at affordable prices to the consumers of Delhi. It coordinates with entities involved in power generation, transmission and distribution namely

- Delhi Transco Limited
- Delhi Power Company Ltd (Holding Company)
- Indraprastha Power Generation Company Limited
- Pragati Power Company Limited¹
- BSES Rajdhani Power Limited (BRPL)

- BSES Yamuna Power Limited (BYPL)
- North Delhi Power Limited (NDPL)

Besides, it coordinates with Delhi Electricity Regulatory Commission (DERC), a statutory body for fixing the tariff and other functions as envisaged under The Electricity Regulatory Commission Act, 1998. Another important function of the Department is to release plan loans for reform purposes.

The Department is headed by Power Secretary who is assisted by Special Secretary and Additional Secretary. The Deputy Secretary and the Assistant Director supervise the administrative staff like superintendents, clerks and Group D employees. The number of employees in the organisation is fifteen including the administrative staff.

Acts and Laws

There are various Acts governing the Department that are formulated to facilitate the process of power delivery in the city. Some of the main Acts are:

- ***The Electricity Regulatory Commission Act, 1998***

This Act is a Central Act and states the process of constitution and functions of Electricity Regulatory Commissions (ERCs) on central and state level. ERCs are responsible for regulating the functioning of private power distribution companies as well as the State Electricity Boards.

- ***Delhi Electricity Reform Act, 2000***

It is responsible for constituting an Electricity Regulatory Commission, restructuring of the power industry (rationalization of generation, transmission, distribution and supply of electricity), increasing avenues for private participation and taking measures conducive to the development and management of the electricity industry in an efficient, commercial, economic and competitive manner in Delhi.

- ***Electricity Act, 2003***

The central Act consolidates laws relating to generation, transmission, distribution, trading and use of electricity. The other

regulations envisaged in the Act include promoting competition, protecting interest of consumers and supply of electricity to all areas, rationalization of electricity tariff, ensuring transparent policies regarding subsidies, promoting efficient and environmentally benign policies, constituting Central Electricity Authority, Regulatory Commissions and Appellate Tribunal.

Financial Profile

The Department of Power gets grants-in-aid from the Delhi Government for supervising electricity supply and coordinating with the distribution companies. Table 1 gives the details of the expenditure of the Department.

Table 1: Outlays and Expenditure of the Department (Rs in lac)

Year	Approved Outlay (BE)	Revised Outlay (RE)	February that Year	% With BE
2002-03	1,41,00	1,57,400	1,23,621	87.61
2003-04	1,46,000	1,74,669	1,70,374	116.6
2004-05	93,000	62,755	60,885	65.4
2005-06	48,304	NA	13,150 (up to August 2005)	27

Source: Government of NCT Delhi.. 2002, 2003, 2004, 2005. Annual Plan: Plan Outlay and Expenditure. Department of Planning

In terms of expenditure, the non-plan expenditure for the year 2004-05 is Rs 262 crore. Expenditure on the plan schemes and programs in 2004-05 is described in Table 2.

Table 2: Sanctioned Budget and Expenditure (Rs in lac)

Activities to be undertaken	Sanctioned budget 2005-06	Expenditure 2004-05
Acquisition of Land for establishment of Electric Substation etc.	2,500	50
Loan to IPGCL/PPCL for undertaking renovation and modernization works, overhauling, refurbishment etc.	7,000	2760
Loan to Delhi Transco Ltd. for establishment of 400 KV/220KV Sub-station works	25,000	11466
Loan to Delhi Transco Ltd. and for Power Sector Reform Transition Support	13,800	48000

Source: Government of NCT Delhi. RTI manual on Department of Power on the Delhi Government website

The expenditure of the Department include expenses of Transco, Gencos, power sector reforms, accelerated power development reforms programme, pension trust fund and land acquisitions. The Department also receives grants for transmission and distribution of electricity. Prior to privatisation, the grants included funds to the Delhi Vidyut Board for electricity supply for system improvement in rural areas and provision of tube well connections. The funds were also allocated for augmenting transformers, installing equipments in Trans-Yamuna area, and to New Delhi Municipal Council for electric supply scheme. After privatisation and power sector reforms, the sole receiver is Delhi Transco Limited for electric supply.

Ideally, the state government is authorised to make the power policy and implement it through the Department and DERC is supposed to monitor the whole process as an autonomous body and suggest changes that are in the best interest of the consumers and distribution companies. The Department of Power, according to the officials, is a mere formality and its main functions include maintaining the records of the transactions done with the distribution companies. To comprehend the situation better, it is necessary to understand the other two organisations, the DERC and Delhi Transco Limited.

Delhi Electricity Regulatory Commission

The Ministry of Power, Government of India notified the Electricity Regulatory Commissions Act, 1998 with the objective of setting up a regulatory mechanism for control and guidance of the utilities in the power sector. The rationalization of electricity tariff, transparent policies regarding subsidies, promotion of environmentally benign policies were the main objectives for this legislative enactment. Lack of transparency, accountability and participation were the three main lacunae underlying the performance crisis plaguing the electricity sector and eluded the benefits of the reforms in reaching the common consumer.

Thus, to keep the mandate of the Act, the Delhi Electricity Regulatory Commission was constituted by the Delhi Government in March 1999. The jurisdiction of the Commission excludes the areas of New Delhi Municipal Council and the Delhi Cantonment Board. The Commission is a lean organisation with a sanctioned staff strength of 34 employess. The Act provided that the Commission shall consist of

not more than three members, including the Chairperson, to be appointed by the Government. The Commission is headed by the Chairperson and assisted by a Secretary and 3 Directors. The Secretary is assisted by a Assistant Secretary, 2 Joint Directors and other administrative staff. The Directors are supported by 4 Joint Directors, 6 Deputy Directors and 4 Assistant Directors.

The Commission operates through various Acts and laws that guide the implementation process in Delhi. Some of the main Acts, rules and regulations implemented by DERC include Delhi Electricity Reform Act, 2000 and Electricity Act, 2003. DERC has comprehensive regulations on conduct of business, management of human resources, appointments of consultants, delegation of financial powers, performance standards of metering and billing, constitution of advisory committee, redressal of consumer grievances and effective way of handling complaints.

Functions

The main functions of the Commission are:

- To determine the tariff for electricity, wholesale bulk, grid or retail and for the use of transmission facilities
- To regulate power purchase and procurement process of the licensees and transmission utilities including the price at which the power shall be procured from the generating companies, generating stations or from other sources for transmission, sale, distribution and supply in Delhi as well as regulate the operation of power system
- To promote competition, efficiency and economy in the activities of the electricity industry
- To aid and advise the Government in matters concerning power policy, electricity generation, transmission, distribution and supply in Delhi
- To set standards of quality, continuity and reliability of service for the electricity industry in Delhi
- To collect and publish data and forecasts on the demand for, and use of electricity in Delhi and require the licensees to collect and publish such data
- To regulate the assets, properties and interest in properties concerned or related to the electricity industry in Delhi including

the conditions governing entry into and exit from the electricity industry in such manner as to safeguard the public interest

- To issue and regulate working of licenses for transmission, bulk supply, distribution or supply of electricity and determine the conditions to be included in the licenses;
- To require licensees to formulate prospective plans and schemes in coordination with others for the promotion of generation, transmission, distribution, supply and utilization of electricity, quality of service and to devise proper power purchase and procurement process
- To adjudicate upon the disputes and differences between the licensees and/or transmission utilities and to refer the matter for arbitration

Financial Profile

The Commission gets grant-in aid from the Delhi Government to meet its expenses. The expenditure of DERC is shown in Table 3, which has been used sufficiently in the reform process.

Table 3: Outlays and Expenditure of DERC (Rs in lac)

<i>Year</i>	<i>Approved Outlay</i>	<i>Expenditure Till February that year</i>	<i>% With BE</i>
2002-03	200	150	75
2003-04	225	225	100
2004-05	250	250	100
2005-06	350	175	50

Source: Government of NCT Delhi. 2002, 2003, 2004, 2005. Annual Plan: Plan Outlay and Expenditure. Department of Planning

Delhi Transco Limited

Prior to the unbundling of the Delhi Vidyut Board, the Board was solely responsible for the generation, transmission and distribution of power in Delhi. In 2002, Delhi Transco Limited (DTL) was one of the seven entities carved out after dismantling of the Vidyut Board. The organisation works as the State Transmission Utility in Delhi and is trying to keep pace with the increasing challenges of power privatisation. It is responsible for transmission of power at 220 KV and above voltage levels, besides establishment, up gradation, operational maintenance of EHV (Extra High Voltage) network and arranging bulk power supply

to distribution licensees.

The network of Delhi Transco Limited comprises sub station in transmission lines of 220 KV and 400 KV. At present DTL has 2 sub stations of 400 KV and 21 sub stations of 220 KV. In order to draw power from Northern Regional Grid, a 400 KV double circuit ring with capacity of 2000 W per circuit has been established around Delhi, which connects Dadri Thermal Power Station of NTPC, Ballabhgarh, Bamnauli, Bawana and Mandola.

DTL is managed like any other public sector unit with Chairman and Managing Director as its head, assisted by several directors and general managers as well as other administrative staff. Committees consisting of two or more persons are constituted for the purpose of advice to DTL. The Delhi Government has provided DTL with a loan of Rs 3,450 crore for five years of reform period that has been factored into the tariff order of DERC.

After an elaborate discussion on the three government institutions of power, the analysis necessitates review of the relevance of these institutions. Delhi Transco Limited is a transmission company, whose existence is incumbent on the power generation models adopted by Delhi. Presently, Delhi has centralised power generation which implies a centralised transmission model as well. However, if in future, captive power plants and independent power generation becomes the norm, transmission can be also broken down accordingly.

The Department of Power has limited role of coordinating with the distribution companies. There are two aspects to the functioning of the Department. First, the Department has very limited role and second, these functions are also not performed efficiently and it overlaps with the responsibilities of DERC. The Department can be converted into a small cell in DERC through a change in legislation and conduct the same activities. There is no need for a separate department, especially after the privatisation of distribution system.

There is an immediate need to restructure the role of DERC and make it more reliable and competent. DERC fixes tariff--most contentious issue--on the basis of the Average Revenue Requirement (ARR) that Discoms submit. If the revenue gap, defined as difference of expenditure and revenue with current tariff, is large then the tariff

set will also be high. Thus the issue is not how much increase in tariff is demanded by the Discoms but what is the revenue gap that has been projected. If the gap happens to be Rs 1406 crore², the tariff hike can only be imagined! This coupled with loans and subsidies that are given to the Delhi Transco, which if levied from the consumers will only add to the tariff problems faced by them.

Analysis of these institutions showed that they are not playing a significant role in managing and regulating power sector in Delhi. A brief analysis of privatisation process, the targets that were set during the contract agreement and major problems faced by consumers is required at this stage to effectively evaluate the relevance of these institutions. Table 4 gives a snapshot of privatisation process in Delhi.

Table 4: Power Privatisation in Delhi

<i>Year</i>	<i>Events</i>
Feb, 1999	T.L. Shankar Committee constituted - White paper on "Privatization and Restructuring" approved by Delhi Government
Mar, 1999	Establishment of Delhi Electricity Regulatory Commission (DERC)
Mar, 2001	Enactment of Delhi Electricity Reform Act
Jul, 2001	The distribution circles of DVB carved out into three Discoms
Nov, 2001	The Delhi Electricity Reform (Transfer Scheme) Rules, 2001 notified
Nov, 2001	Delhi Government notified policy directives for privatisation of DVB
Nov, 2001	Request for proposal issued to shortlist bidders for taking over majority ownership and management control of the three Discoms
May, 2002	Tata Power selected as a preferred bidder and signs Share Acquisition Agreement to take ownership & Control of North & North-West Power Distribution Company (later renamed as North Delhi Power Company)
July, 2002	Tata Power takes over operational control w.e.f 1st July, 2002 after signing Shareholder Agreement on 27th June 2002
July, 2002	BSES Yamuna Power Limited and BSES Rajdhani Power Limited commenced the business distribution and supply of electricity in Delhi

There have been few efficiency gains after privatisation. The energy shortage in Delhi has declined from 1.9 per cent in 2002-03 to 1.4 per cent in 2003-04. The transaction structure focused on reduction of theft. Prior to privatisation, the Aggregate Technical and Commercial (AT&C) loss level was 50.7 per cent. The private companies were given strong incentives to outperform these targets, since the additional revenue generated from loss reduction would be equally shared between consumers and the distribution companies. The index of power

availability has also improved, as shown in Table 5.

Table 5: Index of Power Availability

Parameter	As on July 2002			2003-04			2004-05 (*)		
	BRPL	BYPL	NDPL	BRPL	BYPL	NDPL	BRPL	BYPL	NDPL
Reliability Index (%)	96.98	96.46	98.5	N.A	N.A	99.57	98.84	98.64	99.64

Source: <http://indiabudget.nic.in/es2004-05/chapt2005/chap93.pdf>

(*) Till Oct. 2004

However, the problems that have occurred for the past three years have been more than enough to offset the benefits of privatisation. One of the main problems is that the privatisation is perceived more as a goal rather than a means to an end. Is privatisation a panacea of all the institutional problems that a sector faces? The difficulties faced over the years will substantiate the point.

Power in Delhi: Problems Post Privatisation

▪ **Privatisation process**

The bidding process was more of a negotiated bilateral deal than a competitive bid. Large concessions were given to the private Discoms with respect to return on equity, transmission & distribution (T&D) losses reduction mechanisms, and methodology of tariff calculation.

▪ **Problem of Private Monopolies**

Instead of creating competition among Discoms, the privatisation process has led to creation of private monopolies.

▪ **Tariffs**

Private Discoms were offered a return on equity (ROE) of 16% post tax, the cost of which had to be borne by the customers. Thus, if Discoms would invest in bringing down T&C losses, leading to increase in profits it would also increase the quality for ROE. This meant that the consumers would have to pay twice for the profits of Discoms in Delhi. Tariffs include an annual depreciation charge of 6.83% that also has to be paid by the consumers. It was calculated on the basis of total equity and not on net equity, which means that the consumers' pay for assets that are losing their value.

Bulk Supply tariffs are fixed twice in Delhi, once by the Gencos and then by the Transco. Usually the Transco only receives a fixed wheeling charge. In Delhi, the Transco sells power to Discoms on a price lessor than their purchasing cost from the Gencos so that the Discoms can make profits. The loss has to be borne by the Government and thus automatically by the taxpayers. Lack of multi-year tariffs also adds up to the problems of restructuring.

Transitional assistance is a key issue. Efficient standards would make the company viable only after 5 years and thus the need for government assistance in those years is a prerequisite or else would result in sharp tariff hike. The hike in the power prices is around 25% contrary to claims made by DERC of only about 10%. Those consuming below 100 units will be hit even harder as the increase in tariff for them would be a whopping 33.33 per cent. Table 6 gives the comparison of current and earlier domestic tariffs.

Table 6: Comparison of Current and Earlier Domestic Tariffs

<i>Consumer Categories</i>	<i>Fixed Charges Old</i>	<i>Fixed Charges New</i>	<i>2003-04 Rates Without Subsidy</i>	<i>2003-04 Rates With 10 per cent Subsidy</i>	<i>New Rates</i>
(Units/ Month)	(Rs/kW/Month)	(Rs) Month	(Per Unit)	(Per Unit)	(Per Unit)
JJ Clusters <50 Units	60	–	1.25	1.25	175/month
0-100	10	<2 20	1.75	1.50	2.20
101-200		2-5 50	2.36	2.10	2.20
201-400		>5 10/kW	3.25	2.92	3.60
401+			3.85	3.85	4.10

Source: Purkayastha, Prabir. 2004³

▪ **Aggregate Transmission & Commercial Losses**

The basic problem with the power sector in Delhi is that the distribution business incurs heavy losses due to inability to issue bills for all energy supplied and to collect payment for many of the bills that are issued. Transmission losses are due to energy dissipation from conductors used for transmission, transformation, sub-transmission and distribution of power. Commercial losses are caused by pilferage, defective meters, and errors in meter reading and in estimating non-metered supply of energy.

In 2004-05, three years after privatisation, the AT&C losses were brought down 34 % by NDPL, 40% by BRPL and 50% by BYPL. Even though there has been a substantial reduction in the AT & C losses, the condition that profits will be jointly shared by the consumers (tariff fixation) and Discoms (additional revenue) were not met. The tariff rates are not only highly volatile but also show an increasing trend.



One important thing that should be mentioned here is the role of past DVB arrears and DJB dues that were recovered by the Discoms in the initial years, due to which they were able to meet the targets. However, if these arrears and dues are separated, then none of the Discoms have actually met the targets.

- **Under Valuation of the DVB Assets**

DVB has valued transfer price of assets by 'business valuation' method. This does not explain the reduction in gross fixed assets in the books of accounts. Using allowed depreciation it would be possible to write off Rs 1,103 crore in the transfer scheme. This would yield net fixed assets of Rs 4,556 crore and not Rs 3,160 crore as notified in the scheme. Depreciation has been allowed at 19.4% - 31.3% for different successor companies. It also suggests an average age of four years for DVB assets. DVB also stated that apart from the net assets of Rs 3160 crore, a further Rs 480 crore was invested between April 2001 - July 2002. These have disappeared!

According to the Comptroller and Auditor General Report 2002-03, the amount that DVB had outstanding differed by a massive Rs 3,107 crore leading to a serious under valuation of DVB. The target for loss reduction figures were diluted to 1.16 per cent per year as against 3 per cent per year that amounts to only 5.8 per cent in five years as against the original target of 15 per cent. There were also changes made in the scope of tender after receiving the bids.

- **Infrastructure, Billing & Metering Problems**

One of the main concerns is the lack of infrastructure in the

distribution of electricity. The under utilisation of funds also adds to the problem. In 2003-04, Tata owned NDPL met its regulatory target of Rs 336 crore for capital expenditure, while for the same period BSES Rajdhani and BSES Yamuna (Reliance) had spent less than Rs 200 crore out of the sanctioned amount of Rs 709 crore. However, nothing has been done to this effect. Table 1 substantiates the problem. Billing and metering systems are still to cope up with the advancements in the energy sector. There are a large number of complaints by consumers regarding incorrect meter reading and bills, fast-running meters, arrears reappearing in bills, and bills being issued to disconnected connections. A faster and transparent billing system is required to overcome the billing and metering problems.

Recommended Solutions

The problems faced are many and in all aspects of power delivery in Delhi. The main reason was the sheer negligence in implementing the privatisation process. The reform package can include both short-term and long-term measures.

The DERC should set the tariff structure where all the components should be transparent. Along with that, there should be a defined range in which the tariff should be set. An upper ceiling on the price charged is a critical component of the restructuring process. Efficient pricing, in particular, is especially important in markets that allow participant choices. Well-designed incentive structure for Discoms can bring greater reliance on market for power. Incentive regulations mean that the cost will be compensated to only the most efficient firms.

A strong and competent regulatory commission is needed to solve the problem of AT&C losses. Strong incentives as well as penalties should be imposed on the Discoms. Even though in Delhi, there are proper incentives in place, like the incentive of additional revenue generated from meeting the T&D loss reduction targets that gets distributed equally between the consumer and Discoms, the effect is minimal. The Discoms have been able to meet targets for the past two years just by recovering old arrears, which if removed, will show the inability of the Discoms to meet the targets. A competent commission will supervise such a problem and take proper action. Transparency of the regulatory process and presence of an independent and competitive regulatory commission can also bring greater competition.

Governmental opportunism can lead to inefficient sectoral investments. Role of a competent commission should determine tariff, regulate power procurement, promote efficiency and competition, set quality standards, require licensees to formulate prospective plans and adjudicate disputes between licensees.

DERC should have representation from all the sections of the society including the government, distribution companies, and civil society organisations so that the process of tariff fixation is more transparent and efficient. Consumer Redressal Forum should also play a significant role. It should be competent and should possess power to forward the complaints to the commission and ensure proper action. This can prove to be a good mechanism for solving problems of billing and metering faced by people.

The long-term measures would include introduction of various approaches to increase competition in the market, which will ensure better services at competitive prices. Privatisation is a means to introduce competition in electricity market. While decentralisation of power transmission at household may be difficult to implement, utility provisions can be decentralised at ward level. Ward Level Power Consumers Association can contract out power distribution services to private players. Competition among firms will drive down tariffs and increase efficiency.

The Electricity Act, 2003 is landmark legislation that opens the power sector to a number of players by laying down provisions for a power market and competition. Central to the emergence of market is the open access. This system envisages removal of a number of restrictive barriers to the flow of power in a competitive market scenario by opening access to transmission (from the outset) and distribution. However, open access is not a widespread phenomenon in the distribution of power.

Some of the market solutions to the problems of power in Delhi could be to eliminate territorial franchises, allow competition to develop parallel distribution, use of the micro turbine technology that converts natural gas to power, provide on-site power, and negotiate voluntary agreements for access to the existing transmission and distribution systems. The superior deregulatory option is to remove exclusive franchises that are the actual source of utilities' monopoly power and allow competition to emerge spontaneously. If no franchises exist,

competition will appear in the form of alternative transmission and distribution process, strategic business alliances spurred by newly available technologies that make it possible to control electron flows on the grid and user ownership of the grid. The essence of reform is straightforward: give others the right to set up shop but let them worry about how they get their juice to the customer.

Thus, it can be concluded that at the governance level, there is a need for organisational restructuring, building more competent and strong regulatory body and providing right incentives in the framework of sound contracting system to restructure the power scenario in Delhi.

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Notes

- ¹ Financial Express. 2005. *More power supply to gencos needed.* 7 December
- ² Purkayastha, Prabir. 2005. *Delhi Power Scenario: The Magic of Privatisation.* 25 September. People's Democracy
- ³ Purkayastha, Prabir. 2004. *Privatisation in the power sector imposes high costs on the citizens.* July 4. People's Democracy

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Do Away With Monopolies

Competition to ensure lower tariffs

You were right, meters do spin fast
258 meters tested | 26 locations | 1 ran fast | 1 was slower than normal

Power regulation – time to get back to the basics
Electricity regulators, who could have formed the bridge between the uninformed consumer and the power utility, have unfortunately failed to rise to the occasion.