

UNIT 5

DISTRIBUTION OF ELECTRICITY

5.1 Background

Electricity Distribution and Transmission Systems are considered to be Natural Monopoly¹ in the power Industry. However through practical policies and regulatory reforms most of the demerits of a monopoly can be reduced to a negligible level. The Government's distribution strategy is meant to achieve distribution reforms . The focus is on system up gradation, loss reduction, theft control, consumer service orientation, quality power supply, commercialization, decentralized distribution, generation and supply for rural areas.

Distributing electricity is the largest and most extensive business, requiring efficiency and attention to detail on a gigantic scale. These are issues of executive training, HR policies, procedural constraints on decision making, financial expertise and commercial orientation. We can say essentially that the reason for privatization in this sector are the same as in other sectors.

5.2 Steps to be taken during Application for a distribution license

Public Notice Within Seven Days of Application- The Applicant must publish a public notice as may be specified by the appropriate Commission.

No Objection Certificate from the central Government- Section 15(2)(ii) provides that the Commission shall not grant a

¹ Natural Monopoly is an industry where technology does not permit multiple non-colluding competitive firms to co-exist profitably and the best example is the Systems of transmission and Distribution of Electricity.

First Draft

license without a NOC from the Central Government for any premises or place in the occupation of Government for defense proposes.

5.3 Duties of distribution licensee

Section 42 subsection 1 provides that It shall be the duty of a distribution licensee to develop and maintain an efficient, co-ordinated and economical distribution system in his area of supply and secondly to supply electricity in accordance with the provisions contained in the electricity Act 2003.

5.4 Open access in the Distribution System

Section 42 Subsection 2 provides for the manner of Introduction of open access .

The State Commission shall introduce open access in the distribution network within the territorial jurisdiction of the state. The introduction of open access will be subject to following conditions-

- 1)Cross subsidies
- 2)Other Operation Constraints

Furthermore the introduction of open access can be in such phases as may be determined by the state commission . There is no mention of minimum number of phases , there can be only one phase if the commission deems it to be appropriate. The state commissions must specify the phases within one year of the appointed date(Before 9th June 2004).The State Commission shall also specify the extent of wheeling charges for each phase.

5.5 Cross Subsidy

While introducing open access the State commission shall take into consideration if there is any cross subsidy but nothing prevents the State Commission from introducing open access before the cross

First Draft

subsidies are eliminated but the open access shall be subject to surcharge in addition to wheeling charges provided for by the state commission.

A further condition has been imposed that-

a) such surcharge shall be utilized to meet only the current level of cross subsidy .

b) The Cross subsidy should pertain to the area of supply of the distribution licensee.

Effectively the cross subsidy of other areas can be compensated by the surcharge. The ultimate objective is to eliminate the cross subsidy. However to protect the consumers from a tariff shock, it is advisable and practical to eliminate the same progressively. The electricity Act has empowered the State Commission to progressively reduce and eliminate cross subsidy.

5.6 Surcharge

The surcharge is not livable in case open access is provided to a person who has established a captive generating plant. However the surcharge will be applicable if the power is transmitted for the use of any other person other than the owner of the captive power plant .

5.7 Distribution licensee as a common carrier

In case of electricity is supplied by another licensee the distribution licensee shall provide open access to the second licensee as a common Carrier providing non discriminatory open Access.

5.8 Exemption to Local Authority

First Draft

All preexisting local authority who are engaged in the distribution of electricity have been exempted from the same. This provision will benefit very few local authority such as BEST(Mumbai), LESA(Lucknow Electric supply Authority, Lucknow) and NDMC (New Delhi Municipal Corporation, New Delhi) providing Electricity Supply to selected urban areas.

5.9 Additional Surcharge

Most of the revenues generated by the Electricity Boards are from the Industrial and commercial consumers. These consumers in many states cross subsidize the Agricultural and the domestic consumer. The ultimate aim of the Electricity Act is to eliminate this cross-subsidization and rationalize tariff .However due to practical constraints this is not possible in short run. However as new players are bound to cherry pick and lure the high end, high paying consumers from the State electricity Boards. High value and high paying consumers may move to other distribution licensee .It becomes important to protect subsidizing entity in short run. Therefore the State Commission may provide for Additional Surcharge for consumers moving away from the existing distribution licensee. This is equivalent to the American concept of transition charge. This charges are generally levied to meet the fixed cost of the distribution licensee because of his obligation to supply.

5.10 Duty to Supply on request

Section 43 of the Act specifies that it shall be the duty of the distribution licensee to supply Electricity on request .However following conditions must be met –

- 1.Application must be given by the applicant
- 2.The applicant must have a premises for the electricity Connection

First Draft

The Distribution licensee is duty bound to supply Electricity within one month after receipt of the application requiring such supply

5.11 Penalty for Failure

If a distribution licensee fails to supply the electricity within the period specified he shall be liable to a penalty which may extend to one thousand rupees for each day of default. The Delhi Electricity regulatory Commission has set the limit of Rs 500 for the Delhi area.

5.12 Exceptional Cases

In certain cases where it is not feasible due to technical reasons not to supply electricity the licensees have been granted extended timeframe until technical capability is developed.

1. where such supply require connection of distribution mains, or commissioning of new sub-station, the distribution licensee shall supply the electricity to such premises immediately after such extension or commissioning or within such period as may be specified by the Appropriate Commission:
2. in case of a village or hamlet or area wherein no provision for supply of electricity exists, the Appropriate Commission may extend the said period as it may consider necessary for electrification of such village or hamlet or area.

However the distribution licensee can not exempt himself for non Electrification due to financial reasons It shall be the duty of every distribution licensee to provide, if required, electric plant or electric line for giving electric supply to the premises if required. Secondly section 41 exempts the licensee to provide Electricity in case of force majeure or Act of God such as in cases of cyclones, floods, Storms, or other occurrence beyond the control of licensee.

5.13 Power to recover charges²

1. Subject to the provisions of this section, the prices to be charged by a distribution licensee for the supply of electricity by him in pursuance of section 43 shall be in accordance with such tariffs fixed from time to time and conditions of his license.
2. The charges for electricity supplied by a distribution licensee shall be :-
 - a. Fixed in accordance with the methods and the principles as may be specified by the concerned State Commission;
 - b. Published in such manner so as to give adequate publicity for such charges and prices.
3. The charges for electricity supplied by a distribution licensee may include :-
 - a. (a)A fixed charge in addition to the charge for the actual electricity supplied;
 - b. (b)A rent or other charges in respect of any electric meter or electrical plant provided by the distribution licensee.
4. Subject to the provisions of section 62, in fixing charges under this section a distribution licensee shall not show undue preference to any person or class of persons or discrimination against any person or class of persons.
5. The charges fixed by the distribution licensee shall be in accordance with the provisions of this Act and the regulations made in this behalf by the concerned State Commission.

5.14 Power to recover expenditure & Power to Require Security³

The State Commission may provide that a distribution licensee may recover the cost of expenditure to supply Electricity. Additionally the State Commission may also provide through regulation that a distribution licensee can require security.

² Section 45 of the Electricity Act 2003

³ Section 46, Section 47

First Draft

While returning back the security the distribution licensee shall pay interest equivalent to the bank rate or more, as may be specified by the State Commission,

A distribution licensee is not entitled to require security in if the person requiring the supply is prepared to take the supply through a pre-payment meter.

5.15 Additional terms of supply⁴

A distribution licensee may require any person who requires a supply of electricity any restrictions which may be imposed for the purpose of enabling the distribution licensee to comply with the regulations made by the commission. The terms may also include any terms restricting any liability of the distribution licensee for economic loss resulting from negligence of the person to whom the electricity is supplied.

5.16 Agreements with respect to supply or purchase of electricity⁵

In case of open access to certain consumers under section 42, such consumers, notwithstanding the tariff determined by the appropriate Commission may enter into an agreement with any person for supply or purchase of electricity on such terms and conditions (including tariff) as may be agreed upon and between them.

5.17 The Electricity Supply Code

Section 50 of the Act provides for a Electricity Supply Code. The State Electricity Regulatory Commission shall specify an Electricity Supply Code.

⁴ Section 48

⁵ Section 49

First Draft

The Electricity Supply Code shall consist of –

- to provide for recovery of electricity charges,
- intervals for billing of electricity charges,
- disconnection of supply of electricity for non-payment thereof
- restoration of supply of electricity,
- tampering, distress or damage to electrical plant, electric lines or meter
- entry of distribution licensee or any person acting on his behalf for disconnecting supply and removing the meter,
- entry for replacing altering or maintaining electric lines or electrical plant or meter.

5.18 Other businesses of distribution licensees⁶

A distribution licensee may, with prior intimation to the Appropriate Commission, engage in any other business for optimum utilization of its assets.

The financial benefits from other business of the distribution licensee shall be used for reducing its charges for wheeling. The proportion of profits which must be used for reducing the same shall be determined by the State Electricity Commission. There must be separate accounts for each such business undertaking to ensure that distribution business neither subsidizes in any way such business undertaking nor encumbers its distribution assets in any way to support such business. However a local authority engages in the supply of Electricity is exempted from doing so.

5.19 Universal Metering

Section 55 reads as-

⁶ Section 51

First Draft

“(1) No licensee shall supply electricity after the expiry of two years from the appointed date, except through installation of a correct meter in accordance with the regulations to be made in this behalf by the Authority”

However the State Commission has been empowered to extend the said period of two years for a class or classes of persons or for such area as it may specify. This is only enabling clause which must be used in an exceptional cases.

5.20 Disconnection of supply in default of payment⁷

In the course of supply of Electricity there are many charges which a consumer may have to pay such as –

1. Fixed Charges
2. Energy Charges
3. Metering Charges

These charges are above and beyond the charges for

1. supply or
2. transmission or
3. distribution or
4. wheeling of electricity

In the case of charges beyond the above mentioned four charges, If the consumer neglects the same the licensee or the generating company may, after giving not less than fifteen clear days notice in writing to such person and without prejudice to his rights to recover such charge or other sum by suit, cut off the supply of electricity. This may remain cut off until such charge or other sum, together with any expenses incurred by him in cutting off and reconnecting the supply, are paid but it can not extend beyond the time when the consumer pays up the charges.

⁷ Section 52

First Draft

It is also provided that the supply of electricity shall not be cut off if such person deposits, under protest,-

- (a) an amount equal to the sum claimed from him, or
- (b) the electricity charges due from him for each month calculated on the basis of average charge for electricity paid by him during the preceding six months, Whichever is less, pending disposal of any dispute between him and the licensee.

The limitation of two years from the date when such sum became first due unless such sum has been shown continuously as recoverable as arrear of charges for electricity supplied.

5.21 Challenges before a distribution licensee

Decades of non-focus on reforms and politicization of the Electricity industry has lead to greatly difficult situation for the distribution licensees . some of the issues of importance are-

- The wide expansion of the electrical network without consideration to technical factors has led to low voltage transmission because low voltage transmission is less expensive then high voltage transmission .To reduce Technical losses a good option would be to reduce low voltage T and D network and replace it with high voltage network.
- line staff(namely Line foremen, line inspector, linemen, and line inspector on transmission and distribution side) of most of the Electricity licensee is ageing .Skill and physical ability test after the age of 50 years must b e mandatory. It must be repeated hereafter every two years .
- Overloaded system, faulty equipment , breakdown due to rains.

5.22 Reforms Suggested by Various institutions

- Unbundling –That is separation of generation, Transmission, Distribution and trading of electricity

First Draft

- Corporateisation
- Privatization - it is assumed that private entities are more efficient
- It seems that the National Grid will be ready by 1012 the target was to move 30000 MW of power through this mechanism
- Electronic meters having internet modems can be fruitful be installed for Large Industrial power(LIP) consumers.

5.23 Conclusion

Only two states i.e. Orissa and Delhi have privatized the distribution networks. The Orissa model has been a great learning experience for the Power industry in India. In the Delhi Electricity Distribution Privatization the pitfalls of Orissa have been avoided and it seems the model is functional and is expected to give good results.