

# Regulating state-owned enterprises in the infrastructure sector: the experience with electricity in India

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## Abstract

Most of the infrastructure services in India are government-owned and supervised. In order to attract private investment to other sectors, the government introduced the institution of independent regulation into electricity and is considering doing so in such sectors as coal, and oil and gas. Electricity regulators have been in place at the Centre and the states for periods varying from two to six years and have been given powers to regulate tariffs, transmission, and certain private investments. They are enjoined to promote competition, efficiency, and economy in the sector, encourage private investment, and safeguard consumer interest. They have the contradictory objectives of making the sector financially viable in order to attract investment, and yet improve the availability, accessibility, and affordability of electricity. They have to perform their functions through government-owned enterprises. This has posed difficulties in terms of inadequate and inaccurate technical and financial information, governments supporting the utilities in bypassing the regulators, defiance of regulatory orders, non-compliance, and frequent challenges in courts. Regulators and their staff tend to be people drawn from government service precluding fresh thinking or independence from government practices. While the courts have on the whole been supportive of the regulatory orders, decisions have taken time and caused delays in the implementation of much-needed changes.

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## Introduction

This paper is based on experiences in regulating the electricity sector in India. It is about 'independent regulation' and not normal regulation by the government. The experience of regulating the electricity sector is a template for the regulation of other areas such as transportation—roads, railways, civil aviation and shipping, water, sanitation, and oil and gas. The only other infrastructure regulatory authorities are TRAI (Telecommunications Regulatory Authority of India) and TAMP (Tariff Authority for Major Ports). These two authorities do not have the powers given to the electricity regulatory commissions, and their roles are either recommendatory in nature or limited to tariffs as in the case of TAMP. The emphasis in the paper is on independent regulation, that is, by a regulator who is, by law not subservient to anyone including the government, and whose decisions only a judicial body can overrule after following appropriate procedures. Other regulators such as the RBI (Reserve Bank of India) and SEBI (Securities and Exchange Board of India) are ultimately subservient to the ministry concerned. In the case of SEBI, the appeal from its orders is to the secretary to the finance ministry.

Administrative officials and ministers represent governments (as owners). Ministers change frequently while administrative officials tend to have relatively longer tenures in the owner ministry, though they are also subject to political whims. The will of the government is conveyed to the top management of the state-owned enterprise through the minister, the secretary to the ministry, the joint secretary specifically in charge who usually sits on the board of the state-owned enterprise, and other officials. This may be done formally, in writing or informally. But the will of the government usually has to be obeyed despite the autonomous nature of some of these state-owned enterprises under the laws applicable to them. Even when they are run by boards, as in some cases, the enterprise follows the direction of the government official, for fear of consequences if it is not do so. These consequences could range from pinpricks such as not approving overseas tour plans, staff selections, service extensions, investment programmes, to charge-sheeting and termination. The chairman-cum-managing director of the enterprise, who is the CEO (chief executive officer), will usually obey, or might try to reason it out, knowing that in the end, he has no choice but to obey.

However, the electricity sector is a little more complicated. Officers and ministers who are at best, generalists, staff the ministries. They are often overawed by the apparent technical complexity of electricity, and by the likely public repercussions of decisions. They can, therefore, be quite easily deflected by the threat of complex technical and public reactions. The management of state-owned enterprises in the electricity sector has, therefore, a great deal of influence on any decisions affecting the sector. This is compounded by the fact that the enterprise is able to offer favours to the ministry and its officials in picking up expenses that, even when legitimate, cannot normally be incurred because of restrictive government rules. In addition, of course, are the much larger pay-offs to individuals and political parties that are possible on large contracts, purchases, and projects. The electricity enterprise also lends its 'expert' staff to the ministry, and is therefore fully informed of the trend that decisions affecting the sector will take at every stage, and is able to influence them in the enterprise's favour. There is a strong vested interest in the government to retain control over enterprises owned by it. This is the major reason why in India, alternative ways that have been tried over the years, to distance the government from the management of state-owned enterprises have not been successful. Privatization of state-owned enterprises is seen as the only way to distance the government from such enterprises.

State ownership also mires the enterprise in subsidies and cross-subsidies, in an attempt to help the 'poor' at the cost of the 'rich'. Very soon, these subsidies and cross-subsidies build up into huge liabilities that have to be borne by the enterprise, since the government is unable to finance them. In India, the SEBs (state electricity boards) in 2000/01 had deficits on operations that added up to over half of the revenue deficit of the state governments. These deficits prevent the state governments from fulfilling their key responsibilities: the improvement of the physical and social infrastructure and increased opportunities for development of the weak and vulnerable. State ownership also leads to higher costs of operations. Over-staffing is inevitable, as people are employed on compassionate and populist grounds rather than on need. Discipline is given the backseat. Inefficiencies abound and add to the deficits. There is little accountability for performance. Inevitably, generalist administrators replace professionals as CEOs. They have short tenures and little incentive to leave a lasting impression on the enterprise. At the

same time, a good part of the subsidies go to the undeserving, since there are no limits placed and no means of measuring who consumes how much electricity.

Reforms in India in the infrastructure sector have aimed at opening up to private investment, introducing independent regulation of tariffs and investment approvals, creating conditions for competition to develop, giving the consumer choice, reducing and eliminating inefficiencies, eliminating subsidies and cross-subsidies, and raising tariffs so that they approach costs of service. The aim has been to create conditions in which the market can determine tariffs in a fair manner.

### **Reform and independent regulation in the electricity sector**

The first state to introduce reforms in the electricity sector was Orissa. The Orissa government appropriated to itself the substantial money paid by buyers for buying the distribution circles. The government earned 1590 million rupees through the disinvestment of 51% of its shares by private sector participation in four distribution circles.

Prior to these reforms, the GoO (Government of Orissa) was providing subventions to the OSEB (Orissa State Electricity Board) under Section 59 of the Electricity Supply Act, 1948. This practice was withdrawn immediately in the post-reform period. In the process, the GoO saved subsidy payments of about 27.70 billion rupees during the period 1995/96 to 2000/01.

The generating company was left to carry the substantial accumulated liabilities of the past years when electricity operations were bundled together. At the same time, a transmission company was created which would buy all the required electricity and sell it to the private distribution companies. The information given to the latter on the T&D (transmission and distribution) losses was of very poor quality, and the new companies made much larger losses than they anticipated. Their consequent inability to pay for the electricity they bought from the transmission company left them unable to pay the generating companies from which they had bought the electricity. Today, each of the companies is in financial difficulty, and the customer is unhappy with the availability and quality of electricity.

As per the projections made by consultants and intimated to prospective bidders, it was expected that of the four DISTCOs (distribution companies) that were formed out of the OSEB and

**Table 1** Projected versus actual profits achieved (in Rs)

Distribution companies	1999/2000		2000/01		2001/02*	
	<i>Projected</i>	<i>Actual</i>	<i>Projected</i>	<i>Actual</i>	<i>Projected</i>	<i>Actual</i>
WESCO	65.6	(581.8)	389.3	(1118.9)	493.1	(408.1)
NESCO	168.6	(542.7)	467.9	(1228.0)	778.3	(2080.5)
SOUTHCO	(258.5)	(873.7)	435.0	(860.5)	222.0	(837.2)
CESCO	(1295.6)	(1777.3)	(391.5)	(1722.9)	1321.2	(2396.8)

WESCO - Western Electricity Supply Company; NESCO - Northern Electricity Supply Company; SOUTHCO - Southern Electricity Supply Company; CESCO - Central Electricity Supply Company

\*Unaudited

Note Figure in parenthesis means losses

Source The Kanungo Committee Report (2001)

then privatized, WESCO (Western Electricity Supply Company) and NESCO (Northern Electricity Supply Company) were expected to achieve turnaround by 1999/00, SOUTHCO (Southern Electricity Supply Company) by 2000/01, and CESCO (Central Electricity Supply Company) by 2001/02. However, none of the DISTCOs could achieve this and suffered losses even at the end of the third year (Table 1).

This asymmetry between projection and achievement has put the regulator in a dilemma. He/she determines certain efficiency targets for the future based on the actuals claimed to have been achieved in the past. The actuals are later found to be incorrect, and grossly exceeded. His/her targets for the future are thus based on incorrect information and the improvements called for are unachievable.

### **Regulatory dilemmas**

#### *Poor information base*

The regulator faces many dilemmas. He/she has poor information from the companies, on the basis of which he/she has to decide tariffs. But because of unreliable data, there is huge mismatch between the estimated (proposed) and actual numbers. For example, after analysing various tariff orders, there is huge difference between the proposed and actual T&D losses in these utilities (Table 2).

The 'approved' figures represent the regulator's targets for T&D losses in that year, against those proposed by the utility.

**Table 2** Transmission and distribution losses proposed by utility and actually achieved.

Utility	Year	Proposed (%)	Approved (%)	Actual (%)
MSEB	2000/01	27.66	26.87	39.40
UPPCL	2000/01	34.97	29.97	39.47
Orissa	1999/2000	47.00	35.00	45.68
Haryana	2000/01	40.76	35.76	47.71
Gujarat	2000/01	21.00	30.00	28.00*

MSEB - Maharashtra State Electricity Board; UPPCL - Uttar Pradesh Power Corporation Ltd  
\*TERI estimates

**Source** Tariff orders and tariff petitions

The table shows that the regulator has tried to promote efficiency by reducing T&D losses. In Gujarat, however, the regulator took the view that agricultural consumption (which was not metered) in the state was in reality lower than that estimated by the utility. T&D losses, however, were much higher and had been displayed as agricultural consumption. The regulator in Gujarat, therefore, raised the approved figure for T&D losses from that proposed by the utility by reducing from agricultural consumption.

The regulator has to determine tariffs on the basis of unreliable information. His/her tariff decisions are invariably based on revenue and expenditure projections of the utility that are not achieved. He/she is therefore, unable to determine tariffs for more than a year at a time because even one year's projections are found to be unsound. The Regulator is accused of creating 'regulatory uncertainty' because the distributor and his financiers know only one year's tariffs at a time, making financial projections required for raising finances in the market, very difficult. The consumers are unhappy because the availability and quality remain poor. The fundamental weakness is the poor information base, the inefficiency of state-level generators, the inability of the state to pay up subsidies to selected customer groups, the past liabilities that have to be serviced from an inadequate income stream, and the increasing bellicosity of central government-owned suppliers demanding to be paid.

### *Load dispatch function*

In all states, the load dispatch function is with the state load dispatch centre. This body must neutrally match loads and dispatches so that there is no favour to any single party. But in all

states, this function remains with the SEBs and where there is unbundling, with the state-owned transmission companies. The authority to regulate this function has to be passed on to the regulator by the state government. Till that happens, the regulator is regulating tariffs without being able to ensure that the load and dispatch are balanced at all times. Without this authority, the regulator has only partial authority and the system is not being properly regulated. The principal party in the transaction, the generator or the owner of the wires, is doing the balancing act when he is himself an interested and involved party in the transaction.

The same contradiction exists at the central level where interstate transmission is regulated by the CERC (Central Electricity Regulatory Commission), but the regional load dispatch centres that do this balancing are under the authority of a central government-owned enterprise, who in this case is also the interstate transmission monopoly enterprise, the PGCIL (Power Grid Corporation of India Ltd). It is argued that the 'neutrality' of the load despatch centres is not an issue because most of the generation and distribution is with state-owned enterprises and hence there is no other party to be neutral towards. However, it is only the creation of such a neutral body that will attract private investment, an objective that governments claim to have at the forefront.

Similarly, the CERC has to issue licences to private investors in interstate transmission but the parties have to be first approved by the transmission monopoly.

In both instances, regulatory interventions by the CERC to provide a fair playing field, to prevent grid collapse, to ensure that all parties have a fair deal, are frustrated by the fact that the transmission company is state-owned and is able to get its owner's approval to stall actions.

### *Government ownership*

There are therefore two aspects to government ownership that make independent regulation difficult: (1) the inconsistencies, gaps, and ambiguities in government policies and (2) the fact of government ownership and a consequent nexus (vested interest) in supporting the state-owned enterprise.

In this context, there is also the issue of pre-existing power purchase agreements and their scrutiny by regulators. This reopening of prior agreement is described by some as violating the sanctity of contracts, even when the contracts were entered into

by unfair or illegal methods, or the end result is a huge additional and avoidable burden on the consumer, when cheaper alternatives are available.

The problems are accentuated by the nature of public governance. Many ministries are created to find berths for the maximum number of political aspirants. This also helps the bureaucracy since so many more senior administrative jobs become available to them. Given the strong sense of turf among these functionaries, there is little co-ordination even when the regulator requires it for his/her functioning.

Take two examples of the consequence of the fragmentation of functions between ministries. The first example is that the CERC cannot regulate atomic energy even though all electricity, irrespective of source, flows through the same wires, cannot be identified, and the CERC has to regulate interstate transmission as well as the tariffs. Another example is the regulation of the government-owned Neyveli Lignite Corporation, an integrated generator using captive lignite mines. But coal is dealt with by another ministry and not regulated by the CERC, so that the company can easily hide extra profits behind high coal transfer prices.

### *Excessive appeals to courts*

There are many examples of unnecessary appeals to courts by state-owned entities, with either the explicit or implicit approval of the owners, the concerned governments.

- The CERC's orders on operating norms for central government-owned generating companies (that could have been a model for other regulators) were held up in the courts for two years.
- The ABT (availability-based tariffs) were a novel commercial method ordered by the CERC to enforce grid discipline on all participants in the power system. The generators, mainly central government-owned, had a vested interest in pushing as much electricity as possible into the system since their earnings would increase. This affected frequency adversely. The whole order was held up while the courts considered the appeals of the state-owned enterprises, with considerable damage to expensive equipment owned by users due to quality variations. Private entities, according to international experience, are more compliant, because they do not have the might of the government to give them support.

- The Karnataka Electricity Regulatory Commission's tariff order of 2002 was suspended by government, quite illegally since the law does not give them the power to do so, and without justification.

### *Bad governance*

Government ownership has enabled SEBs and companies to get away with gross violations of all principles of good governance. Regulators have to face this reality and have difficulties in working. The following paragraphs give some examples.

### *Accounts of SEBs not finalized*

Accounts are not finalized for many years by the state enterprise. Asset registers are either not kept or are out of date so it is impossible to know what to take as asset base for calculating return.

- In Uttar Pradesh, even the restructured distribution companies, KESCO (Kanpur area) and the UPPCL do not maintain asset registers. During the Kanpur privatization process, the consultants realized that there was no record of the number of transformers, feeders, etc. possessed by the companies. A similar situation was encountered during the DVB's (Delhi Vidyut Board) privatization.
- In Himachal Pradesh, the Himachal Pradesh State Electricity Board has not finalized its accounts and does not maintain an asset register. The Himachal Pradesh Electricity Regulatory Commission in its tariff order for 2001/02 has directed the Board to prepare and maintain the fixed asset register. Unfortunately, till now, no improvement has occurred.

### *Poor information and regulatory uncertainty*

As discussed earlier, the regulatory dilemma due to a poor information base is linked to perceptions of regulatory uncertainty or risk for prospective private investors in the distribution business. Discussed below is the extent to which poor information about tariff-determining components has either caused loss to the utility and/or regulatory uncertainty.

- *Demand estimates* In Orissa, a viability exercise under power sector reforms has been worked out on the basis of certain assumptions, of which demand projection was a major one. Unfortunately, the demand growth realized in practice was very different as Table 3 shows.

**Table 3** Extent of over-estimate of demand in Orissa

Item	<i>Estimated</i>	<i>Actuals</i>	<i>Actual to projected (%)</i>
1996/97	9785	9306	95.09
1997/98	10902	9771	89.63
1998/99	12726	10128	79.59
1999/2000	13902	10229	73.58
2000/01	14809	11231	75.84

**Source** The Kanungo Committee Report (2001)

The assumption thus turned out to be far higher than what was actually observed. This was also true of the share between EHT and HT/LT demand. This share is critical for viability because much of the T&D loss occurs in the HT/LT segment.

- *Cost parameters* The UPERC tariff order for the year 2000/01, based on the KESCO tariff petition shows that even after almost four years of efforts, there has been no privatization in the Kanpur region (Table 4).

As is evident from Table 4, T&D loss percentages were grossly underestimated. The regulator approved certain efficiency parameters but the utility was not able achieve them. In this particular case, it appears that private investors do not find the distribution business viable. This is evident from the lack of interest in KESCO's privatization by any bidders even after the tariff order (Sarkar and Sharma 2001).

Second, there is a perception among investors that the price-setting methodology (based on the ROR concept) employed by regulatory agencies is not conducive to long-term investments.

**Table 4** UPERC tariff order on KESCO tariff petition

Item	<i>Proposed</i>	<i>Approved</i>	<i>Difference</i>	<i>Actual</i>
T&D loss (%)	28.2	25.2	3	32.3
Collection efficiency (%)	78	100	22	79.04
Depreciation rate (%)	7.3	4.8	2.5	7.3
Employee cost (million rupees)	372.2	322.4	49.8	390
Revenue requested (million rupees)	6050	5450	600	5440

**Source** Sarkar and Sharma (2001)

KESCO in the tariff petition for 2001/02 has hence demanded a multi-year tariff framework. But the regulator has not accepted the framework stating the following reasons/issues.

- Sufficient data are not available to correctly set the initial level and to benchmark improvements. Hence it is likely that either excess profit would be made or the company would make losses and request the commission to re-open the issue. Either of these events would damage the credibility of the regulatory process.
- Principles for sharing of risk, if demand and/or demand-mix changes substantially, have to be determined.
- The basis for laying down targets for investments in advance and method for relating it to target improvements have to be worked out.
- Linking of the return on capital base to achievement of certain performance standards such as improvement in service quality, extension of coverage to specified group of consumers, etc. needs to be decided (Sarkar and Sharma 2001).

### Conclusion

How can these problems be resolved considering that government ownership is not likely to disappear in a hurry? One answer is to completely distance government enterprises from the controlling ministry. However, this has not worked despite attempts in many public enterprises since 1988. These include the government and the PSE (public sector enterprises) concerned entering into an MoU (memorandum of understanding) about the targets and responsibilities of each. These MoUs have ended up as paper exercises by the concerned PSE, since the ministry concerned is able to commit only for itself, not for the rest of the government. When any decision requires concurrence from other ministries, the concerned ministry is unable to keep its commitment.

Another answer is to truncate the size of a ministry after creating a regulatory commission, since it will be doing things that were earlier the responsibility of the ministry. This means the loss of power and jobs for many, especially lower level officers, something which no politician or senior bureaucrat (in service) is willing to implement.

Another possibility is to put all appeals on fast track. This may happen with the creation of a special appellate body for electricity as is proposed in the new comprehensive Electricity Bill placed before Parliament in 2002. However, TRAI has such an

appellate authority but it has made no difference to the speed of the appeals process.

Yet another method is to have regulatory commissions to issue draft orders that can again be debated before a final order is issued, thereby thus reducing the chances of appeals to Courts.

An informal academic platform on which regulators, government representatives, utilities, and consumer groups can debate issues in a free manner might also help to find solutions that are acceptable to all.

So long as the government owns and controls substantial parts of the regulated systems, the regulatory process will be made a mockery. The PSEs have been able to influence appointments of regulators and staffs through their connections with the governments concerned. The independent regulatory institution can be effective when the courts and public opinion are able to fully support it. Recent judicial orders by the Supreme Court suggest that the judiciary realizes this. It has been very supportive of the technical competence of the electricity regulatory commissions. There is now an effort by state-owned enterprises supported by the bureaucracy, to argue that the independent regulators lack accountability and should therefore be made to report to the minister. The move has some political support on the plea that it goes against the framework of Indian governance, which has a legislature, executive, and judiciary, and the independent regulator combines some of each.

The ultimate answer, of course, is to move away from detailed tariff determination and enable privatization, competition, and choice for customers, markets, and trading with adequate regulation to ensure fairness, with an independently run transmission/transportation (wires in electricity) system.

## References

Sarkar S K and Sharma V. 2001

**Encouraging investment in infrastructure services: political and regulatory risks**, pp. 161-179

In *Reforms in the infrastructure sectors: next steps*, edited by S K Sarkar and Leena Srivastava

New Delhi: Tata Energy Research Institute

The Kanungo Committee Report. 2001

**Report of the Committee of independent experts to review the power sector reforms in Orissa**

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*For grey literature:* Tøgeby M and Jacobsen U. 1996. How conflicting goals concerning environment and transport influence the policy process? Paper presented at the Conference on Transport, Energy and Environment, 3–4 October, Helsingør, Denmark.

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