# Wielding Power in the Capital: The Case of the Delhi Electricity Distribution Sector

Working Paper
Mapping Power Project

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# Project Overview

This working paper was written as part of a collaborative research project, Mapping Power, which aims to provide a state-level analysis of India's electricity governance. The project is coordinated by Sunila S. Kale (University of Washington, Seattle), Navroz K. Dubash (Centre for Policy Research), and Ranjit Bharvirkar (Regulatory Assistance Project), and carried out by a team of 12 researchers. The research explores the views and perspectives of various stakeholders and organizations in each state and how they will be affected by new initiatives in India's electricity sector, as well as the forces and constraints that shape decision-making in electricity governance. Using data from qualitative interviews with key informants buttressed by quantitative data, the research team covered 15 states as part of the analysis: Andhra Pradesh, Bihar, Delhi, Gujarat, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh, and West Bengal. You can learn more about Mapping Power as well as access other working papers in the series here: http://www.cprindia.org/projects/mapping-power

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## Abstract

This study of electricity governance in Delhi, India, explores regulatory trends in Delhi's privatised power distribution sector over the past few decades. While privatization brought in noticeable improvement in the infrastructure and quality of power delivery, the sector also met with roadblocks in the form of consumer protests over escalating tariffs and allegations of financial irregularity within the distribution companies on one end, and high cost of power purchase and mounting regulatory assets of distribution companies on the other. The paper tracks watershed events in Delhi's electricity sector from the early impetus for reform to factors that contributed to fomenting a sectoral crisis, as well as recent innovations such as the push for solar rooftop and demand side management. Given that electricity is prioritised on the election agenda in Delhi, the paper also aims to understand the ways in which the politics of the time are mirrored in the sector and the functioning of the regulator.

## Introduction

Delhi, with its unique status as the National Capital Territory, offers an interesting case study on the perils and rewards of a privatised distribution sector. From more than 15 years of Congress Party rule to the recent transition to the Aam Aadmi Party (AAP) government, political undertones in Delhi's electricity distribution sector have increasingly become overtones.[1] In 1998, the newly elected Congress government paved the way for privatisation to salvage an ailing distribution sector. While the private discoms brought in major technical and infrastructural overhauls and reduced aggregate technical and commercial (AT&C) losses from nearly 50 percent in 1998[2] to under 15 percent now[3], that came with significant tariff hikes. In response to the hikes, the Residents Welfare Associations (RWAs) led the assault on what they viewed as an anti-consumer stance of the regulator and corrupt practices of discoms. They started gaining voice in the 1990s, and their influence continues to strengthen.

Unfortunately, the Delhi Electricity Regulatory Commission (DERC) has been mired in its share of controversies, leading to a sustained erosion of trust amongst both consumers and discoms in its functioning. DERC's key function of tariff determination varied depending on the regulatory style of its chairperson at the time. It transitioned from the first chairperson's need to establish the commission's autonomy while also balancing the reform agenda to a period of stagnant tariffs, followed by sustained and significant tariff hikes coupled with growing public outcry, especially by the RWAs. Consequently, an emerging political party, the AAP, drew the battle lines for the 2014 state election around tariff reduction and accountability of discoms. Since being elected, some of AAP's mandates, such as ordering the Comptroller and Auditor General (CAG) audit of discoms and imposition of penalties on discoms for

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1 Refer to Annex 5, which provides a timeline of key events in relation to the Delhi electricity sector, spanning a period from 1951 to 2016.

2 Navroz K. Dubash and D. Narasimha Rao, "Delhi: Regulation in the Shadow of Privatisation," in *The Practice and Politics of Regulation: Regulatory Governance in Indian Electricity* (India: Macmillan Press, 2007), 145, accessed March 14, 2017, http://www.nipfp.org.in/media/pdf/books/BK_61/The%20Practice%20And%20Politics%20Of%20Regulation%2C%20Regulatory%20Governance%20In%20Indian%20Electricity.pdf.

3 AT&C losses in the state are targeted to be decreased to 12.50 % in FY 2018-19 from 14.22 % in FY 2014-15 as per loss trajectory proposed by CEA to MoP, which needs to be adopted by state. Based on data for FY 2014-15, TPDDL is way ahead in loss reduction at 9.87%, whereas BRPL and BYPL have brought down AT&C loss levels to 14.73% and 19.54% respectively in their areas – *24X7 Power for All: A Joint Initiative of Government of India and Government of Delhi* (New Delhi: Ministry of Power, GoI, 2016), 28, accessed March 14, 2017, http://powermin.nic.in/sites/default/files/uploads/joint_initiative_of_govt_of_india_and_delhi.pdf.

unscheduled outages, may have won it the popular vote but have met with constitutional roadblocks. Concurrently, on the policy end, AAP has also been pushing for solar rooftop projects within the city, and announced the Delhi Solar Policy in mid-2016. Further, demand-side management (DSM) measures being developed and implemented by discoms and supported by DERC are likely to have a noticeable impact on Delhi's electricity sector in the future, and possibly across India.

From the early sectoral issues regarding the need for privatisation and the consistent underperformance of the state utility, the debate has shifted to accountability of discoms, the modalities of regulating a private player providing a public good, the extent of government involvement in what should be an exclusively regulatory domain, and more recently, the implications and feasibility of the proposed shift towards solar energy. This paper proposes to analyse these shifts and the evolution of key issues that have shaped Delhi's electricity sector, within the larger context of the political economy undergirding these issues.

# I. 1998-2005: The Motivation for Privatisation and the Early Years of Reform

In a sector that continues to be dominated by government players, Delhi is amongst the few states that have privatiseds distribution sectors. The Central Government had championed the cause of power sector reforms and need to involve private-sector participants throughout the 1990s, but in Delhi, it was only under the Congress government's rule from 1998 onwards that these ideas gained momentum and culminated in the privatisation of the distribution sector in 2002.

The impetus for reform came from the mounting losses of the state utility, Delhi Vidyut Board (DVB), which were a drain on the public exchequer. DVB had succeeded the Delhi Electricity Supply Undertaking (DESU), which, operating under the Municipal Corporation of Delhi, had been supplying power in Delhi since 1957. DESU was replaced by DVB, a government-owned utility, due to its inability to curb financial losses. DVB supplied power to all of Delhi[4] and was an integrated utility with generation, transmission, and distribution functions. Unfortunately, the change in legal status[5] of the state utility, because it was not accompanied by changes in organisational structure or functioning, did not lead to any reduction in commercial losses and improvement in customer service.[6] Between fiscal years 1995–96 and 1999–2000, financial losses of DESU/DVB rose from Rs. 207 crores to Rs. 1,103 crores.[7] DVB attributed the heavy financial losses to rampant theft, under-billing, poor collection practices, and a crumbling infrastructure.

[4] DVB supplied power on bulk supply tariff basis to certain small areas falling under the jurisdiction of New Delhi Municipal Corporation and military establishment areas/cantonment areas, which continue to be under the jurisdiction of Military Engineering Services.

[5] DESU was a wing of the municipal corporation of Delhi, replaced by the DVB, which was recognised as the state electricity board set up under the Electricity (Supply) Act, 1948. There was no change in organisational structure, administration or functioning, merely a change in legal status.

[6] "Power Sector Reforms," accessed March 14, 2017, http://delhigovt.nic.in/newdelhi/power.asp.

[7] *The Annual Report (2001–02) on The Working of State Electricity Boards & Electricity Departments* (New Delhi: Planning Commission (Power & Energy Division), GoI, 2002), 139, accessed March 14, 2017, http://planningcommission.nic.in/reports/genrep/seb/ar_seb02.pdf.

Public protests arising from frequent power outages reached a crescendo during a particularly hot summer in 1998 and took a violent turn, with rioting in the streets. With the state elections only a few months away, the Congress campaign promise to implement power sector reforms resonated with the voters. The Bharatiya Janata Party (BJP) had held power in Delhi since 1993,[8] but ahead of the 1998 elections, the Congress Party built a successful campaign around the rise in the prices of essential commodities and the failure of the BJP government in Delhi to improve civic amenities in the capital. According to a pre-election opinion poll conducted by the Centre for the Study of Developing Societies for *The Hindustan Times*, 57.7 percent of the respondents were unhappy with the electricity supply situation in Delhi.[9] Winning 52 out of the 70 seats proved to be the resounding victory that the Congress government, led by Sheila Dixit, needed to push its reform agenda which eventually led to unbundling of the DVB and privatisation of the sector.

## Pre-Privatisation Phase: Learnings from the Orissa Experience

In February 1999, within three months of assuming office, the Government of the National Capital Territory of Delhi (GNCTD) came up with the strategy paper on power sector reforms within the state. At the time, as discussed below, Delhi policymakers already had in mind the experience of Orissa, which had privatised its distribution sector in 1999 with problematic consequences.[10] Critics of privatisation cited the Orissa example a harbinger of what lay ahead, but the benefit of hindsight of the Orissa experience proved particularly useful for Delhi. As in Orissa, Delhi had negligible agricultural interests to look out for.[11] The industrialist lobby and RWAs, which represented largely middle-class consumer interests, were powerful and in favour of privatisation.[12] Their growing dissatisfaction with the public utility and belief that privatisation would end the chronic power outages in Delhi was enough for the government to confidently pursue the privatisation model, despite the critics from both the Left and Right who cautioned against “privatising profits and socialising risks”.[13]

One of the main failures in Orissa was the inaccurate estimation of transmission and distribution (T&D) losses. Delhi adopted a different route where instead of bidding on the value of the underlying asset, loss reduction[14] was the bid parameter, with the winning bidder being the one who promised the biggest loss reduction.

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[8] The position of the Delhi CM and the Legislative Assembly was abolished in 1953 as a consequence of the Constitutional amendment through States Reorganisation Act, 1956, which came into effect on November 1, 1956. This meant that Delhi was no longer a Part-C State and was made a Union Territory under the direct administration of the president of India. The Legislative Assembly and position of chief minister was re-instituted by enactment of the Constitution (69th Amendment) Act, 1991, followed by the Government of National Capital Territory of Delhi Act, 1991. The first election in Delhi, after the change in its status to Union Territory, was held in 1993 and was won by the BJP with 49 seats, with Congress able to secure only 14 seats.

[9] Venkitesh Ramakrishnan, “A Fresh Polarisation in Delhi,” *Frontline*, Volume 15, Issue 25, December 5-8, 1998, accessed March 14, 2017, http://www.frontline.in/static/html/fl1525/15250210.htm.

[10] Sudha Mahalingam, “A Reform Fiasco in Orissa,” *Frontline*, Volume 19, Issue 10, May 11-24, 2002, accessed March 14, 2017, http://www.frontline.in/static/html/fl1910/19100420.htm.

[11] Refer to Annex 3 for break up of consumer categories in Delhi.

[12] Sunila Kale “Delhi: A Modernization Story,” in *Power Steering: The Politics of Utility Privatization in India* (PhD dissertation, University of Texas, Austin, 2007), 140, accessed March 14, 2017, https://www.lib.utexas.edu/etd/d/2007/kaled56445/kaled56445.pdf.

[13] Ibid., 143.

[14] The loss being referred to is the Aggregate Technical and Commercial (AT&C) losses which is an aggregate of T&D loss and loss due to non-realisation of billed demand arising from theft, deficiencies in metering etc. “Fixed values were specified by the

According to the last chairman of the DVB: "We had Orissa in mind while determining the bid parameter. Orissa was partly unsuccessful due to inaccurate determination of T&D losses and we wanted to avoid this. The consultants came up with the concept of AT&C losses, which is an aggregate of T&D loss and loss due to power theft, deficiencies in metering etc."

At the time of privatisation, 40 percent of the AT&C losses in Delhi were attributable to power pilferage. Of the total losses of Rs. 1,200 crores incurred by the DVB, Rs. 900 crores was a result of organised power theft. Small-scale industries and guest houses were among the biggest culprits, with their contribution to the total power losses greater than that of the residents of slum and unauthorised colonies.[15]

Out of six pre-qualified bidders, only two bids were received on the date of bid opening.[16] One from BSES, bidding for all three distribution companies and the other from Tata Power which bid only for north-northwest and south-west distribution companies. The bids from BSES and TPDDL were in the range of 13-14 percent cumulative AT&C loss reductions, which were well below 20% stipulated by the Government. The GNCTD entered into negotiations with the parties and eventually, a loss reduction target of 17 percent over five years was agreed upon. The GNCTD was criticised for setting unambitious loss reduction targets.[17] According to a senior bureaucrat involved in the privatisation process, "We were accused of giving away the family silverware but the truth was that we were begging companies to bid but few were willing to take the risk."

The winning bidder was also assured 16 percent return on equity on meeting bid targets and if it exceeded its targets, it could split the benefits equally with its consumers. The transfer scheme for privatisation had a provision which authorised the GNCTD to provide a subsidy of $575 million to the discoms through its transmission company, perhaps to avoid the Orissa situation where the government abruptly withdrew its subsidy.[18] Any threats of opposition by labour unions were proactively neutralised through the terms of the Transfer Scheme, which allowed transfer of DVB employees to the new discoms with all benefits intact. The GNCTD also set up a pension fund for employees who chose to retire early and subsequently, the discoms introduced attractive voluntary retirement schemes, which

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government for equity interests of the three discoms. As a consequence, there was no bidding for these interests. Instead, the bidding was for loss reductions. In this sense, the payment for equity was like a payment for an admission ticket which, in turn, gave an investor the right to bid for loss reduction." – Manish Agarwal et al., "The Delhi Electricity Discom Privatizations: Some Observations and Recommendations For Future Privatizations in India and Elsewhere," Energy and Mining Sector Board Discussion Paper Series, Paper No. 8 (Washington, DC: The World Bank, 2003), 9, accessed March 14, 2017, http://www.energytoolbox.org/library/incentive-based_operating_contracts/reference+background_documents/The_Delhi_Electricity_Discom_Privatizations_Observations_and_Recommendations.pdf.

[15] Naunidhi Kaur, "A Challenging Phase," *Frontline*, Volume 19, Issue 14, July 6-19, 2002, accessed March 14, 2017, http://www.frontline.in/static/html/fl1914/19140930.htm.

[16] It is not clear why four of the companies decided not to bid. The two foreign businesses may have just been reacting to the general worldwide withdrawal of international players from power sector investments in developing countries. Reliance is now the owner of BSES and consequently may, at the time, have not wished to be bidding against a company it was considering acquiring. This is, however, pure speculation. Supra, note 14 at 20.

[17] See Annex I for achievement of AT&C losses by discoms vis à vis targets set by GNCTD pre- and post-negotiations.

[18] Supra, note 10. The 2002 Kanungo Committee Report on the Odisha privatisation stated the following: "Unrealistic assumption that GRIDCO would become profit-earning from 1997-98 led to abrupt withdrawal of subsidy by the State Government from 1996–97." The reform process in Odisha began in 1996 and was completed in 1999. During the transition period, no subsidy was made available.

many ex-DVB employees opted for. With the departure of the old guard, the discoms were able to hire more qualified staff with technical expertise.

Another departure from Orissa was the absence of foreign consultants and multilateral agencies in the Delhi privatisation process as their involvement was perceived to come with high costs in terms of time and money, with a limited understanding of ground realities. Instead, GNCTD appointed SBI Market Caps as its sole consultant. This appointment was subsequently challenged before Delhi High Court,[19] and drew flak from the Public Accounts Committee (PAC) over the non-transparent selection process.[20] In later years, the appointment of consultants by DERC hit more legal roadblocks, with allegations of the tender process not being followed[21] and engaging consultants who had previously represented discoms[22]. According to one of the consultants, "There is no major consultancy firm in India which has not undertaken assignments for Tata Group or Reliance Group in the past, which makes it impossible to represent the DERC."[23]

RWAs have agitated these irregularities over the appointment of consultants by DERC, casting doubts on the commission's integrity. The BJP also demanded a judicial probe into what it termed as a clear case of conflict of interest, leading DERC to cancel its contract with one of its consultants (ABPS) in 2013 and issue fresh bids.[24]

In its early years, DERC operated with minimal staff and expertise and a single chairperson, the secretary, and two support staff. As a consequence, the commission was heavily reliant on consultants for review of the accounting rate of return (ARR) and preparation of the tariff order, but the overall control was vested with the chairperson.[25] Based on interviews with various current and former DERC officials,[26] consultants are viewed as number-crunchers who do the groundwork on behalf of DERC while the commission provides the larger structure and direction. DERC officials said that they valued the views of consultants on issues as that of independent parties. Consultants who were engaged by DERC in the early years saw a lack of technical expertise within the commission.[27] According to the last Annual

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[19] W.P.(C) No. 2705/2002, Delhi High Court, July 2, 2007.

[20] GNCTD received three offers, from SBI Caps, ICICI, and ASCI, and in fact, SBI was most expensive of the three. A subsequent audit revealed that no procedure was followed by GNCTD for appointment of consultants and the government's response was "that there was never any intention to invite competitive offers and that SBI Caps had been proactively contacted in view of their experience in Kanpur and their adoption of the Business Valuation Method for valuation of assets." The PAC report, referred to in later sections and which was the basis of the challenge before the Delhi High Court, delivered a scathing attack on this process, among other things. In his interview, a retired India Administrative Service (IAS) officer, who was involved in the Delhi privatization process, was defensive about the choice of the consultant and cited the same reason as above. He also said that many government departments in other states also followed a similar appointment process for appointment of consultants, but for some reason it became a big issue for Delhi.

[21] Neelam Pander, "Govt pulls up DERC over Appointment of Consultant," *Hindustan Times,* February 7, 2012, accessed March 14, 2017, http://www.hindustantimes.com/delhi/govt-pulls-up-derc-over-appointment-of-consultant/story-g18u5yBwHh0EVm10TT4q8H.html.

[22] Naziya Almi Rahamani, "DERC Consultant had Discoms as Clients," *Times of India*, February 1, 2013, accessed March 14, 2017, http://timesofindia.indiatimes.com/city/delhi/DERC-consultant-had-discoms-as-clients/articleshow/18280726.cms.

[23] Interview with a consultant working in the electricity sector on October 13, 2016.

[24] Pankaj Shahi, "Power Hike Proposed and Cleared by Same Consultant," *Times of India*, June 4, 2013, accessed March 14, 2017, http://timesofindia.indiatimes.com/city/lucknow/Power-hike-proposed-and-cleared-by-same-consultant/articleshow/20418834.cms.

[25] Supra, note 2 at 151.

[26] Interviews with sitting and retired regulators at DERC on October 7, 2016, and September 30, 2016, respectively.

[27] Supra, note 23.

Report available on the DERC website from 2012, in addition to the chairman and members, DERC employed 55 personnel, including 27 officers.[28] Based on discussion with the current officials at DERC, the commission is confident of its in-house capabilities, with experienced members from the power sector occupying top positions and officers with sector experience brought in through deputation. They highlighted recent regulations, such as regulations for net metering, multi-year tariffs (MYT), and DSM, which have all been framed in-house, without any role played by external consultants. While they continue to rely on consultants for ARR review and tariff determination process, it was hinted that they are looking to move to a complete in-house model in the near future.[29]

During the early pre-privatisation phase, officials and consultants involved were cognisant of avoiding the pitfalls of the privatisation in Odisha. They were successful in this to some extent by adopting an innovative bid parameter and offering an attractive subsidy to the private players. However, the Congress government's haste to complete the privatisation process, perhaps in time for the fast-approaching 2003 state elections, led to glaring procedural irregularities. The sector was marred by the manner of appointment of consultants, post-bid negotiations that substantially altered the original bid conditions and, subsequently, directions issued by the GNCTD that curbed the power of the regulator. To some extent, these issues also eclipsed the operational and technical efficiency achieved by the discoms in their early years.

## Early Post-Privatisation Phase

In January 2001, the GNCTD's Council of Ministers approved the unbundling of DVB into six successor entities. These were Delhi Power Company Limited Holding Company, Delhi Transco Limited (DTL)–Transmission Company (Transco), Indraprastha Power Generation Company Limited (IPGCL)–Genco, and three private distribution companies: BSES Rajdhani Power Limited (BRPL), BSES Yamuna Power Limited (BYPL), together referred to as BSES, and Tata Power Delhi Distribution Limited (TPDDL, previously NDPL).

Given the procedural irregularities during privatisation, the legal challenges[30] that followed were inevitable. The basis of the challenge was the lack of transparency at the post-bidding stage since the final outcome was a result of negotiation and not re-bidding at arm's length.[31] Reports by the PAC and the CAG in 2002–03 also delivered scathing attacks on the entire bidding process, including selection of the consultants, the method of asset valuation, and post-bid negotiations. The interference in regulatory functioning by the GNCTD was at the centre of this challenge.

To bolster investor confidence, the founding of DERC in 1999 was the first step towards sectoral reform. The early years of the commission are particularly interesting as it walked a tightrope between establishing its regulatory autonomy without derailing the government's reform agenda. From the GNCTD's perspective, it recognised the need for a regulator in the sector but sought to curtail its

[28] "Annual Report: FY 2011-12," (New Delhi: DERC), accessed on March 14, 2017, http://www.derc.gov.in/Publications/Annual%20Report%20FY%202011-12/Annual%20Report%20FY%202011-12%20-%20English.pdf, p. 50.
[29] Interviews with regulators at DERC on October 7, 2016.
[30] W.P.(C) No. 2705/2002, Delhi High Court, 2 July 2007.
[31] Rahul Tongia, "The Political Economy of Indian Power Sector Reform," in *The Political Economy of Power Sector Reform: The Experiences of Five Major Developing Countries*, ed. David Victor et al. (Cambridge University Press, 2007), 150.

regulatory autonomy through a set of Policy Directions issued in November 2001 to ensure the success of the privatisation process.

Among the early instances of conflict between the regulator and the GNCTD, one incident that stands out is DERC's rejection of the government's push for multi-year tariffs in the ARR submitted by DVB in 2001. DERC was of the view that the sector was not mature enough to implement multi-year tariffs.[32] The commission anticipated problems such as a difficulty in processing information in the absence of relevant information systems, the feasibility of setting uniform loss targets for all discoms, the challenge in devising robust long-term investment plans given data gaps about fixed assets then held, and unclear metrics for efficiency improvements and quality of service in DVB's proposal. DERC also stated that its decision was partly on account of strong public opposition to such a move.[33] After DERC rejected the multi-year tariff proposal in May 2001, a few months later—and perhaps not entirely coincidentally—in November 2001, the GNCTD found a way around any future conflict by issuing the Policy Directions.

In this document, the GNCTD, among other things, (i) specified the mode of determination of AT&C losses; (ii) directed the DERC to ensure that tariff determined was such that it ensured a 16 percent return on equity for the discoms; (iii) stated that retail tariffs for all three discoms would be identical till 2006-07; and (iv) required that performance standards and tariffs determined by DERC must be consistent with the Policy Directions. While, *prima facie*, this appears to be a clear infringement of DERC's autonomy, one of the key actors in the bureaucracy at the time argued that, "In India, regulatory risk is particularly relevant due to the prevailing populism. We had to beg investors to bid since no one was willing to take the risk. Therefore, we needed a pre-fixed package to attract investors and mitigate regulatory risk." The government was keen on ensuring the cooperation of the private players and also, acutely aware of the need to avoid the mistakes made in Orissa.[34]

At the time, DERC was operating with one chairperson and no other members. The commission, despite some initial misgivings, chose not to challenge the authority of the government to issue the Policy Directions.[35] In April 2002, a writ petition filed before the Delhi High Court by Gajendra Haldea, a civil servant[36], which challenged the validity of the privatisation process, contended that such Policy Directions undermined the authority of DERC on key issues such as determination of AT&C losses, tariff determination, and guaranteed return on equity. The court's judgment in 2007 recognised the legal infirmity of the Policy Directions and at the same time its inability to turn "the clock back" and "undo all that has transpired in the intervening period".[37] The judgment also referred to a 2005 report of PAC

[32] DERC, Petition No. 1/2001, 5.5.1.
[33] Supra, note 2 at 146.
[34] Interview with retired senior IAS officer who was involved in the Delhi privatization process, October 5, 2016.
[35] DERC, in its Annual Report in 2002, stated clearly that "the authority to regulate the power sector was vested with the Commission and that the Government of NCT of Delhi was vested with the policy determination role. The Commission was mandated to implement the policies as long as the costs of the policy decisions were borne by the Government of NCT of Delhi under section 12 of the aforesaid Act. The tariffs and revenues of the distribution entities even after privatisation would continue to be regulated by the Commission within the framework of the Policy Directions notified by the Government of NCT of Delhi." *Annual Report 2002-03*, (New Delhi: DERC), 39, accessed March 14, 2017, http://www.derc.gov.in/publications/annualreport9903/annual%20report.pdf.
[36] Gajendra Haldea is a 1973 batch IAS officer, a key bureaucrat credited with shaping India's energy and infrastructure space. At the request of the Union Power Ministry, he drafted the Electricity Bill 2001 as part of the restructuring and modernisation of the electricity sector.
[37] W.P.(C) No. 2705/2002, Delhi High Court, July 2, 2007.

which drew attention to the lack of autonomy and credibility of DERC and concluded that the DERC, instead of protecting consumer interest, had “acted as a hidden hand of the government and Distribution Companies”.[38] The Standing Committee of the Parliament on Energy also echoed the views of the PAC and highlighted DERC’s lack of transparency. The petition, while ultimately unsuccessful, demonstrated some serious deficiencies in the functioning of DERC and the extent of governmental interference in the regulatory sphere.

DERC’s key function of tariff determination was in a manner pre-determined in a cabinet note of the GNCTD, which assumed annual tariff hikes of 10, 10, 10, 5, and 3 percent over the first five years of privatisation. However, DERC deviated from this and instead the tariff revision was 0, 5.5, 10, and 6.6 percent over the first four years. In 2004-05, DERC chose to create regulatory assets (RAs)[39] to meet the internal revenue gap of the discoms, which was not covered by the 10 percent tariff hike. The GNCTD could not take any action as it could not openly undermine DERC’s power to determine tariff and further, avoiding higher tariff and therefore, voters’ backlash served the GNCTD’s political interests. On the other hand, DERC was on a slippery slope in an effort to create public confidence in its independent decision-making, but without angering those in power. However, DERC’s attempt to appease the public by avoiding tariff shock through the creation of RAs had far-reaching consequences, which continue to cripple the sector. In the course of interviews, discoms cited liquidation of RAs as the foremost problem in the sector, with no solution in sight.[40]

## Performance of Discoms

On winning the bid, Tata Power acquired a share of 51 percent of the North-Northwest Delhi (TPDDL) and BSES obtained controlling interest in South-West Delhi Electricity Distribution Company Ltd. (BRPL) and Central-East Delhi Electricity Distribution Company Ltd. (BYPL).[41]

As mentioned, the DERC computed opening level of AT&C loss for the FY 2002–03 for all the distribution circles of Delhi. The loss levels arrived at by DERC, in its tariff order dated 22 February 2002, have been indicated in Table 1 below.

**Table 1: AT&C loss computed by DERC for the FY 2002**

| Circle | AT&C loss level |
|---|---|
| Central/East | 57.2% |
| North/Northwest | 48.1% |
| South/West | 48.1% |
| All | 50.7% |

38 The report referred to a specific case where DERC did not impose any penalty on the discoms when they claimed an excess rebate in violation of the Bulk Supply Agreement. Instead, it ordered that Transco would have to pay penal interest if it did not calculate the rebate due to each discom and make the payment within a day.
39 Since tariff is estimated ex-ante, actual revenue realised may not cover the annual revenue requirement. The gap (or the RAs) is to be adjusted while estimating the ARR in the ensuing year. However, in practice, the RA liquidation timeline is much longer.
40 Interview with senior officials at a Delhi discom, September 6, 2016.
41 “Public Private Partnership in Electricity Distribution: Case Studies of Delhi and Odisha,” (New Delhi, The Energy Resources Institute, 2015), 19, accessed March 14, 2017, http://www.teriin.org/eventdocs/files/TERI-GSEP-PPP-in-Electricity-Distribution_Case-Studies.pdf.

Table 2 highlights performance of the three discoms over the early years.

**Table 2: Performance statistics for Delhi discoms**[42]

| | | ***2002-3*** | ***2003-4*** | ***2004-5*** | ***2005-6*** | ***2006-7*** |
|---|---|---|---|---|---|---|
| At & c loss achieved | BRPL | 47.40 | 45.06 | 40.64 | 35.53 | (31.10) |
| % Target | | (47.55) | (46.00) | (42.70) | (36.70) | |
| | BYPL | 61.90 | 54.30 | 50.12 | 43.89 | (40.20) |
| | | (56.45) | (54.70) | (50.70) | (45.05) | |
| | | 47.80 | 44.87 | 33.79 | 26.52 | (31.10) |
| | NDPL | (47.60) | (45.35) | (40.85) | (35.35) | |
| Revenue Gap at | | | | | | |
| Existing tariff (cr) | | 1,185 | 1,735 | 1,862 | 520 | (195.42)* |
| Tariff increase (%) | | 0 | 5.02 | 9.80 | 6.66 | 0 |
| Revenue from | | | | | | |
| Tariff increase (cr) | | 0 | 103 | 379 | 319 | 0 |
| DVB arrears collected (cr) | | - | 210 | 103 | 55 | 0 |
| Government support (cr) | | 1364 | 1260 | 690** | 138 | 0 |

* Projected surplus, includes DVB arrears collected.

** In 2004-2005, a regulatory asset of 697 cr was also created.

[42] Supra, note 2 at 144.

It is evident from the above figures that NDPL outperformed BSES by consistently over-achieving its loss reduction targets and overall, brought the whole sector to a revenue surplus level by 2006-07.[43] NDPL was also the only discom to register profits for all the years from FY 2003 to FY 2008.[44] Improvement in billing and collection of past dues were among the major contributors of the financial turn-around of the discoms. This gap in achievements is partially attributable to the experience that the Tatas brought in since they had been running similar operations in Mumbai for decades prior, as compared to the Reliance group, which was relatively new to the distribution sector. Further, AT&C losses at the time of privatisation in Central/East Delhi under BSES were around 60 percent, compared to NDPL's area where the figure was under 50 percent; therefore, NDPL had a head start. Further, NDPL primarily serviced domestic consumers and the bulk of industrial and commercial consumers and all of the agricultural consumers were serviced by the two BSES discoms.

One of the problems that continued to adversely impact AT&C levels was the rampant theft in certain pockets of Delhi. Because Delhi's Electricity Control Order of 1959 banned the electricity board from supplying power to informal colonies and unauthorised squatter settlements, the legislation left no choice to those excluded from lawful access to electricity to steal it instead. As rural migration caused these peripheral settlements to grow during the 1990s, so too did rates of electricity theft. Even today the problem persists, although the GNCTD regularised 895 colonies recently, which leaves discoms with a difficult cost and effort intensive task of setting up electrical networks and facilitating payment systems in extremely congested areas while preventing overloading of existing networks in adjoining areas.[45] Regularisation of unauthorised colonies was one of AAP's key electoral promises and while discoms are willing to supply power to these areas, they estimate huge infrastructural costs, which will impact tariff.[46]

Early on post-privatisation, NDPL quickly emerged as a reliable operator in sharp contrast to BSES which was already facing public ire over frequent power outages in its areas. In 2003, 64 percent of the power cuts were attributed to BSES, while 19 percent were attributed to Transco and 17 percent to NDPL. It was not just the power cuts but the large scale billing errors by BSES that were a source of serious concern to the GNCTD. According to DERC's statistics, of the 8 lakh electricity bills generated by BSES between 1 February 2003 and 5 March 2003, as many as 2.4 lakh had billing errors.[47] Meanwhile, in 2003, BSES also underwent a management change and became part of the Reliance Group.

While there were significant reductions in AT&C levels post-privatisation, the public did not perceive a noticeable difference in the power situation in the early years but had to shell out a higher tariff. The DERC approved a 10 percent tariff hike in 2005, which led to widespread protests against the tariff increase, fast-reading meters, and faulty billing. The protests, with political overtones, even resulted in calls for the chief minister to resign.[48] Buckling under pressure, the GNCTD sought to offset the 10

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[43] Ibid.

[44] "Power Distribution Reforms in Delhi," (IDFC, 2010), accessed March 14, 2017, https://www.idfc.com/pdf/publications/Delhi-Distribution-Reforms-Draft-Report.pdf.

[45] Supra, note 3 at 32.

[46] Interview with a senior official at a Delhi discom, on September 7, 2016.

[47] Lalit K. Jha, "Unreliable' BSES way behind `quality' NDPL," *The Hindu*, May 22, 2004, accessed March 14, 2017, http://www.thehindu.com/2004/05/22/stories/2004052209690400.htm.

[48] Daljit Singh et al., *A Critical Review of the Performance of Delhi's Privatized Distribution Companies and the Regulatory Process* (Pune: Prayas Energy Group, 2006), 28, accessed March 14, 2017,

percent tariff hike, through a combination of a government subsidy and adjustment by discoms of the amount already been paid by the domestic and agriculture consumers towards the enhanced tariff.[49] Going forward, the improvement in power quality became more obvious to the public but the stiff public opposition to regular tariff hikes proved to be a major challenge in the coming years.

During this phase, two streams emerge—one of the long-term impacts of curbing regulatory autonomy by the government, and another of the initial improvements in quality of power supply that privatisation brought in. While the GNCTD narrowly avoided a legal overturning of the privatisation process, its interference in the regulatory process undermined DERC's role. DERC largely fell in line with the Policy Directions issued by the GNCTD, without offering much resistance. DERC's failure to enforce its scope of functioning in the early years had an adverse impact on its image among consumers and the discoms. Meanwhile, the BSES discoms were battling problems of their own with consumers agitated over large-scale billing errors. TPDDL, on the other hand, was performing much better in terms of consumer satisfaction and loss reduction, a reputation that it continues to enjoy.

## II. 2006-2010: The Government and the Regulator—Seeds of Failure

At the end of his term in December 2004, the first chairperson of the DERC, V.K. Sood, retired. The post of the chairperson remained vacant for more than a year and after receiving flak from then-Lieutenant Governor (LG) B.L. Joshi, the GNCTD eventually appointed Berjinder Singh as the second chairperson in February 2006.[50]

Singh's appointment came in the wake of the PAC report, which delivered a scathing attack on DERC's nontransparent functioning. DERC was increasingly being viewed as an anti-consumer organisation, with RWAs staging protests and boycotting public hearings on allegations of not being given adequate opportunity to make their representations.[51] Subsequently, there was no tariff hike in 2006-07, with the DERC citing favourable factors like refunds from central generating stations and arrears received from the Delhi Jal Board. The government continued its subsidy and asked discoms to extend the rebate being offered to consumers.[52] There were news reports at the time, which stated that GNCTD had "unofficially" exerted pressure on the DERC to avoid a tariff hike.[53] In 2007-08, DERC adopted the MYT

http://prayaspune.org/peg/publications/item/download/275_10a6c1b418720e5371e8e1106d8a5bad.html.

49 "Enhanced power charges paid to be adjusted: Discoms", *The Hindu*, October 16, 2005, accessed March 14, 2017, http://www.thehindu.com/2005/10/16/stories/2005101604760300.htm.

50 "DERC to get Chairman," *The Financial Express,* December 6, 2005, accessed March 14, 2017, http://www.financialexpress.com/archive/derc-to-get-Chairperson/157240/.

51 "DERC anti-consumer," *The Hindu*, May 26, 2006, accessed March 14, 2017, http://www.thehindu.com/todays-paper/tp-national/tp-newdelhi/derc-anticonsumer/article3138537.ece.

52 "No Hike in Power Tariff for Delhi," *Outlook*, September 22, 2006, accessed March 14, 2017, http://www.outlookindia.com/newswire/story/no-hike-in-power-tariff-for-delhi/417760/?previous

53 Sujay Mehdudia, "Delhi Government against hike in power charges this year", *The Hindu*, July 5, 2006, accessed March 14, 2017, http://www.thehindu.com/todays-paper/tp-national/tp-newdelhi/delhi-government-against-hike-in-power-charges-this-year/article3100500.ece.

regime, amid opposition from the RWAs, which perceived MYT as assurance of long-term gains for discoms.[54] In its 2007-08 order, DERC allowed a 5 paisa tariff hike across consumer categories.

Meanwhile, the Delhi government, on behalf of Transco, entered into two power purchase agreements with NTPC and Tehri Hydro Development Corporation (THDC) for of 1,031 MW of power, projecting an 8-10% increase in demand annually and also keeping in mind the requirement for the 2010 Commonwealth Games. This was in addition to the 490 MW recently contracted with Dadri Power Station.[55] These PPAs were re-allocated in 2007, on the basis of each discom's average energy drawl for the period FY 2007-08 to 2011-12, leading to protests from BYPL in particular about the being forced to buy "expensive power".[56] Delhi, unlike other states, receives the majority of its power supply from Central Public Sector Undertakings such as NTPC and NHPC. According to discom officials, these legacy PPAs directly impact tariff as they sell power at a higher rate than market rates and fuel accounts for 75% of the cost.[57] Since the long term PPAs do not have an exit clause, discoms have no choice but to purchase power and can surrender power only if they can find an alternate buyer.

Delhi consumers were again spared a tariff hike in 2009-10. Concurrently, DERC was taking a stronger stance against violations by Discoms. It even imposed a Rs. 1.68 crore fine on BRPL on account of unprecedented load-shedding and rampant grid violations in 2009. The regulator also imposed an additional fine of Rs.1 lakh on the company's then Chief Executive Officer Arun Kanchan for "managerial failure".[58] In 2010, DERC imposed a Rs. 1 lakh penalty on BRPL for wrongly accusing and harassing a consumer over tampering with his meter.[59] While DERC's image among consumers was improving, the discoms were reeling under financial stress due to the widening revenue gap arising from stagnant tariff over the years.[60] Table 3 on the following page illustrates the regulatory assets accumulated up to FY 2014-15:

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[54] "RWAs to Oppose New Power Tariff Plan," *The Hindu*, December 13, 2007, accessed March 14, 2017, http://www.thehindu.com/todays-paper/tp-national/tp-newdelhi/rwas-to-oppose-new-power-tariff-plan/article1966531.ece.

[55] "Delhi Government Inks Power Purchase Deals," *The Hindu*, April 20, 2006, accessed March 14, 2017, http://www.thehindu.com/todays-paper/tp-national/tp-newdelhi/delhi-govt-inks-power-purchase-deals/article3150108.ece.

[56] Smriti Kak Ramachandran, "BYPL customers may have to pay more for electricity," *The Hindu*, April 11, 2007, accessed March 14, 2017, http://www.thehindu.com/todays-paper/tp-national/tp-newdelhi/bypl-consumers-may-have-to-pay-more-for-electricity/article1826862.ece.

[57] Delhi DISCOMs are procuring a total of 37485 MU annually from around 45 nos. power plants to cater the power requirement of Delhi Consumers. Out of the total power, around 50% of total long term power is from plants like Dadri-II, BTPS, APCPL, Bawana, Pragati & GT. The average cost of power from these plants are higher in comparison to other plants and in the range of Rs. 5.31 per unit to Rs. 7 per unit.

[58] "Anil Ambani-owned BRPL fined Rs. 1.68 crore," *The Hindu*, October 22, 2009, accessed March 14, 2017, http://www.thehindu.com/news/cities/Delhi/anil-ambaniowned-brpl-fined-rs-168-crore/article37216.ece.

[59] Smriti Kak Ramachandran, "Power Company Fined for Harassing Consumer," *The Hindu*, April 9, 2010, accessed March 14, 2017, http://www.thehindu.com/todays-paper/tp-national/tp-newdelhi/power-company-fined-for-harassing-consumer/article746930.ece.

[60] Refer to Annex 4.

**Table 3: Accumulated regulatory assets up to FY 2014-15 (in Rs. crore)**[61]

| | FY 2013-14 | FY 2014-15 |
|---|---|---|
| BRPL | 12,796 | 15,851 |
| BYPL | 8,761 | 10,867 |
| TPDDL | 6,443 | 7,243 |

Although the APTEL ruled in 2011[62] that RAs must be recovered over three years, the sheer magnitude of current RAs in Delhi meant this would cause a major tariff shock. So recovery has been spread over a longer period with no relief to utility finances. Aggravating the problem are delays in "truing up", DERC assigning lower power-purchase costs than used by discoms in their projected revenue requirements to keep starting tariffs low, and the interest burden on cash-strapped discoms that have to borrow to purchase power.[63] According to the discoms, the 8 percent surcharge that the DERC subsequently introduced towards the recovery of RAs was not enough to even service the interest on the principal.

Prior to the 2010-11 tariff order, the discoms submitted ARRs seeking significant tariff hikes claiming huge revenue gaps. According to officials, the gaps projected by the companies were 70 percent for BRPL, 60 percent for BYPL and 52 percent for NDPL.[64] The revenue gap was attributed to various reasons, such as the absence of tariff hike in past years leading to a cash crunch and purchase of expensive interim power as projects for which PPAs had been executed (Aravali, Dadri, Damodar Valley Corporation and Pragati III) could not make power available within the designated schedule. At the same time, there were demands from BJP and consumers to slash tariffs as the discoms were making profits.[65] Table 4 illustrates year-wise book profit after tax for the discoms[66]:

**Table 4: Year-wise book profit after tax for discoms**

| Name of utility | FY 2013-14 | FY 2014-15 |
|---|---|---|
| BRPL* | 7.9 | 62.53 |
| BYPL* | 11.23 | 19.3 |
| TPDDL | 333.86 | 335.99 |

61 "Comparative Executive Summary - BRPL, BYPL, TPDDL Petitions for True up for FY 2013-14, APR FY 2014-15 and ARR for FY 2015-16," accessed on March 14, 2017, http://www.derc.gov.in/ordersPetitions/orders/Tariff/Tariff%20Order/Tariff%20Order%20for%20FY%202015-16/Executive%20Summary/COMPARATIVE%20STATEMENT%20OF%20BRPL,%20BYPL,%20TPDDL%20_Final.pdf.

62 APTEL, http://aptel.gov.in/judgements/OP%20NO.1%20OF%202011.pdf.

63 Supra, note 14 at 10.

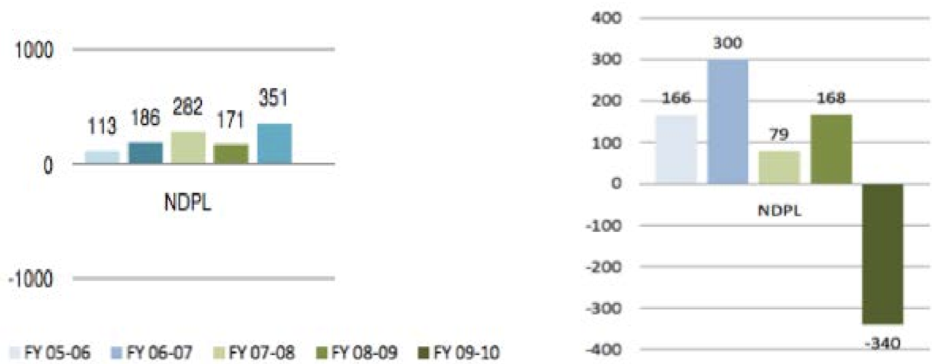
64 "Power companies seek huge hike in charges," *The Hindu*, January 16, 2010, accessed March 14, 2017, http://www.thehindu.com/news/cities/Delhi/power-companies-seek-huge-hike-in-charges/article81198.ece.

65 It is relevant to note that RAs are technically not losses but classified as future revenue. It's a legal fiction created by DERC which enables the discoms to raise debt from banks. Because of the legal fiction, the profitability of the discom on paper is not impacted even if the RAs are a sizeable amount. But if the RA is deducted from the profit after tax, the profitability of the discoms takes a serious hit.

66 Supra, note 3 at 50.

According to a CRISIL report in 2011[67], while profit after tax for NDPL, remained positive from FY 2005-06 to FY 2009-10, the sales of NDPL included the RAs that were expected to be adjusted through future revisions in their tariffs. However, on deducting RAs from the profit after tax, the resultant profitability of NDPL dropped significantly, as presented in the Figure 1 below (in Rs. crore).

**Figure 1: Year-wise book profit after tax for NDPL**




At this juncture, DERC was about to issue the tariff order, which sought to slash tariffs by nearly 23 percent. Sheila Dixit had intervened by issuing a policy direction to prevent DERC from issuing the tariff order.[68] BJP alleged connivance between the GNCTD and discoms to increase tariff as elections in Delhi were not due in the near future. [69] BJP appointed itself as the champion of the peoples' movement to ensure lower tariffs and expose the Congress government's interference in the regulatory process to favour discoms.[70] The GNCTD sought statutory advice and clarification from DERC on the issues raised by the discoms in their representations to the government. The government also made a pitch for raising power tariffs to ensure uninterrupted supply of power in the city. Eventually, the GNCTD rejected DERC's statutory advice, as only the chairperson had signed it and not the other two members and therefore, the government felt that this was the personal opinion of the chairperson and not DERC.[71] The DERC had sought the opinion of the Solicitor General on the validity of the government's directive and received a go-ahead to release the order but eventually, the order was never formalised and became the subject of litigation. During the course of this stalemate, Singh retired in September 2010, short by nearly five months of the full five-year term of chairperson.

In May 2011, the Delhi High Court in *Nand Kishore Garg* v. *GNCTD and Others* held that the 2010 tariff order was invalid in law since key legal requirements like placing the matter before the DERC and

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[67] *Study of Various Power Distribution Models in India* (CRISIL Risk & Infrastructure Solutions Limited (CRIS), 2011), 21, accessed March 14, 2017,
http://planningcommission.nic.in/reports/genrep/hlpf/ann6.pdf

[68] Smriti Kak Ramachandran, "Wait for power Tariff Order Getting Longer," *The Hindu*, May 5, 2010, accessed March 14, 2017, http://www.thehindu.com/todays-paper/tp-national/tp-newdelhi/wait-for-power-tariff-order-getting-longer/article761546.ece.

[69] "Demand to reduce Power Tariff by 20%," *The Hindu*, May 7, 2010, accessed March 14, 2017, http://www.thehindu.com/todays-paper/tp-national/tp-newdelhi/demand-to-reduce-power-tariff-by-20-per-cent/article762937.ece.

[70] "BJP Flays Stalling of Power Tariff Order," *The Hindu*, May 10, 2010, accessed March 14, 2017, http://www.thehindu.com/todays-paper/tp-national/tp-newdelhi/bjp-flays-stalling-of-power-tariff-order/article764239.ece.

[71] Smriti Kak Ramachandran, "Govt. Rejects DERC Advice on Tariff," *The Hindu*, July 22, 2010, accessed March 14, 2017, http://www.thehindu.com/todays-paper/tp-national/tp-newdelhi/govt-rejects-derc-advice-on-tariff/article527893.ece.

deliberations on it had not happened. DERC itself, in a subsequent order dated 26 August 2011, said that the assumption by the then-chairperson of a surplus position of Rs. 3577 crores was based on highly optimistic assumption of the availability of the power to discoms.

Many interviewees cited this particular phase, with the DERC under the chairmanship of Berjinder Singh, as the root of mounting regulatory assets of discoms. The absence of tariff hikes during this period resulted in widening the revenue gap for discoms, and resultant tariff shocks for consumers in subsequent years. In 2010-11, while the regulator failed to arrive at an internal consensus to determine tariff, the GNCTD intervened to recommend an increase in tariff. This added credence to BJP's allegations that the Congress government favoured discoms over consumer interest and perhaps set the stage for the entrance of a new political party with a militantly pro-consumer agenda.

## III. 2011-2014: The Power Vote Bank and Rise of AAP

In April 2011, M.D. Sudhakar took over the position of chairperson of DERC. In its tariff order announced in August 2011, DERC ordered a significant 21.77 percent tariff hike for FY 2011-12. Consumers were asked to brace for sustained tariff hikes over the coming years to "to meet the revenue gap that has mounted over the years". At the time, DERC estimated the combined revenue loss of the three discoms to be Rs. 3,299 crore up to 2009-10 and Rs. 2,770 crore for FY 2011-12. The steep hike caused a furore, with RWAs, NGOs, and political parties taking to the streets to demand a rollback of the tariff order. The tariff hikes outraged consumers since the discoms were making profits at the time.[72] Six states reported profits in 2011[73], but Delhi was among the only three which reported an overall profit excluding subsidies, the other two being Kerala and West Bengal.[74]

With mounting public pressure, the GNCTD in 2011 approved a CAG audit of the discoms' accounts from FY 2007 to 2010.[75] Meanwhile, the Government also had to deal with the power crisis in Delhi, which had been witnessing long power cuts arising from non-availability of power from generating stations. NTPC had threatened to cut off its 2000 MW power supply to BSES on account of non-payment. The discoms blamed non-cost reflective tariff as the cause for their financial stress and eventually, were bailed out by a Rs. 500 crore infusion of equity by the GNCTD, on the condition that the discoms will match their share of equity. [76]

In 2012, DERC allowed a 5 percent hike in February and another hike of 2 percent in May as fuel price adjustment surcharge. The public hearing held before the announcement of the 2012 tariff order was particularly virulent with RWAs and consumers, many wearing black bands as a sign of protest, claiming that discoms' purchase of expensive power was causing hardship to consumers and that general

[72] "Roll back power tariff hike," *The Hindu*, August 28, 2011, accessed March 14, 2017, http://www.thehindu.com/news/cities/Delhi/roll-back-power-tariff-hike/article2405925.ece.
[73] It is relevant to note that RAs are not in the nature of loss and by creation of a legal fiction, they are recognised as future revenue. Therefore, the profits after tax calculated for discoms also accounts for future earnings which includes RAs. So, a discom may be profitable on paper but if the RAs are deducted from the profit margin, this reveals the actual financial condition of the company.
[74] Supra, note 14 at 6.
[75] "Delhi Govt. nod for CAG audit of power companies," *The Hindu*, September 14, 2011, accessed March 14, 2017, http://www.thehindu.com/news/cities/Delhi/delhi-govt-nod-for-cag-audit-of-power-companies/article2452427.ece.
[76] http://www.thehindu.com/todays-paper/tp-national/tp-newdelhi/financial-bailout-package-for-delhi-power-companies/article2750821.ece.

maintenance costs allowed by DERC were too high. They reiterated their demand for a CAG audit of the discoms.[77] Despite the protests, DERC ordered a 26 percent tariff hike and a 8 percent surcharge designed to pay off the mounting RAs.[78] Predictably, there were large scale protests across the city, with BJP organising sit-in protests and demonstrations at 25 places across the city to force the Sheila Dikshit government to roll back the hike.[79] The Government refused to roll back the hike and stated that tariff determination was strictly in DERC's domain. Instead, the Government continued the subsidy of Re.1 per unit for consumers whose monthly power consumption was below 200 units.[80] But the DERC did have to retract its decision to rejig the slabs by allowing 0-200, 0-400 and 400-and-above consumption slabs and doing away with the 201-400 unit slab. Consumers using over 200 units and below 400 units of power saw a 67% increase in their bills, leading to major protests. The protests were not without theatrics, with the BJP leader Vijay Goel storming into a public hearing that was under way at the DERC and holding Chairperson Sudhakar hostage. This move was perhaps to draw attention away from the bijli-paani satyagraha launched by Arvind Kejriwal, who had been gaining much public and media attention. BJP was trying to draw focus to its own Bijli Andolan at the time.[81] Kejriwal, a new entrant in Delhi's political arena, was particularly vocal about the nexus between BSES and the Congress government and raised the issue of government interference in stopping the issuance of the 2010 tariff order.[82] Under Kejriwal's anti-corruption agenda, AAP, a newly formed political party, started gaining momentum. Kejriwal's tactics, such as personally going to houses and reconnecting power supply with a pair of pliers, which had been disconnected by discoms over non-payment of dues, albeit theatrical, were effective. The Congress government's reiteration that Delhi had the lowest tariff amongst all metros was drowned out in AAP's promises to bring down tariffs by 50%. BJP also made similar promises but it was ultimately, AAP that emerged victorious.

Despite the growing public discontent and heightened political interest in the sector, in February 2013, DERC allowed a hike of 1.5 percent in the TPDDL area and 3 percent each in the BRPL and BYPL areas on account of power purchase cost adjustment. Perhaps sensing the consumer and political mood, there were barricades and stepped up security at the venue of the public hearing prior to the announcement of the FY 2013-14 tariff order.[83] However, unlike previous years, the tariff hike was only 5 percent, which was neutralised to a large extent by the government subsidy announced immediately after. While there was no hike for consumers using between 0-200 units and 201-400 units after the government's subsidy, for the high-end consumers the hike effectively varied between 0.5 percent and 4 percent in different parts of the city. Not entirely coincidentally, the Delhi Assembly elections were around the corner. In 2013, reminiscent of the 1998 elections, battle lines were drawn around power sector reforms by the

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[77] "Financial bail-out package for Delhi power companies," *The Hindu*, December 27, 2011, accessed March 14, 2017, http://www.thehindu.com/news/cities/Delhi/consumers-say-no-to-power-tariff-hike/article3360011.ece.

[78] The DERC reasoned that the hike was on account a combination of factors, namely (i) to bridge the deficit caused by the absence of tariff hikes in previous years; (ii) rising price of fuel; and (iii) increase in overheads such employees' salaries.

[79] "BJP raises the pitch against power tariff hike," *The Hindu*, June 30, 2012, accessed March 14, 2017, http://www.thehindu.com/todays-paper/tp-national/tp-newdelhi/bjp-raises-the-pitch-against-power-tariff-hike/article3587349.ece.

[80] Smriti Kak Ramachandran and Gaurav Vivek Bhatnagar, "Batting for discoms, Sheila defends power tariff hike," *The Hindu*, July 3, 2012, accessed March 14, 2017, http://www.thehindu.com/news/cities/Delhi/batting-for-discoms-sheila-defends-power-tariff-hike/article3597761.ece.

[81] Smriti Kak Ramachandran, "BJP leader enacts high drama, gets little support," *The Hindu*, October 9, 2012, accessed March 14, 2017, http://www.thehindu.com/todays-paper/tp-national/tp-newdelhi/bjp-leader-enacts-high-drama-gets-little-support/article3979965.ece.

[82] Gaurav Vivek Bhatnagar, "Government, BSES deny allegations," *The Hindu*, February 2, 2013, accessed March 14, 2017, http://www.thehindu.com/news/cities/Delhi/government-bses-deny-allegations/article4371700.ece.

[83] Smriti Kak Ramachandran, "DERC hearing venue turns into a fortress," *The Hindu*, June 4, 2013, accessed March 14, 2017, http://www.thehindu.com/news/cities/Delhi/derc-hearing-venue-turns-into-a-fortress/article4780839.ece.

AAP. However, while the Congress in the 1998 elections had focussed on the benefits of privatisation of electricity distribution, the AAP proceeded to tear down the projected success of the Delhi discoms with allegations of major financial irregularities by the discoms, collusion of discoms with the Congress government and DERC to keep tariffs high and promised a CAG audit of discoms, if elected. By this time, AT&C losses were in the range of 8–15 percent and unscheduled outages were not frequent. Targets to reduce AT&C losses were replaced by demands for accountability and transparency in the functioning of the discoms. Despite the Congress government's efforts to quell the attacks against it and its attempt to distance itself from regulatory decision making, the voters swung in favour of Arvind Kejriwal's AAP and he assumed the office of chief minister in December 2013. Within a few days of Kejriwal's swearing-in, DERC announced that there will be no tariff hikes in the coming three months and any proposal to revise tariff would need to follow procedure and take at least three months.[84] The DERC appeared to be marking its territory, knowing full well that AAP intended to pursue its campaign agenda of tariff reduction by 50 percent.

# IV. 2014-2016 and Beyond: The AAP Years—Power Politics and Evolving Patterns of Innovation

The AAP government had pulled off an unpredictable victory and wanted to push for fulfilment of its various campaign promises, particularly in the power sector. From December 2013 to February 2014, AAP formed the minority government in Delhi for 49 days. Thereafter, Delhi came under President's Rule for 1 year, effectively under the BJP-NDA led Central Government, till AAP came back to power in the February 2015 elections and continues to be in power at present. This section will discuss AAP's engagement on key issues during its term and how they played out, within the larger context of its acrimonious relationship with the Central Government.

The year 2014 started out well for Delhi consumers, with the newly elected AAP government announcing a 50 percent subsidy on consumption below 400 units. However, in August 2014, the DERC announced a tariff hike of 8.32 percent for domestic consumers. This time, the Union Government led by BJP-NDA stepped in to announce the allocation of Rs.260 crore for power subsidy. The consumers received Rs.1.20 per unit relief on consumption of up to 200 units and Rs.0.80 per unit relief for the next 200 units.[85] Congress, now in the opposition, accused the Central Government of exercising pressure on DERC to hike the tariff and AAP of betraying the people.[86] By this time, Delhi was under President's Rule and BJP was determined to find favour with the voters before the next state election. On 13 November 2014, the DERC approved a fuel surcharge of 7 percent for BYPL, 4.5 percent for BRPL, and 2.5 percent for TPDDL. However, within 24 hours, DERC rolled back its hike. Ironically, AAP, which had planned a city-wide protest against the hike, alleged BJP's interference in DERC's functioning and highlighted the nexus between the government and regulator.[87]

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[84] "No change in power tariff for another three months," *The Hindu*, December 31, 2013, accessed March 14, 2017, http://www.thehindu.com/todays-paper/tp-national/tp-newdelhi/no-change-in-power-tariff-for-another-three-months/article5521393.ece.

[85] Mohammad Ali, "Power subsidy ahead of struggle for power," *The Hindu*, July 19, 2014, accessed March 14, 2017, http://www.thehindu.com/news/cities/Delhi/power-subsidy-ahead-of-struggle-for-power/article6227606.ece.

[86] Gaurav Vivek Bhatnagar, "Power hike a betrayal: Cong," *The Hindu*, July 19, 2014, accessed March 14, 2017, http://www.thehindu.com/todays-paper/tp-national/tp-newdelhi/power-hike-a-betrayal-cong/article6226947.ece.

[87] Shubhomoy Sikdar, "DERC Rollback A Move to help BJP: AAP," *The Hindu*, November 15, 2014, accessed March 14, 2017, http://www.thehindu.com/todays-paper/tp-national/tp-newdelhi/dercs-rollback-a-move-to-help-bjp-aap/article6601329.ece.

AAP was re-elected to power after a resounding victory in the February 2015 elections, following which it re-introduced the 50 percent subsidy on consumption below 400 units.[88] AAP also commissioned a one-man committee comprising Berjinder Singh to submit a white paper on the Delhi discom sector to the government. The paper alleged that the DERC chairperson and members failed to protect consumer interest, which constitutes misconduct under the Electricity Act and called for their removal. The white paper also states that the Congress government failed to keep a check on the discoms' expenditure and high power purchase costs. Meanwhile, the relationship between the government and DERC was worsening as members of legislative assembly (MLAs) clamoured to have DERC Chairperson P.D. Sudhakar summoned to the House to explain why "the commission was favouring discoms". DERC, in a stern letter, replied to the government that it is not answerable to the AAP government and that any dispute should be challenged only through a legal course of action.[89]

In June 2015, DERC approved a surcharge of up to 6 percent for BRPL and BYPL consumers and 4 percent for TPDDL areas, to adjust the power purchase costs incurred by the discoms. This decision was taken further to APTEL's directive to DERC to restore PPAC surcharge. The government wrote to the DERC to roll back its decision[90], even though AAP had criticised similar interference by Congress and BJP in the past.

DERC did not hike tariff in FY 2015-16, stating that the revenue gap of the discoms had been covered to a large extent through tariff hikes starting from 2011. The DERC chairperson also clarified that the GNCTD had no role to play in the decision, though it was reported in the media that DERC had been under tremendous pressure from the AAP government for "favouring discoms".[91] This did not prevent AAP from claiming credit for the stagnant tariff.[92] Further, reports emerged that the according to DERC's data, discoms were revenue surplus. TPDDL had the maximum surplus revenue amounting to Rs. 323 crore, followed by BSES Rajdhani (BRPL) with Rs. 92 crore and BSES Yamuna (BYPL) with Rs. 37 crore.[93]

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[88] The 50 percent subsidy has come under scrutiny since nearly 80 percent of the households are eligible for it, which goes up to 95 percent in some months. Also, the subsidy has been characterised as regressive because it tends to benefit middle-class households more than poor households. For example, the average household subsidy varies from a little over Rs. 1,000/year for those who consume up to 100 units per month to over Rs. 9,000/year for those whose consumption is 300-400 units per month. See Rahul Tongia, "Delhi's household electricity subsidies: Highly generous but inefficient?," Brookings Institution, April 13, 2017, accessed April 18, 2017, https://www.brookings.edu/research/delhis-household-electricity-subsidies-highly-generous-but-inefficient/.

[89] Sweta Goswami, "DERC caught in Power Play," *The Hindu*, May 18, 2015, accessed March 14, 2017, http://www.thehindu.com/news/cities/Delhi/derc-caught-in-power-play/article7217791.ece.

[90] "DERC asked to revoke fuel surcharge," *The Hindu*, June 16, 2015, accessed March 14, 2017, http://www.thehindu.com/todays-paper/tp-national/tp-newdelhi/derc-asked-to-revoke-fuel-surcharge/article7320079.ece.

[91] Sweta Goswami, "No Increase in Power Tariff Rates," *The Hindu*, July 23, 2015, accessed March 14, 2017, http://www.thehindu.com/todays-paper/tp-national/tp-newdelhi/no-increase-in-power-tariff-rates/article7454165.ece.

[92] "AAP takes credit for static Delhi power tariff," *The Hindu*, September 25, 2015, accessed March 14, 2017, http://www.thehindu.com/news/cities/Delhi/aap-takes-credit-for-static-delhi-power-tariff/article7689255.ece.

[93] Sweta Goswami, "Discoms earn surplus revenue," *The Hindu*, October 1, 2015, accessed March 14, 2017, http://www.thehindu.com/news/cities/Delhi/discoms-earn-surplus-revenue/article7710277.ece.

# Legal Roadblocks in AAP's Governance Model

## A. CAG Audit

Within a month of coming into power during his first term in 2014, Kejriwal met the CAG to request an audit on the discoms.[94] The demand for CAG audit was nothing new and had come from the DERC itself as early as 2010. The Commission pointed out that during the course of a public hearing on tariff petitions filed by the discoms, several stakeholders submitted that there seems to be a large number of anomalies in the accounts of three companies.[95] In fact, a detailed report by Prayas (Energy Group) in 2006 found several stark anomalies in the accounts of BYPL and BRPL, which had surprisingly not been investigated by the DERC.[96] According to a senior bureaucrat who had previously worked at DERC:

> DERC had a skeletal staff, with no capacity to check the figures presented by the discoms. We conducted raids on discoms but could not catch them. We were sure there was something wrong, but 15-20 officers can't uncover what Reliance wants to hide.

The Congress government had also approved it in principle in a 2011 Cabinet Note but did not pursue the matter. However, true to its promise, the AAP government ordered the CAG audit, which was predictably challenged by the discoms before the Delhi High Court on the grounds that the CAG cannot audit private entities. URJA, a coalition of RWAs, also played a prominent role in seeking the CAG audit of discoms and filed a public interest litigation before the Delhi High Court for this.

While the matter was sub-judice, the CAG audit was already underway and the media leaked details of the confidential report in August 2015. Media reports indicated that CAG had found discoms to have inflated their assets by nearly 8000 crores, bought costly power, suppressed revenue, dealt with other private companies without tenders and given undue favours to group companies.[97] However, in a serious setback to the AAP Government, the division bench of Chief Justice G. Rohini and Justice R.S. Endlaw of Delhi Court ruled against the GNCTD and URJA and held the following:

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[94] Vishal Kant, "Kejriwal's new year gift to Delhi: 50% power subsidy," *The Hindu*, January 1, 2014, accessed March 14, 2017, http://www.thehindu.com/todays-paper/kejriwals-new-year-gift-to-delhi-50-power-subsidy/article5524956.ece.

[95] "DERC wants CAG to check discom accounts," *The Hindu*, July 9, 2010, accessed March 14, 2017, http://www.thehindu.com/todays-paper/tp-national/tp-newdelhi/derc-wants-cag-to-check-discom-accounts/article506918.ece.

[96] Supra, note 48 – The study found NDPL's average billing rate behaved as expected but found the following anomalies in the accounts of BYPL and BRPL:

(i) The slab-wise data on consumption and number of domestic consumers indicated a possible over-statement of consumption in the lower slabs and a possibility of a corresponding under-statement in the higher slabs. This would have a significant financial implication, given the large difference between slabs.

(ii) The revenue reported by BRPL for the commercial and industrial consumers was less than the calculated revenue by Rs. 32 crores, which is equivalent to 6% of the total revenue of the company in 04-05. For BYPL the error margin was 9% (Rs. 36 crores) of the company's total revenue. For NDPL the difference was just Rs 1 crore which is only 0.14% of the company's revenues.

[97] Josy Joseph, "Discoms inflated dues by Rs 8,000 crore, says CAG," *The Times of India*, August 18, 2015, accessed March 14, 2017, http://timesofindia.indiatimes.com/city/delhi/Discoms-inflated-dues-by-Rs-8000-crore-says-CAG/articleshow/48520042.cms.

(i) The words “authority or body” in Article 149[98] of Constitution of India and in the CAG Act are wide enough to extend to private bodies such as discoms;

(ii) The opportunity given to discoms to represent against the CAG audit was unreasonable as it was not disclosed to the discoms as to why a CAG audit of discoms would be expedient in public interest and further, the procedural requirement of arriving at an agreement between the GNCTD and CAG before an opportunity to represent against the audit is given to discoms was not met; and

(iii) Audit for the purposes of tariff determination is beyond the purview of the CAG Act since this is the sole domain of the DERC, which is empowered to conduct an audit itself. According to a DERC official, the audit of discoms by DERC continues at present and this is carried out by a CAG approved audit firm.

The Delhi High Court declared all the work done by the CAG and contents of its report were held to be inoperative. AAP challenged the Delhi High Court’s decision before the Supreme Court, where the matter is currently pending. Aside from media reports which project Kejriwal’s crusade against the discoms, a discussion with a member of URJA, a RWA coalition, revealed how the initial enthusiasm for AAP’s victory among the consumers has given way to disdain as the party is viewed as pushing its agenda before the media rather than taking any concrete actions. Many interviewees were convinced that despite the outward show of animosity towards discoms, the AAP Government was no better than its predecessor.[99]

### B. The Fight for Administrative Control

The CAG issue was perhaps a sign of things to come as the AAP Government soon found itself in the midst of another legal battle with the Lieutenant Governor (**LG**) over administrative control of Delhi, which had a direct impact on the electricity sector.

Delhi was originally under the jurisdiction of the Central Government as a Union Territory, but in 1993 the national capital region was granted its own legislative assembly and elected government (though not the full status of statehood). Tensions arose when the AAP Government made a series of decisions without consulting the LG Najeeb Jung, a Congress government appointee. Jung moved the Delhi High court seeking relief in the matter. The Delhi High Court ruled in favour of the LG, declaring him to be the administrative head of Delhi.[100]

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[98] 149. Duties and powers of the Comptroller and Auditor General
The Comptroller and Auditor General shall perform such duties and exercise such powers in relation to the accounts of the Union and of the States and of any other authority or body as may be prescribed by or under any law made by Parliament and, until provision in that behalf is so made, shall perform such duties and exercise such powers in relation to the accounts of the Union and of the States as were conferred on or exercisable by the Auditor General of India immediately before the commencement of this Constitution in relation to the accounts of the Dominion of India and of the Provinces respectively.

[99] Interview with a member of a residents welfare coalition, on August 25, 2016 and interview with a member of the press covering the energy beat for a national daily on August 22, 2016.

[100] The Delhi High court held that “It is mandatory under the constitutional scheme to communicate the decision of the Council of Ministers to the Lt. Governor even in relation to the matters in respect of which power to make laws has been conferred on the Legislative Assembly of NCT of Delhi under clause (3)(a) of Article 239AA100 of the Constitution and an order thereon can be issued only where the Lt. Governor does not take a different view and no reference to the Central Government is required in terms of the proviso to clause (4) of Article 239AA100 of the Constitution read with Chapter V of the Transaction of Business of the Government of NCT of Delhi Rules, 1993.”

The Delhi High Court's decision invalidated several key decisions taken by AAP, without the LG's consent, specifically:

- Appointment of DERC Chairperson Krishna Saini in March 2016
- Appointment of nominee directors on the discoms' board
- Imposition of penalty on discoms for unscheduled outages of over 2 hours

In the aftermath of the case, the LG set up a panel to scrutinise nearly 400 decisions taken by AAP Government without his consent. More recently, he held the appointment of the last DERC Chairperson, Krishna Saini, in March 2015 as invalid and the post currently lies vacant. It emerged from interviews that Krishna Saini is Kejriwal's colleague from the Indian Revenue Service.[101] AAP has challenged the Delhi High Court decision before the Supreme Court where the matter is currently pending. In a catch 22 situation, the Central Government contended that the AAP government's petition before the Supreme Court is "defective" since it has not been approved by the LG. In the latest blow to the AAP government, the Power Secretary appointed by AAP, Sukesh Jain, was unceremoniously removed from his post by the LG.[102]

There are many legal infirmities in the decision made by the High Court and it essentially reduces the democratically elected government in Delhi to a mere recommendatory body, with the real decision-making powers in the hands of an unelected administrative head. As the matter is sub-judice, the LG continues to wield power in Delhi. This case is also reflective of the larger conflict between the AAP Government and the BJP-led Central Government. Both parties have been at loggerheads for years and this particular decision proved to be ideal for the Central Government to undermine AAP's authority in Delhi.

The spill-over of the conflict between the LG and the AAP government has paralysed the discom sector. As Mr Saini's appointment has been held invalid, all decisions made by him since March 2016 were vitiated. The tariff order for FY2016-17 is yet to be finalised, which has been problematic for the discoms but the average consumer is unconcerned since a hike is unlikely. However, this will contribute to a further widening of the revenue gap, which does not bode well for the discoms or the consumers in the long run.

## Rise of Green Power and Future of DSM Initiatives

While political tensions over the power sector continue to escalate in Delhi, certain developments in the renewable energy sphere and DSM initiatives hold the key to the future of the sector. This section aims to understand the regulator and government's role in the promotion of renewable power, with a growing emphasis on solar rooftop projects. Further, advancements in DSM technology are leading a quiet revolution towards an energy-efficient future, with TPDDL leading the way.

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[101] Interview with a member of the press covering the energy beat for a national daily on August 22, 2016.

[102] Sukesh Jain is rumoured to be a close aide of Kejriwal and now serves as his OSD. News reports indicate that this change was made as the Power Secretary failed to issue the order for invalidating the appointment of Krishna Saini, as directed by the LG – "Row over removal of DERC chief, Arvind Kejriwal cancels LG's order," *The Indian Express*, November 5, 2016, accessed March 14, 2017, http://indianexpress.com/article/cities/delhi/row-over-removal-of-derc-chief-arvind-kejriwal-cancels-lgs-order/.

### A. Compliance with RPO

The DERC (Renewable Purchase Obligation and Renewable Energy Certificate Framework Implementation) Regulations, 2012 were notified on 1 October 2012. The RPO obligation till FY 2016-17 is shown in Table 5:

**Table 5: Delhi RPO Targets up to FY 2016-17**

| FY | SOLAR | NON-SOLAR | TOTAL |
|---|---|---|---|
| 2012-13 | 0.15% | 3.25% | 3.40% |
| 2013-14 | 0.20% | 4.60% | 4.80% |
| 2014-15 | 0.25% | 5.95% | 6.20% |
| 2015-16 | 0.30% | 7.30% | 7.60% |
| 2016-17 | 0.35% | 8.65% | 9.00% |

However, RPO compliance by Delhi discoms has been abysmal.[103] A recent petition filed by the Indian Wind Power Association in 2016 against the three discoms before the DERC highlighted that discoms had not complied with the RPO even though the DERC has approved the renewable energy and REC purchases in the ARR of the respective DISCOMs. While the DERC has not taken a decision on the matter above, the above proceedings took place before Chairperson Saini and therefore, stand invalidated. However, the issues raised by the petitioners remain relevant.

In 2014, DERC had allowed the discoms to carry forward their RPO from FY 2012-13 to FY 2013-14, citing the high investment costs involved in setting up of the initial inventory for generation of power through renewable sources. In its tariff order in FY 2015-16, where discoms demanded a further staggered implementation of RPO, the DERC held that RPO non-compliance will attract penalties but chose not to impose any on the discoms for their continuing non-compliance. Discussions with officials at DERC reveal that the Commission will be taking a stricter stance on RPO non-compliance going forward and while it has not imposed penalties in the past, this may not be the case in the near future.[104]

On the policy end, solar energy has been gaining prominence with the AAP Government issuing the Delhi Solar Policy in June 2016. The Solar Policy recognised Delhi's low potential for wind and hydro power and the need to shift to rooftop solar projects, pegging Delhi's solar potential at 2500 MW. It further highlighted that solar energy tariffs in Delhi have become cheaper than conventional energy tariffs for the government, commercial-industrial, and the highest slab in the domestic segment, and are

[103] Refer to Annex 2.
[104] Interviews with regulators at DERC, October 7, 2016.

expected to achieve grid parity in the low-medium domestic segment. The targets specified under the policy are 1 GW by 2020 and 2 GW by 2025. This is certainly ambitious considering Delhi's solar rooftop installed capacity is around 7 MW as of August 2015. Some important features of the policy include:

(i) The discoms shall give priority and preference to sourcing at least 75 percent of their RPO targets within Delhi. All solar energy generated at a net metered connection site in the discom's territory shall count towards its RPO target;

(ii) Solar installations on all government-owned rooftops must be completed within five years; and

(iii) A GBI of Rs, 2.00 per unit (kWh) of gross solar energy generated is being offered for three years. This is applicable to existing and proposed net-metered connection in the domestic segment. The GBI will be based on solar meter readings taken by the discom, and discoms will adjust the amount of GBI against electricity bill of the eligible consumer. Discoms will claim the amount from the state nodal agency, which will disburse this amount to discoms annually.

To facilitate solar rooftop projects, DERC had previously issued the DERC (Net Metering for Renewable Energy) Regulations, 2014 and the DERC (Terms and Conditions for Determination of Tariff for Procurement of Power for Grid-connected Solar Photovoltaic Power Projects) Regulations, 2013.

The discoms appear enthusiastic about the solar rooftop projects as it allows them not only to meet their RPO, but to also help them avoid buying expensive power during peak power hours (between 3 p.m and 5 p.m. in Delhi).[105] Net-metering supplements the grid with additional power to cover the demand-supply gap, not create it.[106] Given this and the existing low coverage of solar rooftop, discoms do not appear unduly concerned about high tariff category customers shifting to solar rooftop entirely since they believe this will be a supplementary source of power. With over 300 days of sunshine annually, declining solar tariffs and space crunch in the city, Delhi is ideal for implementation of solar rooftop projects. Apart from being a clean source of energy and obvious benefits in lower electricity bills for consumers, the discoms benefit from an offset in peak demand.

### B. DSM Initiatives and Future of Electricity Consumption

In the summer of May 2016, Delhi's peak demand hit a record 6044 MW. This is more than the combined demand of cities like Mumbai (3,700 MW) and Kolkata (2,100 MW). The peak demand in FY 2018-19 is projected to be around 7115 MW.[107] While mitigation of shortfall during peak demand requires power procurement planning, proper implementation of DSM and energy efficiency measures coupled with implementation of solar rooftop hold the key to this problem.

The DERC issued the DSM Regulations, 2014 with a mandate to bring about a reduction in energy consumption across residential, commercial and industrial establishment and facilitate energy efficiency improvement project. Discoms have also taken up DSM initiatives such as the promotion of LEDs usage,

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[105] Interview with senior official at TPDDL, August 8, 2016, and senior officials at BSES, September 6, 2016.
[106] Gayrajan Kohli, "Why Net-metering is failing – Part 2 – The DISCOM's side of the story," accessed March 14, 2017, http://www.bridgetoindia.com/why-net-metering-is-failing-part-2-the-discoms-side-of-the-story/.
[107] Supra, note 3 at 14.

energy conservation campaigns in school etc. TPDDL, in particular, has taken a lead in DSM measures with the Bachat Lamp Yojana[108], Appliance Replacement Program[109] and launched India's first large-scale integrated Auto Demand Response (ADR) program with smart meters. Using the ADR software coupled with smart meters and building systems will automatically enable load-shedding measures to bring the grid back into balance. If this technology were to be adopted across the board, it is predicted to reduce consumption by approximately 7% and reduce peak demand by 11.5MW for TPDDL.[110]

However, the key to change in consumption patterns is the introduction of time-of-day (ToD) metering[111] for domestic consumers, who account for over 50% of Delhi's power consumption. ToD essentially demonstrates the two peak times in a day to consumers—morning and evening—and gives them the choice to either pay a higher charge for consumption during peak time or pay less for efficient usage. This would require a major overhaul of the infrastructure and installation of smart meters for all consumers. This has already been successfully implemented in Kerala in households drawing over 500 units a month. While the initial investment is high, the long-term gains are high for both discoms in managing their load and for consumers in the form of lower electricity bills.

## Public Participation

As has been evident in the course of this paper, the consistent form of public participation in the regulatory process and in agitating electricity sector issues has been by the RWAs. While there not many civil society organisations (CSOs) active in the regulatory proceeding in Delhi, there are some individuals with technical expertise who regularly participate in public hearings. A perusal of the latest tariff order from FY 2015-16 also shows 19 MLAs in attendance. Discussions with DERC officials reveal that since 2012, the number of MLAs attending the public hearings has been on the rise. On the other hand, participation by non-governmental organisations (NGOs) has declined over the years. For example, from 12 NGOs who participated in the public hearing process in 2002, the number has dwindled to two in the 2015 hearing.

Discussions with interviewees show that the general view within the sector is that RWAs, while vociferous in their demands for reduction in tariff, lack a finer understanding of the issues. According to URJA President Atul Goyal, ARRs are highly technical documents, which makes it difficult for the average consumer to understand them. However, some interviewees point out that RWAs are not keen on digger deeper even when given the opportunity. For instance, in the months leading up to the public hearing, DERC had appointed officers whom consumers could contact for any clarifications but they did

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108 The scheme aimed at large scale replacement of incandescent bulbs in households by CFLs. Under BLY, CFLs were offered at Rs. 15 in exchange for working incandescent bulbs for residential consumers. Project was completed in 6 Districts and over 8 lakhs CFLs had been distributed under the scheme.

109 Appliance Replacement Program was launched in association with LG, Voltas & Godrej to promote Star Rated Appliances ACs & Refrigerators. Under the program, consumers were offered exchange scheme, under which existing old Refrigerators and Air Conditioners can be replaced with new Energy Efficient BEE Star Rated Refrigerators & ACs

110 "Demand response: Honeywell and Tata Power Delhi Distribution," accessed March 14, 2017, https://www.metering.com/demand-response-honeywell-and-tata-power-delhi-distribution/.

111 ToD metering involves dividing the day, month, and year into tariff slots. At peak load slots, rates are higher, whereas at off-peak load periods tariffs are low. In Delhi, ToD metering has been extended to industrial and commercial consumers only.

not receive a single call despite putting out advertisements in all national dailies.[112] DERC has published five public awareness bulletins to enable a well informed involvement of the public in its hearings.

Many interviewees referred to Prayas, a civil society organisation which works actively in the electricity sector in Maharashtra, and the absence of an organisation of equivalent calibre in Delhi. It is relevant to note that Prayas is now part of DERC's State Advisory Committee (SAC). The SAC comprises many subject-matter experts but no representatives from the discom and few representing consumers. The SAC meets bi-annually, very few such meetings have minutes available on the DERC website. SAC members are also members of some internal committees of DERC to assess important policy issues. While DERC has been largely receptive to the suggestions by the SAC, this varies based on the chairperson; some of the DERC chairpersons, as ex-officio chair of SAC, have been more receptive than others.[113]

According to a 2015 study on consumer participation across 5 states (Delhi, Haryana, Karnataka, Maharashtra and Rajasthan), Delhi fared relatively better than the others. The study states that interventions during public hearings were "relatively well informed" and nature of issues raised reflect this: about 40% of the issues were on the performance of discoms followed by other procedural issues and tariff issues. Having fewer issues on quality of supply could be an indication of the improvements made post-privatisation.[114]

There is a clear gap in public discourse and debate on the electricity sector in Delhi at a policy level. With heightened political interest in the sector and in the absence of meaningful engagement by CSOs, RWAs have used this space to agitate tariff reduction, albeit with a limited understanding of the ARR process. While individual technical experts do make relevant contributions, there is a long way to go for a robust and informed dialogue in the state.

# Conclusion

The trajectory of the electricity sector in a state is typically shaped to a large extent by its regulator. While privatisation of electricity distribution in Delhi was implemented, in part to insulate the sector from political pressures, the tenor of the electricity sector debates in Delhi has been distinctly political, more revealingly so in the past few years. In the early years post-privatisation, the sector suffered from various infirmities arising from GNCTD's interference in DERC's functioning and the latter's inability to stem political influences within its domain. In later years when DERC, under the chairmanship of Birjender Singh, distanced itself from the GNCTD, it mimicked the government's previous actions by failing to follow due procedure in tariff determination i.e. the draft order was issued without consensus. In this background, the discoms were mainly concerned about their widening revenue gap. Based on the Prayas report of 2006 and news reports that cite the CAG audit uncovering irregularities of nearly Rs. 8000 crores in discoms' accounts, there is growing uncertainty among the public over the facts and

[112] Interview with ex-secretary of DERC on September 7, 2016.
[113] Ashish Khanna et al., "Transforming Electricity Governance in India: Has India's Power Sector Regulation Enabled Consumers' Power?," Policy Research Working Paper 7275 (World Bank Group, 2015), 22, accessed March 14, 2017, http://documents.worldbank.org/curated/en/204051467992481497/pdf/WPS7275.pdf.
[114] Ibid., 19.

figures that discoms place before DERC for tariff determination. Additionally, with the AAP Government in power, the discoms have lost a sympathetic ear for their problems within the GNCTD. Since coming to power, the AAP government has taken stern measures against discoms but met with legal challenges at each turn. An unlikely roadblock for the AAP government emerged in the form of the High Court order declaring the LG as the administrative head of Delhi, leaving it with no real powers. Till the Supreme Court conclusively decides on whether the elected government or the LG is the administrative head of Delhi, the functioning of the government machinery is effectively at a standstill, which has a direct impact on the power sector.

For over 15 years, the Congress Government played a significant role in shaping Delhi's electricity sector and was committed to portraying the success of the privatisation model, which it had ushered in. While AAP's rise took Delhi and the country by surprise, the formula to their success lay in agitating issues such as power and water, which directly impact the average voter. However, after coming into power, many of AAP's tactics and decisions were ironically reminiscent of the accusations of regulatory interference they had previously levelled against the Congress. Matters are further exacerbated with the BJP led Union Government taking a special interest in Delhi, the only state at present with an elected AAP Government. With AAP beginning to gain a foothold in Punjab for the upcoming legislative assembly elections in 2017, the Union Government is aware that AAP's performance in Delhi can impact their chances in Punjab.

Further, in the absence of a strong consumer movement and focused CSOs, which look beyond tariff reduction issues, it is unlikely that political parties will delve any deeper into the sector. Apart from the obvious political issues that plague the sector, there are also subtle policy and regulatory shifts. The Delhi discoms also offer a story of innovation and resuscitation of an ailing distribution sector. The AT&C loss levels in Delhi are amongst the lowest in the country, with a significant improvement in the quantity and quality of power supply since privatisation. TPDDL, in particular, has been a pioneer in DSM technology, which has the potential to revolutionise the sector on a large scale. Issues such as increasing share of renewable power in the energy mix and implementation of innovative demand side measures hold the key to the sector's future. While the AAP government has taken some early steps towards promoting green energy this year, it remains to be seen if it follows through on its agenda. With its powers curtailed by the Delhi High Court decision, AAP's powers to implement its vision hang in the balance. Unfortunately, history has shown that key regulatory and policy debates in Delhi's power sector are often subsumed in the larger political battles.

# Annexes

**Annex 1: AT&C loss reduction by discoms[115]**

**BSES Rajdhani loss reduction trajectory**

| | 2002-03 | 2003-04 | 2004-05 | 2005-06 | 2006-07 | Total |
|---|---|---|---|---|---|---|
| Govt. specified minimum bid | 1.50 | 5.00 | 5.00 | 5.00 | 4.25 | 20.75 |
| Accepted bid | 0.55 | 1.55 | 3.30 | 6.00 | 5.60 | 17.00 |
| Actual | 0.70 | 2.35 | 4.41 | 5.11 | 5.62 | 18.19 |

**BSES Yamuna loss reduction trajectory**

| | 2002-03 | 2003-04 | 2004-05 | 2005-06 | 2006-07 | Total |
|---|---|---|---|---|---|---|
| Govt. specified minimum bid | 1.25 | 5.00 | 4.50 | 4.50 | 4.00 | 19.25 |
| Accepted bid | 0.75 | 1.75 | 4.00 | 5.65 | 5.10 | 17.25 |
| Actual | -4.69 | 7.60 | 4.16 | 6.26 | 4.84 | 18.17 |

**NDPL loss reduction trajectory**

| | 2002-03 | 2003-04 | 2004-05 | 2005-06 | 2006-07 | Total |
|---|---|---|---|---|---|---|
| Govt. specified minimum bid | 1.50 | 5.00 | 4.50 | 4.25 | 4.00 | 19.25 |
| Accepted bid | 0.50 | 2.25 | 4.50 | 5.50 | 4.25 | 17.00 |
| Actual | -1.02 | 4.26 | 11.05 | 7.29 | 2.78 | 24.36 |

**Annex 2: RPO compliance status for FY 2015-16 (up to 2015 November)[116]**

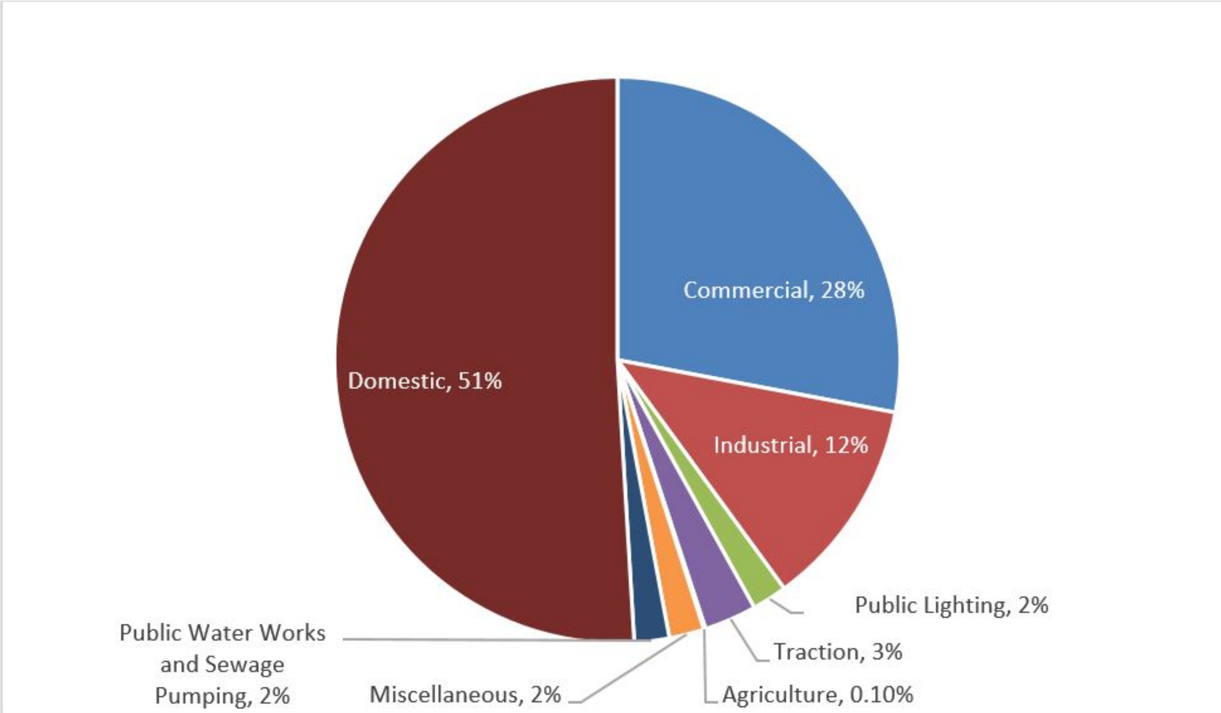
| Obligated entity | Consumption (MU) | Solar obligation (MU) | Solar power procured (MU) | Shortfall in solar power procured (MU) | Non-solar obligation (MU) | Non-solar power procured (MU) | Shortfall in non-solar power procured (MU) |
|---|---|---|---|---|---|---|---|
| TPDDL | 1294.9 | 3.88 | 6.36 | -2.48 | 94.53 | 0 | 94.53 |
| BRPL | 1765 | 5.295 | 6 | -0.705 | 128.845 | 11 | 117.845 |
| BYPL | 982.84 | 2.94852 | 6.184676 | -3.236156 | 71.74732 | 0 | 71.74732 |
| Total | 4042.74 | 12.12352 | 18.544676 | -6.421156 | 295.1223 | 11 | 284.1223 |

** PDDL has tied up for procurement of 6 MW of non-solar (waste to energy) with Timarpur Okhla Waste Management Company Pvt. Ltd. TPDDL has also issued RFP dated 28 October 2015 for procurement of 385 MUs (on annual basis) of non-solar power.*

115 Supra, note 44.

116 Delhi Government. Provisional Renewable Purchase Obligation Compliance of Distribution Licencee for Q3 (2015-16). http://delhi.gov.in/wps/wcm/connect/65ce6d804b84dd5bb64bb7f5a514eed4/PROVISIONAL+RENEWABLE+PURCHASE+OBILIGATION+COMPLIANCE+OF+DISTRIBUTION+LICENCEE+FOR+Q3.pdf?MOD=AJPERES&lmod=-1625964062&CACHEID=65ce6d804b84dd5bb64bb7f5a514eed4

**Annex 3: Consumption profile of various consumer categories**




**Annex 4: Difference between the revenue requirement and revenue available to discoms (in Rs. Cr.)**

| | Annual Revenue Requirement | Revenue available | Revenue gap/surplus |
|---|---|---|---|
| **FY 2012-13** | | | |
| BRPL | 7415 | 5792 | -1623 |
| BYPL | 4399 | 3114 | -1285 |
| TPDDL | 5095 | 4673 | -421 |
| **2013-14** | | | |
| BRPL | 7428 | 6592 | -837 |
| BYPL | 4653 | 3527 | -1126 |
| TPDDL | 5613 | 4989 | -624 |
| **2014-15** | | | |
| BRPL | 9361 | 7422 | -1939 |
| BYPL | 5527 | 4233 | -1294 |
| TPDDL | 5679.62 | 5329.16 | -350.46 |

| | Annual Revenue Requirement | Revenue available | Revenue gap/surplus |
|---|---|---|---|
| **2015-16** | | | |
| BRPL | 7949 | 8042 | 92 |
| BYPL | 4158 | 4195 | 37 |
| TPDDL | 5878 | 6200 | 323 |

**Annex 5: Timeline of events**

| Political events | Year | Power sector events |
|---|---|---|
| | 1951 | Delhi State Electricity Board (DSEB) established |
| Delhi recognised as Union Territory; Position of the Delhi CM and the Legislative Assembly abolished | 1956 | |
| Delhi under direct administration of President | 1957 | |
| | 1958 | Delhi Electricity Supply Undertaking (DESU) established under Delhi Municipal Corporation Act, 1957, replaces DSEB |
| Government of National Territory Act 1991 re-established legislative assembly in Delhi but without powers over matters and personnel relating to public order, police, officers and high court servants and the land of NCT. The power on these matters vests with the LG | 1992 | |
| BJP wins Delhi State Election; Congress hold power at the Centre | 1993 | |
| | 1995 | DESU losses estimated to be USD 96.33 million |
| | 1997 | Delhi Vidyut Board established under the Electricity (Supply) Act, 1948 replaces DESU |

| | | |
|---|---|---|
| BJP comes into power at the Centre | 1998 | |
| Congress wins Delhi Election | 1998 | Riots break out in Delhi over irregular power supply in peak summer |
| | 1999 | DVB losses estimated at USD 183.33 million |
| | | GNCTD releases Strategy Paper on unbundling DVB |
| | | Delhi Electricity Regulatory Commission (DERC) set up |
| | | V.K. Sood appointed as first chairperson of DERC |
| | 2000 | Delhi Electricity Reforms Ordinance promulgated, which:<br>- empowered government to restructure the power industry<br>-gave DERC full powers to regulate the power industry including licensing, restricting the Government's role to policy matters |
| | 2001 | GNCTD issues Transfer Scheme Rules; DVB unbundled into six entities: Transco, Genco, BRPL, BYPL and TPDDL |
| | 2002 | Transfer Scheme operationalized and management of discoms handed over to Tata Power and BSES |
| Congress retains power in Delhi state elections | 2003 | Public protests over power cuts and billing errors in BSES areas |
| | | BSES undergoes management change and is acquired by Reliance Group |
| Congress comes into power at the Centre | 2004 | Creation of RAs by DERC to bridge revenue gap |
| | | V.K. Sood retires as chairperson of DERC |
| | 2005 | 10% tariff hike leads to widespread protests. GNCTD offers subsidy to counter impact of tariff hike |

| | | |
|---|---|---|
| | | Public Accounts Committee releases report detailing irregularities of privatisation process and non-transparent functioning of DERC |
| | 2006 | Berjinder Singh appointed as second chairperson of DERC |
| | | Transco enters into PPAs for over 1500 MW to meet increasing power demand and requirement for 2010 Commonwealth Games |
| | 2007 | PPAs re-allocated to the three discoms, leading to protests from discoms on being forced to buy expensive power |
| | | MYT adopted by DERC |
| Congress retains power in Delhi state elections | 2008 | Significant reduction in AT&C loss levels achieved by discoms:<br>BRPL: 20.59%<br>BYPL: 24.02%<br>NDPL: 14.82%<br>An overall reduction from 56% in 2002-03 to 38% in 2008-09 |
| Congress retains power at the Centre | 2009 | |
| | 2010 | Singh drafts tariff order slashing tariff by 23%, without concurrence of other two members of DERC; order was challenged before court and held to be invalid |
| | | Berjinder Singh retires as chairperson of DERC |
| | 2011 | P.D. Sudhakar appointed as third chairperson of DERC<br>21.77% tariff hike ordered by DERC leading to widespread protests by RWAs |

| | | |
|---|---|---|
| | | GNCTD grants in-principle approval for CAG audit of discoms |
| Aam Aadmi Party (AAP) formed under leadership of Arvind Kejriwal | 2012 | 26% tariff hike and a 8% surcharge ordered by DERC; protests by BJP and AAP<br>RPO Regulations issued by DERC |
| AAP forms minority government for 49 days | 2013 | |
| BJP comes into power at the Centre | 2014 | AAP announces 50% subsidy on consumption below 400 units |
| President's rule imposed in Delhi | | AAP orders CAG audit of discoms, which was challenged by discoms before Delhi High Court |
| AAP wins Delhi state elections | 2015 | Media leaks details of CAG report, which found discoms to have inflated RAs by 8,000 crores |
| | | Delhi High Court rules against CAG audit of discoms |
| | 2016 | Krishna Saini appointed as fourth chairperson of DERC |
| | | AAP releases Delhi Solar Policy to promote rooftop solar projects: aim to install 1 GW by 2020 and 2 GW by 2025 |
| | | Delhi High Court invalidates various decisions taken by AAP without Lieutenant Governor's consent, including:<br>- Appointment of Krishna Saini in March 2016<br>- Appointment of nominee directors on the discoms' board<br>- Imposition of penalty on discoms for unscheduled outages of over two hours |
| | | LG removed Power Secretary Sukesh Jain, appointed by AAP |