

Legislative Brief

The Electricity (Amendment) Bill, 2014

The Electricity (Amendment) Bill, 2014 was introduced in Lok Sabha on December 19, 2014.

It was referred to the Standing Committee on Energy on December 19, 2014. The Committee submitted its report on May 7, 2015.

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Highlights of the Bill

- ◆ The Bill amends the Electricity Act, 2003. It seeks to segregate the distribution network business and the electricity supply business, and introduce multiple supply licensees in the market.
- ◆ The Bill introduces a supply licensee who will supply electricity to consumers. The distribution licensee will maintain the distribution network and enable the supply of electricity for the supply licensee.
- ◆ The State Electricity Regulatory Commissions will grant supply licenses. Consumers can choose to buy electricity from any of the supply licensees in a given area of supply.
- ◆ If a supply licensee ceases to be a supply licensee, or is suspended, electricity will be supplied by a provider of last resort (POLR). The POLR will be a supply licensee designated by the State Electricity Regulatory Commission.
- ◆ The Bill defines renewable energy and provides for a National Renewable Energy Policy. It requires coal and lignite based thermal generators to produce 10% of thermal power installed capacity as renewable energy.

Key Issues and Analysis

- ◆ The Bill requires the presence of a government company as a supply licensee in an area of supply. This may affect competition. Currently, state distribution companies often keep tariffs lower than the cost of electricity. If this behaviour by a government owned supply licensee continues, it may drive out other supply licensees. This could defeat the objective of increasing competition.
- ◆ The Bill states that all revenue deficits in the electricity sector prior to the enforcement of the Bill will be recovered. The deficits were a result of several factors such as: (i) state distribution companies not revising tariffs in a timely manner, (ii) an inefficient tariff structure and cross-subsidisation by high paying consumers, and (iii) high aggregate technical and commercial losses because of low investment, theft, pilferage, lack of metering and poor billing systems. Some of these issues could be addressed by the new scheme "UDAY".
- ◆ Becoming a provider of last resort (POLR) may have financial implications on a supply licensee. However, the Bill does not envisage any financial support for these supply licensees. Some other countries provide financial support for a POLR.

PART A: HIGHLIGHTS OF THE BILL¹

Context

There are three segments in the electricity sector: generation, transmission and distribution. Generation is the process of producing power using different sources of energy. The transmission system carries power from the generating stations to the distribution sub-stations. Power is transmitted through the grid network which is a system of inter-connected generating plants, transmission lines, and sub-stations. The distribution system supplies electricity from the sub-stations to individual consumers through a network.

As per the Constitution, both Parliament and state legislatures can make laws on electricity.⁵ The Electricity Act, 2003 is the central law regulating the electricity sector. The 2003 Act sought to introduce more competition in the sector by enabling private sector participation.⁶

While the generation segment has seen some private participation, competition in the transmission and distribution segments has been limited.⁶ Power is generated by private (38%), state (35%), and central (27%) generating companies.⁷ Transmission lines are owned mostly by state (57%), followed by central (37%), and private (6%) companies.⁸ Distribution is mostly carried out by state owned distribution companies. However, in cities such as Delhi and Mumbai, private entities also participate in the distribution business.⁶

The 2003 Act introduced competition in the generation segment by de-licensing it to allow more investment. The Act enabled larger consumers (with consumption more than 1MW) to buy power from any source through non-discriminatory access to transmission lines.⁹ In the distribution segment, multiple licensees could set up their own parallel distribution network in the same area, allowing for competition.^{10,11} However, setting up a new network requires significant capital investment which poses entry barriers for new participants in the distribution segment.⁶

The 2003 Act also set up the Central and State Electricity Regulatory Commissions (CERC and SERCs, respectively) to regulate inter-state and intra-state matters in generation, transmission, trading and distribution of power. The Commissions also determine tariffs for generation, transmission and distribution of electricity.

The Electricity (Amendment) Bill, 2014 was introduced in Lok Sabha on December 19, 2014. The Bill amends the 2003 Act to: (i) bring in further competition and efficiency in the distribution sector, (ii) rationalise tariff determination, and (iii) promote renewable energy.¹²

Key Features

Segregation of distribution network and retail supply of electricity

- Under the Act, one distribution license is issued for maintenance of the distribution network as well as supply of electricity. The Bill provides for separate licences for maintaining the distribution system (distribution licence) and for the supply of electricity (supply licence).
- Multiple supply licences may be granted by the SERC within an area of supply. Consumers will have the choice to buy electricity from any of the supply licensees. The Bill mandates that at least one of the supply licensees in a given area of supply should be a government company.

Table 1: Restructuring of the electricity sector

Year	Reform
Till 1975	All three segments were bundled together and were mostly government owned (except in a few cities). Generation, transmission and distribution were carried out by the state electricity boards/electricity departments. ²
1989	The transmission segment was separated from the central generation agency. Power Grid Corporation of India (POWERGRID) was set up to carry out transmission.
Early 90s	Generation segment opened up for private sector.
1996-98	Some states (Odisha, Haryana) started restructuring their state electricity boards. Restructuring included unbundling of generation, transmission and distribution activities, privatization of generation and distribution, etc. ³
1998	Electricity Regulatory Commission Act, 1998 - established Regulatory Commissions at both the central and state levels.
2003	Electricity Act, 2003 – de-licensed generation, brought in open access and parallel licensing, gave more powers to the Regulatory Commissions, provided for reorganisation of the state owned electricity boards, provided for elimination of cross-subsidies in the sector. ⁴
2007	2003 Act amended to allow for reduction of cross-subsidies instead of eliminating them.

Sources: Electricity Regulatory Commission Act, 1998; Electricity Act, 2003; 14th Report: Transmission and Distribution Systems and Networks, Standing Committee on Energy; Power Sector Reforms in Odisha: Major Issues and Challenges, Government of Odisha; PRS.

- Under the Act, distribution licensees enter into power purchase agreements (PPAs) with generation companies for the retail sale of electricity. The Bill states that, post segregation, supply licensees will purchase power and sell it to consumers.
- If the supply licensee chosen by a consumer ceases to be a supply licensee or if his supply licence is suspended, the consumer will be provided electricity by the provider of last resort. The provider of last resort will be a supply licensee designated by the SERC.

Transfer of supply business

- The Bill provides for the transfer of the supply function from the distribution licensees to the supply licensees. This includes the existing assets, liabilities and the power purchase agreements. For enabling the transfer, the Bill provides for the setting up of an incumbent supply licensee and an intermediary company.
- **Incumbent supply licensee:** As part of the transfer process, state governments will transfer the supply function from the existing distribution licensee to an incumbent supply licensee. This will include the property, and the rights and liabilities, relating to the supply of electricity. The incumbent supply licensee will provide electricity till the new supply licensees enter the market.
- **Intermediary company:** State governments will transfer the existing PPAs and procurement arrangements from the distribution companies to an intermediary company. The intermediary company will then allocate these PPAs to the supply licensees.

Tariff determination

- The SERC or CERC (depending on their functions) will determine the tariff for: (i) supply of electricity by a generating company to a supply licensee, (ii) purchase of electricity by the supply licensee from the intermediary company, (iii) transmission of electricity, (iv) wheeling of electricity,^{*} and (v) the retail sale of electricity to the end consumer.
- The tariff for retail sale of electricity will be subject to a ceiling price to be determined by the SERC. The tariff determined by the SERC for a licensee must provide for recovery of all prudent costs of the licensee through an appropriate price adjustment formula.
- With regard to the guiding principles for the determination of tariff, the Bill states that the revenue deficit, if any, prior to the commencement of the Bill, will be recovered.

Renewable energy

- The Bill defines renewable energy sources to include small hydro, wind, solar, bio-mass, co-generation from these sources, geothermal and other sources as notified by the central government.
- Any generating company establishing a coal and lignite based thermal station will be required to establish a renewable energy generation capacity, which will be at least 10% of the thermal power installed capacity.
- A National Renewable Energy Policy will be prepared by the central government, in consultation with state governments. The Policy will provide for the development of the power system based on optimal utilisation of hydro and renewable sources of energy.

Penalties

- The Bill increases the penalties for non-compliance of directions of the CERC or SERC. Under the Act, penalties for all companies are up to Rs 1 lakh for each contravention and up to Rs 6,000 for every day that such contravention continues. The Bill increases these to Rs 1 crore and Rs 1 lakh respectively. For companies generating renewable energy, the penalty will be up to Rs 10 lakh for each contravention and up to Rs 10,000 per day for continuing failure.
- If the supply licensee fails to supply electricity within 15 days of application, he shall be liable to a penalty which may extend to Rs 1,000 for each day of default.

Conditions of service of commission members

- Under the Act, the term of office for the chairperson or other members of the Regulatory Commissions is five years. The Bill reduces the term to three years and also allows for their re-appointment.

^{*} The charge paid when the transmission and distribution network of a licensee is used by another to transfer electricity.

PART B: KEY ISSUES AND ANALYSIS

Government supply companies may not work on market principles

Act:
Section
42(1)

Bill:
Clauses 9,
30

Under the Act, a distribution licensee is responsible for maintaining the distribution network as well as supplying electricity. In order to encourage competition in the supply of electricity, the Bill segregates these two functions. It allows multiple supply licensees to operate in a given area of supply. However, the Bill requires that one of the supply licensees in a given area of supply must be a government owned company. Mandating the presence of a government owned company may hinder competition if that company does not work on market principles. That is, a private supply company will be unable to recover costs and make reasonable profit if a government supply company in the same area provides electricity below the cost of supply.

Often, state distribution companies (discoms) do not work on market principles, i.e., they do not price electricity to cover costs and reasonable profit. Currently, the electricity distribution segment is mostly owned by state discoms. Several of these state discoms are facing severe financial losses because of not revising tariff commensurate with the increase in the cost of supply of electricity.^{13,14} The gap between the cost of supply and the average tariff increased from 76 paise/kWh in 1998-99 to 183 paise/kWh in 2011-12.¹⁵ In 2011, the Appellate Tribunal for Electricity passed a judgment requiring SERCs to ensure that tariffs are revised in a timely manner by discoms.¹³ Following the judgement, it was observed that between 2012 and 2014, more than 20 states revised their tariffs.¹⁴ In the year 2013-2014, the gap between the cost of supply and the average tariff decreased to 113 paise/kWh.¹⁵

The Bill states that all revenue deficits prior to the enforcement of the Bill will be recovered. However, there is no certainty that after segregation of distribution and supply, when there are no prior financial losses, government owned supply companies will price tariffs to cover costs. The same factors that currently lead them to keep tariffs low could continue to shape their tariff decisions. Mandating the presence of a government owned company may eventually drive out other supply licensees for whom it may be financially unviable to offer tariffs that do not cover costs. This may affect the intent of the Bill to bring in competition in the supply segment.

However, it may be noted that keeping tariffs artificially low by any dominant supplier may violate the provisions of the Competition Act, 2002 related to predatory pricing.¹⁶

Poor state of finances of distribution companies

Bill:
Clause 36

The Bill states that all revenue deficits prior to the enforcement of the Bill will be recovered. In this context, we explain some of the issues leading to such deficits in the electricity sector.

Delays in tariff revisions

Discoms are required to file their tariff petitions annually with the relevant SERC. Many state-owned discoms did not file tariff revision petitions for multiple years during 2003 to 2011.¹³ State discoms in states such as Bihar, Karnataka and Punjab did not revise their tariff between 2008 and 2011, in spite of an increase in the cost of electricity.¹³ During the same time period, the cost of power supply in these states went up by 12%, 10%, and 29% respectively. Not increasing tariff commensurate with the cost of supply has resulted in accumulated losses for the discoms.¹⁴ The accumulated losses of state-owned discoms (after adjusting for subsidies received from state governments) rose to Rs 71,271 crore in 2013-14 from Rs 11,699 crore in 2004-05.¹⁷

The Electricity Act, 2003 mandates state governments to compensate discoms for subsidies provided to agricultural and/or household users. However, state governments have lagged in timely payments of such subsidies.¹⁷ This has resulted in state discoms relying more on short-term loans to fund their operations. Borrowings by state discoms rose to Rs 4,59,145 crore in 2013-14 from Rs 1,06,509 crore in 2004-05.¹⁷ Consequently, the interest cost on these loans worsens the poor finances of state discoms.

Differential tariff structure

In 2013-14, the average cost of power supply was 593 paise/kWh and the average tariff was 480 paise/kWh.¹⁵ In the same year, across consumer categories, the average tariff was highest for commercial and industrial consumers at 764 paise/kWh and 626 paise/kWh respectively. Average tariff was the lowest for agricultural consumers at 183 paise/kWh.¹⁵ Agricultural consumers receive direct subsidies from the government. In addition, they are cross-subsidised by commercial and industrial consumers. Thus, the tariff for commercial consumers is about 59% more than the cost of power supply. Such differential pricing and subsequent cross-subsidising raises the input costs for manufacturing and service sectors.

High AT&C losses

Aggregate Technical and Commercial (AT&C) loss is the percentage of power procured by the discom for which it did not receive any payment. AT&C losses can be divided into technical (transmission) losses and non-technical (commercial) losses. Low levels of investment in distribution have resulted in overloaded systems, leading to higher technical losses. Theft and pilferage of power is a key reason for high commercial losses for discoms. Lack of metering and poor billing and collection systems also contribute to commercial losses.

The national average for AT&C losses for 2012-13 was about 25%.¹⁸ In comparison, transmission and distribution losses are about 6% in the US and about 7.2% in the UK.^{19, 20} The government launched the Accelerated Power Development Program in 2001 to bring improvements in the working of state power discoms. The scheme is currently being implemented as the Restructured - Accelerated Power Development and Reform Programme. Despite attempts at reforms, reduction in AT&C losses (1.1% per annum between 2001-02 and 2013-14) has been slower than the target.²¹

Financial restructuring plan

In November 2015, the central government announced the Ujwal Discom Assurance Yojna (UDAY) for the financial revival of distressed state discoms.²² Under the scheme, states will take over 75% of the discoms' debt (as on September 30, 2015) over two years (50% in the first year and 25% in the second year). The principal debt will not be counted in the fiscal deficit of states for the first two years. States that accept the scheme will receive additional benefits from the central government, such as additional funding, supply of additional coal at notified prices and low cost power. The outcome targets include reduction of AT&C losses to 15%, and eliminating the gap between average cost and tariff by 2018-19. The scheme will be optional for states.

Lack of financial support for the provider of last resort

Bill:
Clauses
2(xxii), 30

The Bill provides that electricity will be supplied by a provider of last resort (POLR) if the supply licensee chosen by a consumer (i) ceases to be a supply licensee, or (ii) is suspended for any reason. The POLR will be a supply licensee who, from time to time, will be designated by the SERC. Becoming a POLR may have adverse financial implications on the supply licensee. While the Bill requires a supply licensee to perform this role, it does not envisage any financial support for the POLR.

If a POLR inherits a low end consumer base (such as agriculture), or a consumer base with a poor record of payments, it may face an additional financial burden. Further, in the absence of details (such as load profile, number of connections) of the consumer base it may inherit, a supply licensee may find it difficult to anticipate the additional financial burden it may incur.

Some countries that have a provision for a POLR provide financial support for such a supply licensee. In the United Kingdom, the Gas and Electricity Markets Authority, under the Electricity Act, 1989 provides for a Last Resort Supply Payment.²³ It is a sum of money payable to the licensee to compensate for any additional costs it incurs in its role as a supplier of last resort. In Texas, United States, under the Public Utility Regulatory Act of Texas, the POLR service is priced higher. This is due to (i) the costs associated with, and (ii) the risk of serving an uncertain number of customers with uncertain electricity loads.²⁴

Observations and recommendations of the Standing Committee

The Standing Committee on Energy (Chair: Mr. Kirit Somaiya) examining the Electricity (Amendment) Bill, 2014 submitted its report on May 7, 2015.²⁵ Key observations and recommendations of the Committee include:

- **Clarity on segregation:** Greater clarity should be provided about the level and manner of implementing the segregation of distribution and supply. In this regard, broad and flexible guidelines should be framed giving states due scope to align them as per their conditions.
- **Determination of parameters:** Granting of licenses should not be left completely to the discretion of the Commissions. Some well defined parameters should be laid down to reduce the discretionary and arbitrary powers of the Commissions. These parameters should also divide the consumers for supply on the basis of their status, cross-subsidies paid to them, and the nature of technical and commercial losses.
- **Reducing renewable generation obligation:** Due to the intermittent nature of renewable energy, making the renewable energy generation obligation mandatory to a certain percentage may lead to problems. However, there must be a minimum obligation to promote renewable energy. The Committee recommended keeping the renewable generation obligation at five percent instead of the prescribed 10 percent in the Bill.

Notes

1. This Brief has been written on the basis of the Electricity (Amendment) Bill, 2014 which was introduced in Lok Sabha on December, 2014. The Bill was referred to the Standing Committee on Energy on December 22, 2014. The Committee submitted its report on May 7, 2015.
2. 14th Report: Transmission and Distribution Systems and Networks, Standing Committee on Energy, March 18, 2011, http://164.100.47.134/lssccommittee/Energy/15_Energy_14.pdf.
3. Power Sector Reforms in Odisha: Major Issues and Challenges, Government of Odisha, April 2012, <http://odisha.gov.in/e-magazine/Orissareview/2012/April/engpdf/53-62.pdf>.
4. Currently, at the level of retail supply of electricity, different consumers buy electricity at different rates. Agricultural and residential consumers, who comprise about 85% of the consumer base, buy electricity at a cost lower than the cost to supply. Industrial and commercial consumers on the other hand buy electricity at much higher rates. The industrial and commercial consumers end up cross-subsidising the residential and agricultural consumers.
5. Item 38 of List III (Concurrent List) in the Seventh Schedule to the Constitution of India.
6. Introducing competition in retail supply in electricity, Forum of Regulators, July 2013.
7. Executive Summary: Power Sector, Ministry of Power, May 2015, <http://www.cea.nic.in>.
8. Growth in transmission sector, Ministry of Power, last accessed on September 30, 2015, <http://powermin.nic.in/growth-transmission-sector>.
9. Open access enables consumers to buy power from any source through non-discriminatory access to transmission and distribution lines.
10. Section 14, Proviso 6, Electricity Act, 2003.
11. Parallel licensing is when multiple licences are issued to distribution companies to supply electricity in a specific area of supply using their own distribution network.
12. Statement of Objects and Reasons, Electricity (Amendment) Bill, 2014.
13. OP No.1 Of 2011, Appellate Tribunal for Electricity, November 11, 2011, pages 8 and 9, <http://aptel.gov.in/judgements/OP%20NO.1%20OF%202011.pdf>.
14. Power sector operations and impact on state finances, Volume I: All India summary of key aspects of power sector, 14th Finance Commission Report, Chapter III, http://fincomindia.nic.in/writereaddata%5Chtml_en_files%5Cfincom14/others/41.pdf.
15. Annual Report (2013-14) on the Working of State Power Utilities & Electricity Departments, Planning Commission, February 2014, http://planningcommission.gov.in/reports/genrep/rep_arpower0306.pdf.
16. Section 4, Competition Act, 2002. This Section says that an enterprise may not abuse its dominant position, including through predatory pricing. Predatory pricing is the sale at a price below the cost with a view to reduce competition.
17. Reports on the performance of state power utilities for the years 2004-05 to 2013-14, Power Finance Corporation, <http://www.pfcindia.com>.
18. Lok Sabha Unstarred Question No 2007, Ministry of Power, December 4, 2014, <http://164.100.47.132/LssNew/psearch/QResult16.aspx?qref=7881>.
19. How much electricity is lost in transmission and distribution in the United States, Frequently Asked Questions, US Energy Information Administration, July 10, 2015, <http://www.eia.gov/tools/faqs/faq.cfm?id=105&t=3>.
20. Energy Efficiency Directive: An assessment of the energy efficiency potential of Great Britain's gas and electricity infrastructure, Office of Gas and Electricity Markets, June 16, 2015, https://www.ofgem.gov.uk/sites/default/files/docs/2015/06/energy_efficiency_directive_report_-_final_for_publication.pdf.
21. 77th Report: Accelerated Power Development and Reform Programme (APDRP), Public Accounts Committee, October 23, 2008, http://164.100.47.134/lssccommittee/Public%20Accounts/14_Public%20Accounts_77.pdf.
22. UDAY (Ujwal DISCOM Assurance Yojana), Ministry of Power, November 20, 2015, http://powermin.nic.in/upload/pdf/Uday_Ujjawal_Scheme_for_Operational_and_financial_Turnaround_of_power_distribution_companies.pdf.
23. Electricity Act, 1989: Standard conditions of electricity supply licence consolidated to August 9, 2015, <https://epr.ofgem.gov.uk/Content/Documents/Electricity%20Supply%20Standard%20Licence%20Conditions%20Consolidated%20-%20Current%20Version.pdf>.
24. Provider of Last Resort, Public Utility Commission of Texas, last accessed on September 30, 2015, <https://www.puc.texas.gov/consumer/electricity/polr.aspx>.
25. 4th Report: Electricity (Amendment) Bill, 2014, Standing Committee on Energy, May 7, 2015, <http://www.prsindia.org/uploads/media/Electricity/SC%20report-Electricity.pdf>.

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