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ELECTRICITY THEFT IN INDIA

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ABSTRACT

The electrical industry has been stymied for years by the danger of power theft. It slows down development, since it has varying degrees of impact on residential, business, and industrial customers. Due to the fact that electricity thieves have caught up to contemporary metering technologies, the industry is in financial crisis. This study examines the political, social, and economic factors of power theft. It looks at the complex legislative structure that governs power theft management and the role that officials play in reducing theft and maintaining good governance in the industry. In addition, it attempts to detail a wide variety of technological and non-technical strategies for controlling power theft. Finally, it recommends reassessing power theft management policies in order to better tackle the uphill task of identifying and apprehending the unseen thieves.

INTRODUCTION

While there are numerous causes of power loss throughout transmission and commercial use, theft is often cited as the primary factor. Many jurisdictions have passed laws that make it illegal to steal power and impose penalties for the various behaviors that constitute electricity theft. One of India's most pressing problems is the widespread theft of electricity. The Electricity Act of 2003 was designed to govern the industry and prevent the theft of electricity. It serves as a deterrent penalty, decreasing power theft and associated crimes. Electricity theft is defined by Section 135 of the Electricity Act 2003. The electric company has the right to cut off service immediately upon discovering power theft. The penalty for power theft is three times the financial benefit as a result of such theft. In the event of a second offense, the offender faces a ban on electrical service that may extend to two years and is guaranteed to last no less than three months.

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Power theft refers to the illegal acquisition of energy from an electrical grid. In India, electricity companies lose billions of rupees annually due to theft. It takes technical knowledge and competence to employ electronic equipment to stop the meter or reverse it by opening the meter without breaking the seal. Another method to steal power is to tamper with the machinery that facilitates the usage of a two-rate tariff.[2] Additionally, squatters look for abandoned homes and use a supply line with a broken meter.

Techniques of electricity theft

- Meters : Meters and seals may be broken to prevent the mechanical disc from spinning. Alternatively, one may illegally connect to the fuse and stop the meter's spinning disc from moving, thereby preventing the meter from registering energy usage. Destruction or elimination of the meters is another prevalent tactic. The meter can be opened without compromising the seals and the dials can be turned around, but this is a laborious process that calls for an expert's touch. Depending on the nature of the electronic meter, an electrostatic discharge might do either temporary or permanent harm.
- Wires/cables : Power is stolen from wires and cables when someone unlawfully taps into exposed wires or buried connections. To do this using wires, you must first remove the circuit wire from the terminal block and then install a triple breaker.
- Transformers : Terminal tapping of low-voltage overhead wires is the equivalent of stealing from the low-voltage side of a transformer. The two most common methods of tapping are the "fish pole" and "flying" connections.
- Misuse or diversion of service connection : Only the permitted load should be applied to an electrical connection. If the connection is made for residential usage, for instance, it may only be accessed from approved residences. It is not acceptable to use the service connection for commercial, industrial, building, etc. reasons. This is an instance of electrical theft.

SOCIO-POLITICAL FACTORS LEADING TO POWER THEFT

[2] K. Rajendra & V. Anusha Chand, Controlling of Power Theft and Revenue Losses by Using Wireless Techniques. 4 INTERNATIONAL JOURNAL OF ENG. RESEARCH AND GEN. SCIENCE 2091-730 (2016), http://pnrsolution.org/Datacenter/Vol4/Issue1/52.pdf.

Ignoring the problem of power theft is futile. The Advanced Metering Infrastructure System, which utilizes smart meters and two-way communication networks, has fallen behind the technological capabilities of electricity thieves. The energy meter may be turned off remotely, so no units are recorded even while power is being used.[3] Nearly 80% of all theft occurs in private homes, while the remaining 20% occurs in businesses and factories.[4]

Theft by employees is a prevalent problem. Because of the damage caused by workers' collusion, power companies have instituted stringent new rules. Industries in Byrnihat, Meghalaya, are suspected of working with Meghalaya Energy Corporation Limited employees to devise covert techniques to illegally siphon power.[5] In Haryana, a violation of the Electricity Act and the Haryana Civil Service Rules of 2016 might result in severe disciplinary action for an employee.[6] In addition, disciplinary measures within the department would be taken against these workers.

Theft of energy is a common practice among homeowners who want to reduce their monthly utility costs and the associated taxes. Power outages and subsequent theft are common in rural regions. They resort to power theft to avoid compliance costs during power outages, peak hours, and reconnections. Because of the perceived ineptitude of the authorities, energy theft is condoned in these communities. Tata Power Delhi Distribution Limited's raid team, along with local police, were attacked by local strongmen in the hamlet of Bajitpur, which recorded a loss of over 49%.[7]

Areas with a lot of government and farms tend to have a lot of energy going to waste. Theft is a major problem in the agricultural sector since farms are often situated in remote areas,

[3] Ashish Roy, Power theft via ultra-modern device detected, TIMES OF INDIA (June 1, 2012)

https://timesofindia.indiatimes.com/city/nagpur/power-theft-via-ultra-modern-device-detected/articleshow/13696397.cms

[4] G Sreenivasan, Power Theft (4th ed. 2016).

[5] https://assamtribune.com/probe-unearths-massive-power-theft-at-byrnihat-industrial-area/

[6] Power theft: Haryana to act against government employees, BUSINESS STANDARD (Apr. 10, 2017), https://www.business-standard.com/article/news-ians/power-theft-haryana-to-act-against-government-employees-117041000482_1.html.

[7] Delhi discom claims annual loss of Rs 150 crore due to power theft, TIMES OF INDIA.

distant from power plants and other industrial facilities. Long distances unavoidably impair the quality of the power supply, and in less efficient systems, these losses are magnified.[8]

One strategy often used by those in power is to just ignore stealing. Utilities are also plagued by the absence of political will. Relaxing tax regulations has been shown to be a vote-getter for political parties, particularly in agricultural and rural regions. Politicians have subsidized or even made power free for residents while charging businesses more.[9] Thus, they consider access to unlimited, cost-free power a fundamental entitlement.[10] However, as businesses and industries were taxed more, many turned to thievery as a means of saving money.

ECONOMIC REPERCUSSIONS OF POWER THEFT

Due to electricity theft, global power companies lose $25 billion yearly. To the tune of 50 percent,[11] power is lost to theft in poor nations.[12] Averaged throughout the whole of India, the Aggregate Technical and Commercial (AT&C) losses amount to 34%. This number may go as high as 65%. Consequently, the yearly cost of theft was calculated to be 2000 crore.[13]

Utilities have been driven to bankruptcy due to mounting losses brought on by inefficiency, corruption, and excessive subsidies, leaving them unable to afford the cost of the electricity they buy.[14] In addition, the loss caused by electricity theft prohibits lowering consumer rates and agricultural subsidies. It prevents low-income people from having access to power. To raise living standards, it is necessary to put an end to financial losses caused by electricity theft.

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[8] Miriam Golden & Brian Min, Theft and Loss of Electricity in an Indian State (International Growth Centre, Working Paper, 2012).

[9] India's power sector reforms: Who reaped the benefits? IDEAS FOR INDIA (May 2, 2014), https://www.ideasforindia.in/topics/governance/indias-power-sector-reforms-who-reaped-the-benefits.html

[10] https://www.osti.gov/etdeweb/servlets/purl/21390277.

[11] Electricity theft: Overview, issues, prevention and a smart meter based approach to control theft https://www.sciencedirect.com/science/article/abs/pii/S030142151000861X.

[12] http://www.provedor.nuca.ie.ufrj.br/eletrobras/estudos/smith1.pdf.

[13] Supra note 9.

[14] ARUNDHATI ROY, POWER POLITICS: THE REINCARNATION OF RUMPELSTILTSKIN (2001).

When it comes to collecting penalties for electricity theft, vigilance devices have proven very effective. In a period of 5 months, the Jaipur distribution firm (DISCOM) discovered over 28,000 instances of power theft and unauthorized usage, resulting in 91 crore in penalties and income.[15]

LAWS GOVERNING ELECTRICITY THEFT

Penalty and offences of electricity theft are governed by the Electricity Act, 2003 which are mentioned below:

- Section 135, The Electricity Act, 2003: It includes activities such as tapping into power lines, tampering with electricity meters or transformers, or employing devices that prevent the proper reading of electric meters, cause damage to such equipment, or use electricity for unapproved purposes. It explains the maximum penalty imposed on a person who steals electricity, depending on the quantity of load taken and the number of times the offence has been committed.
- Section 136, The Electricity Act, 2003: When someone obtains possession of wire, transports the wire or material from one location to another, or uses the wire without the supplier's consent, he will be punished.
- Section 137, The Electricity Act, 2003: Whoever obtains a stolen electric line or material dishonestly, knowing or having cause to think it is stolen property, is penalised by imprisonment of either kind for a period up to three years, a fine, or both.
- Section 138, The Electricity Act, 2003: Someone who unauthorisedly attaches, injures or disconnects any metre, indication, or device from any electric line through which power is provided by a licensee shall be punished with imrisonment for a term which may extend to three years or with fine upto ten thousand or with both.

PREVENTIVE MEASURES & SOLUTIONS

- Smart meters are a useful technical tool for detecting and deterring the theft of power and other forms of electrical system manipulation. Smart meters, in their most basic

[15] Anti-power theft campaign fetches Jaipur Discom Rs 91 crore, ECONOMIC TIMES, https://energy.economictimes.indiatimes.com/news/power/anti-power-theft-campaign-fetches-jaipur-discom-rs-91-crore/71868097.

definition, are electronic devices that measure electrical use at regular intervals and relay that information in real time to the utility company. Similarly, utilities may remotely cut off power to unpaid homes or businesses by monitoring their use using smart meters. Any effort to tamper with a smart meter will trigger an instant alert.

- Utility companies urge users to report power theft, often providing substantial prizes for information on any individual stealing electricity. For reporting energy theft, TANGEDCO[16] offers a monetary prize of up to Rs. 20,000/-. Employees of the board who are responsible for identifying energy theft are also rewarded monetarily for their efforts.
- Utilities execute enforcement by means of regular checks in order to find and stop theft. In Tamil Nadu, for instance, 17 such squads have been deployed around the state. The enforcement wing also includes the flying squad/Chennai and the intelligence squads in addition to the enforcement squads itself.
- The Ministry of Power is helping States improve their systems by facilitating computerization of distribution infrastructure, feeder metering, feeder segregation, and monitoring of AT&C loss trajectories through programmes like the Integrated Power Development Scheme (IPDS) and the Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY).

In order to track and stop these distribution losses, KLG Systel, an IT business, developed Vidushi, a power system solution that includes a remote controller, communication hardware utilizing GPRS/CDMA, theft prevention hardware, and an automated meter reading system, all mounted on a broadband backbone.

Network management is inefficient, and metering is poor, despite the fact that the number of customers of distributed power is estimated to be approximately 13 crore and rising by roughly 9% yearly. In addition, small and medium-sized businesses, as well as illegal families, have committed theft as a result of tariff systems that benefit the agricultural sector at the expense of the commercial and industrial sectors.

There are two axes of operation for the Vidushi solution. To begin, an in-depth GIS mapping is used to do a once-and-for-all customer indexing. After that, the distribution system is

[16]Tamil Nadu Generating and Distribution Company.

reworked with the help of the already present meters, network cables, transformers, and substations, and the reinstalled meters are equipped with digital connection management modules for remote online monitoring.

When turned on, the system records information such as current power use, the reconciliation of distribution transformer pole-by-pole and consumer-by-consumer in real time, and the input and output of power. Moreover, if electricity is stolen, the metre is tampered with, or an overload is detected, the system will immediately cut power.

Even at the level of the individual customer, the power may be shut off, and the power can be restored only by automated computer systems. In addition to preventing power theft, Vidushi can optimise network implementation to decrease technical loss, shorten billing cycles, and improve load forecasting and demand management.

Another company that offers a solution to reduce power outages and theft is HCL Infosystem. There is a clear opening for private companies to deliver IT systems, first on a cost plus basis and subsequently, if the implementation is successful, on a commission basis. Likewise, the SEBs would be more than willing to split the bill for some of the costs they are now unable to recoup.

CONCLUSION

Promoting effective governance in the industry is the first step toward revolutionizing the management of power theft. To adequately address socio-economic variables, the institutional architecture of suppliers and licensees should include a relationship with civil society. Although it may be unrealistic to include all of these stakeholders in the regulatory process for fees, it is important that the utility, investors, customers, and the government all have a voice in the process. Inadequate leadership contributes to the theft of electricity.[17] Regulators must be held responsible for creating a climate in which providers may thrive in order to create a non-partisan, independent governance system.

Another important step in discouraging electricity theft and preventing the aggressive inclinations of rural customers against inspection teams is a transformation in the political attitude and perception of the people. The quality of public service, the competence and

[17] Thomas B. Smith, Electricity theft: a comparative analysis, 32 ENERGY POLICY 2067–76 (2004).

knowledge of officers, and the absence of political pressure all contribute to the vigilance mechanism's efficacy. Power theft management should regulate the ebb and flow of energy to release avalanches of invention and technological progress. Whether or if this leads to an improved quality of life is an open subject.