A Review on Electricity Theft in India

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***Abstract*—** The paper discusses the data prevails to power theft in India. The case study of economic burden on electricity department from UP, Haryana, New Delhi, Madhya Pradesh is presented. Information about revenue losses of the country due to power thefts, has been provided. Various power thefts that are being taken place in the country are shown. The reasons behind power thefts in India are explained. Electricity theft detection should be developed to solve the problem of human inspection as the system requires no manpower.

Keywords— *Power theft, economic burden, impact of power theft on economy.*

I. INTRODUCTION

Electricity is a necessary energy for our daily life. With the increasing demand of electricity; power theft is also increasing which affects the power sector across the whole country. It is unfortunate that in spite of all the measures taken by the Central and State governments, the power sector organizations are still facing huge losses. Power theft leads to the loss of government revenues, reduces the ability of the public sector to pay for the maintenance of existing facilities or to invest in new power generation, it places an unexpected strain on already taxed and often inadequate infrastructure and it increases the risk of power shortages [1]. Two severe power blackouts affected most of northern and eastern India on 30 and 31 July 2012. The 30 July 2012 blackout affected over 300 million people and was briefly the largest power outage in history by number of people affected, beating the January 2001 blackout in Northern India (230 million affected). The blackout on 31 July is the largest power outage in history. The outage affected more than 620 million people, about 9% of the world population, or half of India's population, spread across 22 states in Northern, Eastern, and Northeast India [2].

II. RELATED WORK

Cases of power theft in different states of India are as follows: Uttar Pradesh is the country's biggest center of power thefts. The state also has the country's most inefficient power sector. The state is also blamed for overdrawing electricity from the national grid through illegal means. So, it can be concluded that power theft in India is not limited to domestic households rather industries and States also steal power. Currently, the state is reeling under severe power shortage with only select urban centers getting uninterrupted power supply. Besides, the overburdened and rickety power infrastructure of sub-stations and transformers in UP are resulting in breakdown and unscheduled outages and power cuts [3]. In Haryana the Haryana government has also taken initiative to control power theft by introducing a scheme called 'theft informer scheme' where they reward the power theft informers with cash. The officials who detect the theft are also rewarded under this scheme. Theft of electricity worth Rs 14.6 lakh has been found in Ambala circle, Rs 52,000 in Yamunanagar circle Yamunanagar, Rs 2.89 lakh in Panipat, Rs 2.23 lakh in Sonepat, Rs 2.26 lakh in Rohtak, Rs 58,000 in Kurukshetra, Rs 9.51 lakh in Kaithal, Rs 1.95 lakh in Karnal, and Rs 3.93 lakh in Jhajjar Circle, the release said. On the other hand, power theft worth Rs 4.81 lakh was detected in Jind of southern Haryana, Rs 10.86 lakh in Faridabad, Rs 7.58 lakh in Hisar, Rs 81,000 in Sirsa, Rs 4. 32 lakhs in Bhiwani, Rs 8.37 lakh in Gurugram-1, Rs 1.75 lakh in Gurugram-II, Rs 5.08 lakh in Narnaul, Rs 3.45 lakh in Rewari 3.45 and Rs 3.28 lakh in Palwal Circle [4]. In New Delhi Power theft across parts of North, West and East Delhi, even by families having metered connections, is affecting uninterrupted electricity supply in the national capital, which has been hit by a spate of outages of late, authorities claim. Aggregate technical and commercial losses (AT&C), which is a combination of power loss during transmission and through theft, is up to 60 per cent in outer Delhi areas such as Burari, Najafgarh and Wazirabad among others, officials said. The officials identified areas such as Jaffarpur, Mundka, Karawal Nagar, Seelampur, Mandawali, Chandni Mahal and Jehangirpuri among others where AT&C losses range between 25 per cent to 60 per cent. According to an estimate, Delhi loses around Rs 1,000-1,300 crore annually due to power theft [5]. In Madhya Pradesh One man in every three minutes was caught stealing power in 2017. The startling fact came out in latest figures compiled by distribution companies. As per official information, 1.93 lakh people were caught stealing power between April 2016 and January 2017 by vigilance teams of power discoms. The annual revenue requirement (ARR) filed by distribution companies before Madhya Pradesh Electricity Regulatory Commission (MPERC) puts distribution losses at 14,255 million units of power. In terms of rupee value, the lost power is worth Rs 4,900 crore. In Madhya Pradesh, power companies reported average loss of around 23% against the commission's 17% standard for current financial year [6]. Reasons behind power theft in India are as follows: Illegal consumption of electricity takes places in most agricultural areas. Many farmers tend to have financial problems and for them, electricity theft is much easier than paying the electricity bills. Even though the tariff rate for agricultural connections is quite less, the farmers use electricity illegally, without being aware of the end results and its impact on others, by connecting high loads like tube wells, irrigational pumps etc. which lead to a high electricity consumption. An unemployed person does not want to spend money on electricity bills but he still wants to have the basic commodity of electricity. Thus, unemployment leads to greater electricity theft as an unemployed person will indulge others too in this act. Corruption is the devil behind electricity theft. Employees of the utility take bribe from the people indulged in electricity theft to prevent the culprits from getting caught. They may even extort money from electricity consumers not to reveal theft case to higher authorities. Absence of reporting about corrupt behavior & no strict vigilance motivates the people to steal electricity freely. Thus, high corruption index of the area encourages electricity theft. Electricity theft cases are more probable in highly populated areas because the possibility of finding theft done by hooking techniques and other illegal methods is very less.

As in crowded areas, there is a mesh of transmission lines which do not allow any hook connection to be visible. Literacy is the main factor which reduces electricity theft. Illiterate people don't know the negative effects of stealing electricity and they do it just to save their money. Thus, they turn doing theft of electricity into a habit. In Sohna, around 60% males are literate and only 40% females are literate which supports their habit of stealing power. In urban areas, electricity theft does not happen as often as in the rural areas. People who live in urban areas are aware of the consequences of stealing power so they do not perform this act often whereas people who live in rural areas regard electricity theft as a routine activity and not as a criminal act. Probability of detection and fine amounts: Probability of getting caught reduces the chances of electricity theft. Electricity theft also includes the non-payment of electricity bills. A company due to many factors like corruption, lack of man power, fear of going into criminal area etc. may not be able to collect all receivables due from consumers. Sometimes, company officers do not take strict action against people who have not paid their electricity bills due to various reasons like fear, corruption etc. Thus, low collection efficiency increases the cases of electricity theft by giving the opportunity to people who steal electricity fearlessly [7].

III. CONCLUSION

It can be concluded that economy of our country has been badly affected due to power theft. The need of inspecting the energy theft is increasing day by day due to increasing power thefts. The country is bearing revenue losses that occur due to power theft by the customers. The cases of power theft in different states of India shows that the power consumption does not meet energy demands in the country. The issues of overload and power thefts are discovered. The most common reasons for electricity theft are corruption, unemployment and population which needs to be solved.

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