



NATIONAL
ELECTRIC POWER
REGULATORY
AUTHORITY

2018-19 Performance Evaluation Report

DISCOs & K-Electric

With a comparison to 2014-15 through 2017-18

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EXECUTIVE SUMMARY

Under Performance Standards (Distribution) Rules (PSDR) 2005, each distribution company is required to submit to NEPRA an Annual Performance Report (APR) in a prescribed format. The APRs for the year 2018-19, submitted by the distribution licensees, were reviewed on the basis of parameters namely, Transmission and Distribution (T&D) Losses, Recovery, System Average Interruption Frequency Index (SAIFI), System Average Interruption Duration Index (SAIDI), Time frame for New Connection, Load Shedding, Nominal Voltage, Consumer Complaints, Safety, and Fault Rate.

Based on the data submitted by the distribution companies, a comprehensive report namely “Performance Evaluation Report (PER)” indicating the compliance level with Performance Standards by the distribution companies is prepared. The report provides the analysis of data for the FY 2018-19 along with comparison of last four years i.e. 2014-15, 2015-16, 2016-17 and 2017-18. It is noted with concern that FY 2018-19 also did not witness any major improvement in the performance of distribution companies. Similarly, the issue of collecting authentic data remained a challenge for NEPRA.

During analysis of the data submitted by the distribution companies for the year 2018-19, following major observations have been noted:

T&D Losses: In order to make technically and financially sound a distribution company, T&D losses is an important parameter and most debatable in the power sector. NEPRA being a Regulator has been advising and directing the DISCOs for taking effective measures to maintain their losses closer to the NEPRA targets. But unfortunately, all DISCOs have breached the NEPRA determined targets except GEPCO and FESCO and contributed a loss of around **Rs. 38 billion** to national exchequer. Particularly, PESCO, HESCO, SEPCO and QESCO have shown the worst performance among all DISCOs in this regard. It is pertinent to highlight that NEPRA has allowed huge investment/O&M funds every year to DISCOs, so that proper and timely steps including removal of system constraints, reduction in length of feeders, automated metering and preventive maintenance etc. can be taken by DISCOs. However, DISCOs have remained reluctant to undertake such projects/works.

Recovery: Distribution Companies has to realize that collection of maximum revenues is the only reason to maintain their financial health. The same can also play an effective role in reducing the burden of circular debt. However, the situation is reciprocal and DISCOs (QESCO, SEPCO and HESCO, PESCO and IESCO) have failed to achieve full recoveries in FY 2018-19. This has resulted in a huge loss to national exchequer i.e. **Rs. 171.5 billion** which is 200% more than the last year i.e. 2017-18. It is relevant to state that the low recovery ratios have effectively crumbled the revenues beyond acceptable levels and no significant improvement has been observed despite continuous regulatory directions to the poor performing DISCOs.

Time Frame for New Connection: The report contains two types of data related to pendency of ripe connections. One is for FY 2018-19 and second is for the period of July to December, 2019. The data submitted by DISCOs for the FY 2018-19 does not reflect ground realities as NEPRA team during visits of different DISCOs found that 100 to 200 connections per sub-division were pending since last six months. Whereas, the data shows that IESCO, PESCO and HESCO have provided almost 100% percent connections within the time frame as prescribed in PSDR 2005. Further,

LESCO, QESCO and K-Electric have submitted that they have also provided more than 95% of applied connections in 2018-19.

On the other hand, the data pertaining to pending ripe connections from July-December, 2019 seems somehow realistic, but shows miserable figure i.e. 215,544. It is a known fact that power generation is available in abundance and capacity payments are being made for such huge capacity. Whereas in comparison of such ample generation, electricity demand has not been arising as per forecasted results and this has created a big gap between demand and supply which is increasing year by year. In such scenario, non-provision of new connections by the distribution companies actually shows their non-seriousness towards the increase in revenues subsequently reduction in circular debt and ultimately betterment of power sector.

Load Shedding: Although the duration of load shedding has been decreased in FY 2018-19 as compared to previous years, but it can be eliminated if DISCOs avail 100% of their allocated quota of power. During the reported period, it came to the knowledge of NEPRA that DISCOs are carrying out load management as per AT&C losses criteria. But it is a matter of concern that criteria set by the DISCOs is not in line with the requirements of NEPRA Performance Standards. Therefore, DISCOs are required to submit their proposals regarding amendment in the said Rule of Performance Standards or revise their criteria as per NEPRA laws.

Consumer Complaints: According to the NEPRA's Mission Statement, it is the duty of Regulator to take care of consumer interests along with investors and other stakeholders. In this regard, NEPRA regularly monitors the complaint handling mechanism of distribution companies and issue directions to provide maximum relief to their consumers by resolving their complaints timely. But unfortunately, NEPRA team during visits of different DISCOs found complaint centers in poor and deteriorated conditions. No proper telephone sets and registers to enter the complaint are available and even the staff was found unaware about such mechanism. NEPRA has serious reservations over the data submitted by the distribution companies which shows that SEPCO did not receive any single complaint in a day in any of its complaint center. Similarly, PESCO, MEPCO, QESCO, FESCO and HESCO also received only 2 to 3 complaints per day in each of their complaint centers in FY 2018-19.

Safety: FY 2018-19 has given a dreadful picture with respect to number of fatalities both for employees and public occurred in all distribution companies i.e. **175** which is around **14%** more than the last year 2017-18. The report also depicts a terrible figure of fatal accidents for the period from July to December, 2019 i.e. **120**. During both the periods, KE's share remained high with the number of 54 and 52 followed by PESCO and IESCO. NEPRA Authority took serious notice of such increasing number of fatalities in Karachi and service territories of PESCO and IESCO and decided to conduct investigations under Section 27A of the NEPRA Act. Accordingly, investigation against K-Electric was conducted and based on the findings of investigation report K-Electric has been penalized by Rs. 50 Million along with some directions particularly regarding completion of earthing/grounding of its distribution system in order to adhere with safety standards and develop safety culture in its service territory. Further, investigations against PESCO and IESCO on account of fatal accidents occurred during the period of July to Dec, 2019 are ongoing.

NEPRA always considers the safety as most significant parameter in the assessment of DISCO's performance. DISCOs are persistently advised to comply with prescribed safety standards in letter and spirit.

It is relevant to state that during the FY 2018-19, NEPRA continued monitoring activities including data verification and found that the data submitted by the distribution companies is significantly fudged. Accordingly, NEPRA took serious actions and legal proceedings against PESCO, IESCO, MEPCO and K-Electric were initiated due to non-compliance with Performance Standards and Codes of Conduct and also due to misreporting of data. After following whole process including hearing opportunities, PESCO, IESCO and K-Electric were penalized with the fines of Rs. 06 Million, Rs. 04 Million and Rs. 03 Million respectively. Whereas, proceedings against MEPCO are ongoing. Previously in the FY 2017-18, LESCO, FESCO, GEPCO were penalized with the fine amounts of Rs. 04 Million each. Moreover, SEPCO and HESCO were also penalized with the fines of Rs. 06 Million and Rs. 05 Million respectively. Therefore, this year NEPRA has also decided to abandon the exercise of Performance Ranking of distribution companies till the time, reliable data is received. It is worth mentioning that DISCOs have no concept of computerized data base system which is necessary requirement of Performance Standards (Distribution) Rules 2005.

Performance of distribution companies throughout this period does not meet the objectives of power sector reforms. The Regulator observes that under the given scenario the existing set up would not be able to deliver, therefore, it is recommended that structural changes like independence of DISCOs with complete financial controls may be given due consideration to save the sector.

1. INTRODUCTION:

As per rule 7 of Performance Standards (Distribution) Rules (PSDR) 2005, each distribution company has to submit to the Authority an Annual Performance Report every year, before 31st of August of the succeeding year in the prescribed format.

The Annual Performance Reports should include at least the following information:-

- (a) System Performance Reports
- (b) Consumer Service Performance Reports
- (c) Distribution Companies Written Report on Performance and Plans for Improvement

Rule 7(2) of PSDR states that the Annual Performance Report should also contain all relevant information with respect to compliance with these Rules during the year, including a comparison with the compliance report to Authority for the previous year.

This report contains analysis of performance parameters through descriptive & graphical representation based on the data reported by each distribution company for last five years. The analysis is based on the following parameters:-

- Transmission & Distribution Losses,
- Recovery in percentage,
- System Average Interruption Frequency Index (SAIFI),
- System Average Interruption Duration Index (SAIDI),
- Percentage consumers who were not given new connection in permitted time period,
- Total number of consumers who made complaints about Voltage,
- Average duration of load shedding (hrs.),
- Total Consumer Service Complaints received by DISCO during the year,
- Fault Rate (faults/km) of distribution system,
- Electrical incident resulting in death or permanent serious injury/disability to the member of staff or public.

2. ANALYSIS:

2.1 Transmission and Distribution (T&D) Losses:

Losses in the distribution of electricity cannot be eliminated but can be minimized by proper planning of the distribution systems.

Table 1 indicates the DISCO wise actual reported losses viz a viz figures allowed in their respective tariff determinations. An overall picture is also given which depicts that weighted average of 1.742 % losses occurred in excess as compared to the weighted average of allowed limit by NEPRA in FY 2018-19.

While reviewing the individual figures of losses as reported by DISCOs, it is observed that GEPCO and FESCO have met with Regulator's expectations followed by IESCO, K-Electric and MEPCO with slight difference.

Whereas, the performances of SEPCO, HESCO, QESCO and PESCO remained worse in this regard in FY 2018-19 as their %ages pertaining to breach of NEPRA target are on higher side which leads to increase in circular debt.

Name of DISCO	Actual Reported (%)	Allowed in Tariff (%)	Breach of Target (%)
(1)	(2)	(3)	4=(2-3)
PESCO	36.6	31.95	4.65
IESCO	8.86	8.65	0.21
GEPCO	9.87	10.03	(0.16)
FESCO	9.8	10.24	(0.44)
LESCO	13.2	11.76	1.44
MEPCO	15.8	15.00	0.8
QESCO	23.6	17.50	6.1
SEPCO	37.0	29.75	7.25
HESCO	29.5	22.59	6.91
K-Electric	19.1	18.75	0.35
W. Av:	17.923	16.181	1.742

TABLE 1

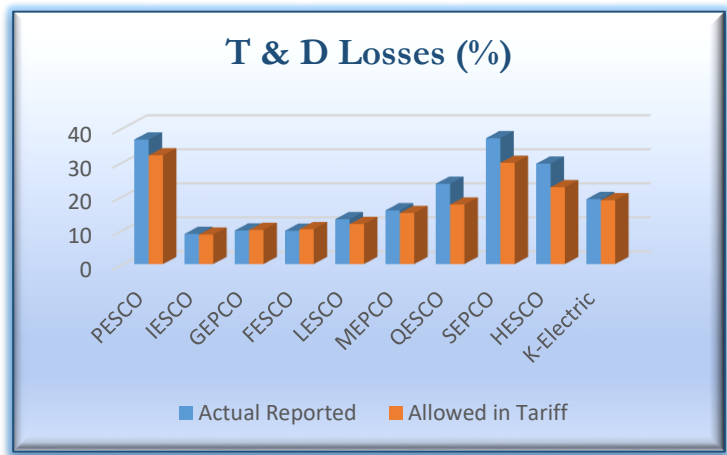


FIGURE 1

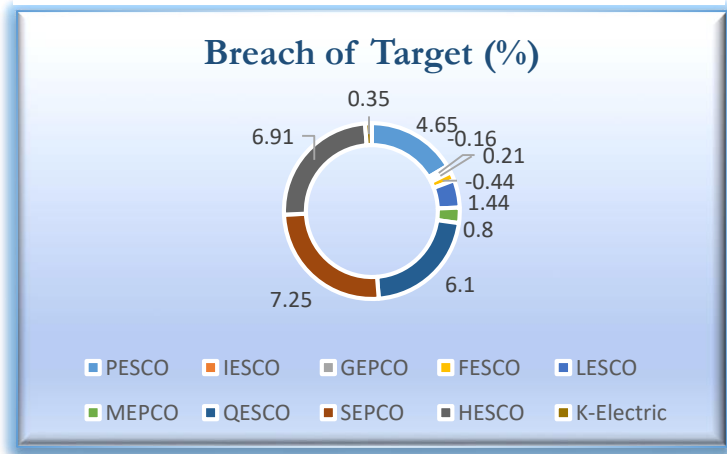


FIGURE 2

2.1.1 Financial Loss due to breach of T&D loss target by Distribution Companies:

Name of DISCO	Breach of Target (%)	Energy Purchased by DISCOs from CPPA (M. kWh) (July-Dec, 2018)	Energy Lost (M. kWh) (July-Dec, 2018)	Energy Purchased by DISCOs from CPPA (M. kWh) (Jan-June, 2019)	Energy Lost (M. kWh) (Jan-June, 2019)	Financial Loss inclusive FCA (Rs. Million) (July-Dec, 2018)	Financial Loss inclusive FCA (Rs. Million) (July-Dec, 2018)	Financial Loss (Million Rs.)
(1)	(2)	(3)	4=(2/100)*3	(5)	6=(2/100)*5	7=4*(applicable tariff)+FCA	8=6*(applicable tariff)+FCA	9=7+8
PESCO	4.65	8453.80	393.102	5973.54	277.77	6445.972	5548	11994
IESCO	0.21	6599.87	13.860	5237.93	11.00	193.319	63	256
GEPCO	(0.16)	6100.82	(9.761)	4999.15	(7.99)	(74.947)	(190)	(265)
FESCO	(0.44)	8263.16	(36.358)	6710.43	(29.56)	(448.490)	(583)	(1032)
LESCO	1.44	13157.42	189.467	11181.03	161.007	2384.697	2169	4553
MEPCO	0.8	10960.11	87.681	8402.86	67.223	1357.878	816	2174
QESCO	6.1	3509	214.037	2748.33	167.648	2715.156	2663	5378
SEPCO	7.25	2610.08	189.231	1801.49	130.608	3496.790	2454	5951
HESCO	6.91	3153.08	217.878	2403.68	166.094	4169.242	3504	7673
K-Electric	0.35	9168.27	32.089	8604.41	30.115	576.137	599	1175
Total		71975.61	1291.226	58062.85	973.915	20,815.754	17,043	37,875

TABLE 2

Table 2 illustrates the financial loss suffered by National Exchequer due to breach of NEPRA Targets by the Distribution Companies i.e. around **Rs. 38 Billion**. During analysis of DISCO wise financial loss, it is observed that PESCO has contributed highest followed by HESCO, SEPCO and QESCO.

Note: Above financial impact is calculated by considering notified rates of each DISCO for the years 2015-16 (notified on 22.03.2018 and existed for first six months of FY 2018-19) and 2017-18 (notified on 01.01.2019 and existed for remaining six months of FY 2018-19) along with FCA. For K-Electric, the financial impact is based on the average of quarterly tariffs as determined via Decision of NEPRA Authority dated 05.07.2018 in the matter of Reconsideration Request filed by the Federal Government regarding Multi Year Tariff (MYT) Petition of K-Electric for the period commencing from July 01, 2016 to June 30, 2023.

2.2 Recovery (%):

Recovery has a key role for the financial health of distribution companies. Considering its importance, NEPRA has made this parameter an essential component for DISCO's performance criteria. DISCOs are encouraged to achieve the rate of 100% recovery.

Name of DISCO	Actual Recovery (%)	Target (%)	Breach of Target (%)
(1)	(2)	(3)	4=(2-3)
PESCO	88.6	100	11.4
IESCO	88.0	100	12.0
GEPCO	98.0	100	2.0
FESCO	91.03	100	8.97
LESCO	97.67	100	2.33
MEPCO	99.80	100	0.20
QESCO	24.4	100	75.6
SEPCO	63.9	100	36.1
HESCO	74.5	100	25.5
K-Electric	92.6	100	7.4
Av:	89.26	100	10.74

TABLE 3

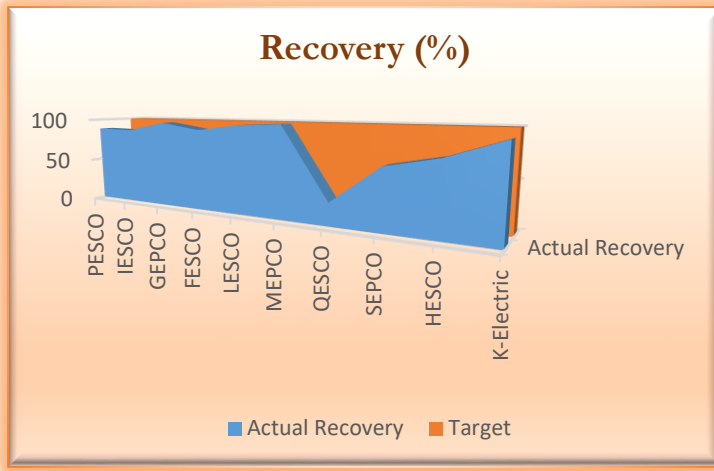


FIGURE 3

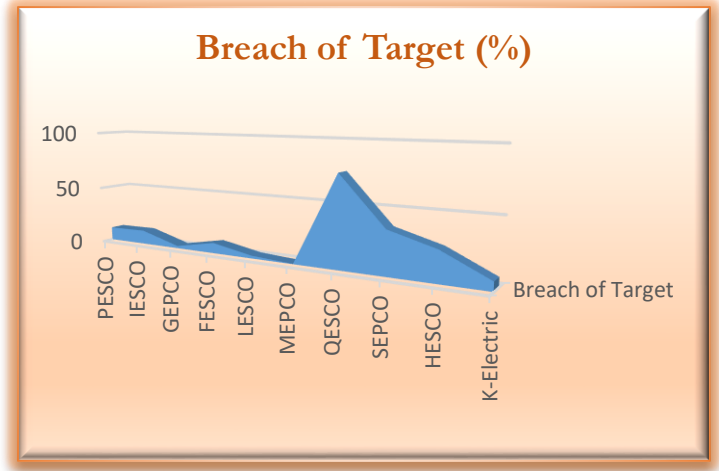


FIGURE 4

Above table and figures show the recovery positions and each DISCO along with breach of target i.e. 100%. It is pertinent to highlight that none of the DISCO has achieved the milestone of 100% recovery, however, MEPCO is very close to it followed by GEPCO and LESCO by showing their recoveries as 99.8%, 98% and 97.67%. It is noted with concern that QESCO has performed abnormally low and has achieved only 24.4% recovery. SEPCO and HESCO also performed poorly and need to improve their recoveries. Overall weighted average of **89.26%** recovery has been achieved by DISCOs against 100%.

2.2.1 Financial Loss due to breach of Recovery Targets by Distribution Companies:

Name of DISCO	Billing (Million Rs.)	Collection (Million Rs.)	Loss (Million Rs.)
(1)	(2)	(3)	4=(2-3)
PESCO	135,417.98	120,003.40	15,414.58
IESCO	176,112.00	154,293.00	21,819.00
GEPCO	142,059.00	138,780.00	3,279.00
FESCO	202,261.44	184,112.00	18,149.44
LESCO	325,614.50	318,043.29	7,571.21
MEPCO	209,568.41	209,146.19	422.22
QESCO	76,417.80	18,650.60	57,767.20
SEPCO	42,100.00	26,900.00	15,200.00
HESCO	59,054.80	43,978.90	15,075.90
K-Electric	228,638.00	211,757.00	16,881.00
Total	1,597,243.93	1,425,664.38	171,579.55

TABLE 4

Table 4 reveals the loss of revenue which was not recovered by the distribution companies due to their inefficiency. A total loss of **Rs. 171.5 Billion** was borne by the National Exchequer in FY 2018-19 which is very alarming and one of the main reason of continuous growing circular debt in Pakistan. QESCO's share seems very high i.e. more than Rs. 57 Billion as it has performed very badly in FY 2018-19.

It is surprisingly noted that after QESCO, IESCO is the second largest contributor in this huge revenue loss i.e. more than Rs. 20 Billion. Further, it is observed that FESCO and K-Electric have also lost significant revenues i.e. more than Rs. 15 Billion.

2.3 System Average Interruption Frequency Index (SAIFI – No.):

SAIFI is a Key Performance Indicator and is normally is used to assess the performance of company as a whole. It can be simply interpreted as “It is the average number of times that a consumer experiences an outage during a year.

According to Rule 4 (a) of Performance Standards (Distribution) Rules 2005, a distribution company shall ensure that the System Average Interruption Frequency Index (SAIFI) of supply of power per consumer per annum does not exceed thirteen (13). However, keeping in view the repeated requests of distribution companies and law & order situations in different areas of country, NEPRA Authority decided to set the targets for DISCOs by observing their historical data of last five years.

Accordingly, the Authority has set the targets of SAIFI for all DISCO except IESCO and GEPCO for FY 2018-19 based on the methodology i.e. 5% reduction over the mean value of their historic data of last five years. Please note that IESCO and GEPCO have already shown the compliance with prescribed standard of SAIFI. Further, the issue of collecting authentic data is a challenge for NEPRA which is being handled by carrying out regular monitoring of DISCOs.

Name of DISCO	Reported Figures (No.)	Target set by NEPRA (No.)	Breach of Target (No.)
(1)	(2)	(3)	4=(2-3)
PESCO	189.01	253.66	0
IESCO	0.05	13	0
GEPCO	27.13	13	14.13
FESCO	36.86	37.43	0
LESCO	30.19	41.88	0
MEPCO	369.16	142.61	226.55
QESCO	97.98	86.86	11.12
SEPCO	516.37	67.99	448.38
HESCO	170.86	123.40	47.46
K-Electric	28.95	17.20	11.75

TABLE 5

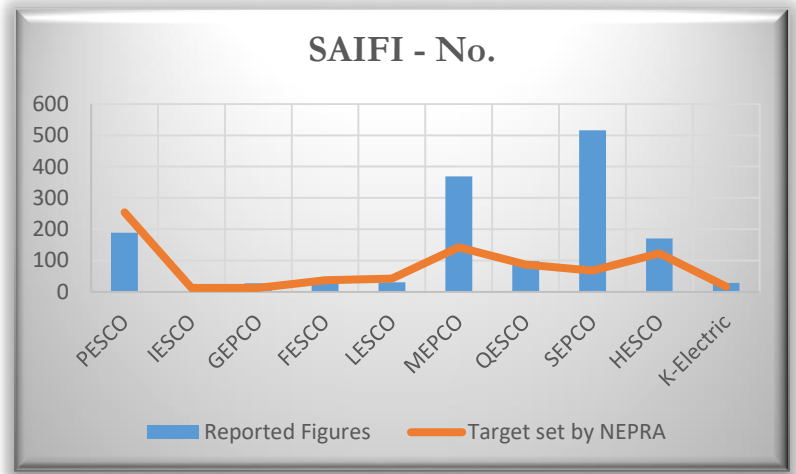


FIGURE 5

Above table highlights the DISCO's performance with respect to power supply interruptions faced by their consumers. While analyzing the data as given above, it is observed that PESCO, IESCO, FESCO and LESCO have complied with NEPRA targets. Whereas, remaining DISCOs need to work on it by carrying out maintenance activities on regular basis.

2.4 System Average Interruption Duration Index (SAIDI – Minutes):

SAIDI is also a Key Performance Indicator used to gauge the Company's performance in terms of duration (minutes) of outages for which consumer suffered in a year.

According to Rule 4 (b) of Performance Standards (Distribution) Rules 2005, a distribution company shall ensure that the System Average Duration Index (SAIDI) of supply of power per consumer per annum does not exceed fourteen (14). However, as like SAIFI, the Authority has set the targets of SAIDI for all DISCO except IESCO and GEPCO for FY 2018-19 based on the methodology i.e. 10% reduction over the mean value of their historic data of last five years.

Name of DISCO	Reported Figures (Min.)	Target set by NEPRA (Min.)	Breach of Target (Min.)
(1)	(2)	(3)	4=(2-3)
PESCO	16696.51	17358.60	0.00
IESCO	1.27	14	0.00
GEPCO	45.19	14	31.19
FESCO	1627.99	1605.08	22.91
LESCO	3538.93	716.81	2,822.12
MEPCO	31419.30	9704.00	21,715.3
QESCO	8402.4	3735.58	4,666.82
SEPCO	4306.74	606.47	3,700.27
HESCO	10973.67	5227.11	5,746.56
K-Electric	2950.22	751.73	2,198.49

TABLE 6

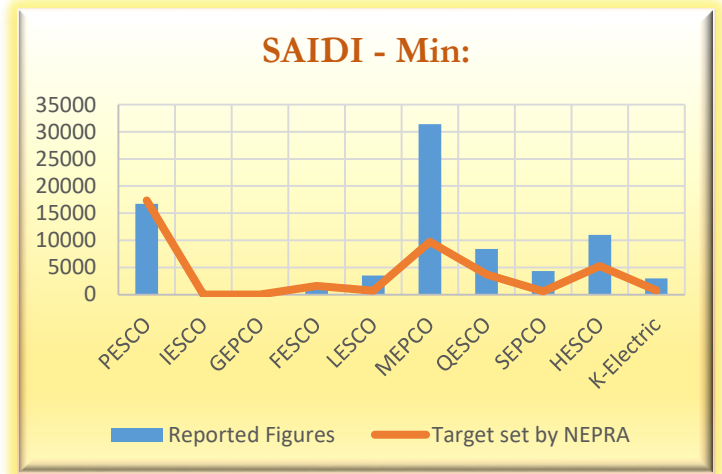


FIGURE 6

From the data shown in Table 6, it is noted that except PESCO and IESCO, none of the DISCO has complied with Regulator's targets. Further, it is observed that MEPCO is too far from the NEPRA target followed by HESCO, QESCO and SEPCO.

Notwithstanding that, IESCO has submitted that the average duration of each interruption faced by its consumer is 1.27 minutes in 2018-19 which is far away from ground realities. In this regard, thorough inspection of IESCO's data pertaining to SAIFI and SAIDI for the year 2016-17 was carried out and found that IESCO is continuously misreporting the data. Accordingly, the Authority took serious notice and initiated legal proceedings and imposed a penalty of Rs. 04 Million.

It is pertinent to mention that NEPRA has taken stern actions against DISCOs upon submission of such fudged data and has imposed fine of Million Rupees. Authenticity of data is very important for decision making in regulation of power sector. For this purpose, NEPRA regularly monitors/verify the data submitted by distribution companies.

2.5 Time Frame for New Connection: (% of Pending Ripe Connections):

Table represents the %age of consumers who were not provided new connections within the prescribed time frame in FY 2018-19 despite they made payments of demand notices. The data submitted by DISCOs is compared with the limit envisaged in Performance Standards (Distribution) Rules 2005, wherein, Rule 4 (c) states that “a distribution company shall provide electric power service to at least 95% of new connections to its eligible consumers.

This is observed that all DISCOs except GEPCO, FESCO and SEPCO have provided more than 95% of the applied connections. GEPCO's performance seems poor in this regard followed by FESCO and SEPCO.

It is important to note that NEPRA is vigorously pursuing the compliance of this parameter and also verifying the data submitted by DISCOs particularly those who have claimed 100% provision of applied connections. In case of any misreporting, legal proceedings are initiated leading to imposition of fines.

Name of DISCO	% of Eligible Consumers Who were not provided new connections within Prescribed Time Frame	Allowed Limit in PSDR 2005 (%)	Breach (%)
(1)	(2)	(3)	4=(2-3)
PESCO	0.5	5.0	0.0
IESCO	0.0	5.0	0.0
GEPCO	21.9	5.0	16.9
FESCO	21.0	5.0	16.0
LESCO	4.1	5.0	0.0
MEPCO	7.9	5.0	2.9
QESCO	4.13	5.0	0.0
SEPCO	13.2	5.0	8.2
HESCO	0.003	5.0	0.0
K-Electric	3.30	5.0	0.0

TABLE 7

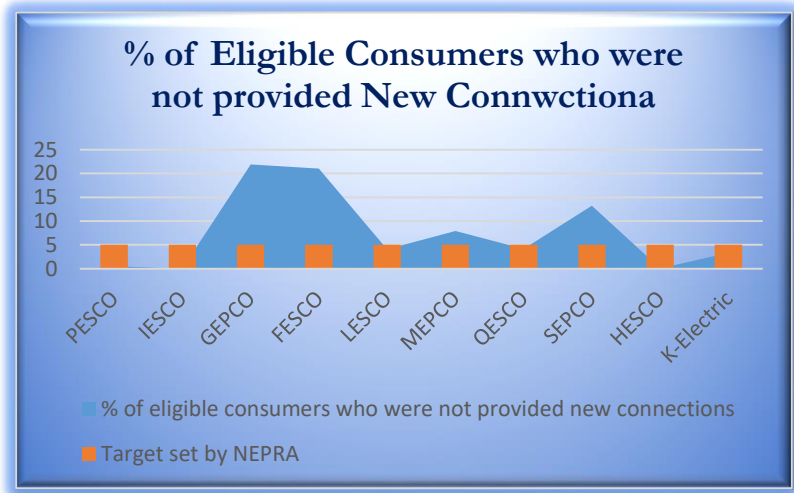


FIGURE 7

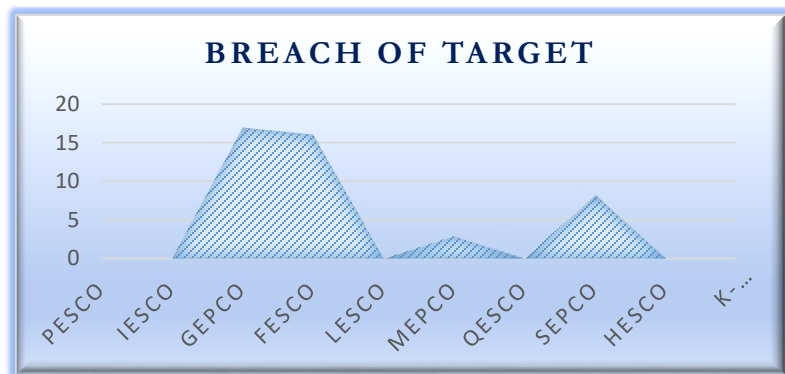


FIGURE 8

2.5.1 Pending Ripe Connections as on 31st Dec, 2019:

In addition to above, data related to number of pending ripe connections as on 31st December, 2019 has also been sought from DISCOs. The detail is as under;

Name of DISCO	Domestic	Commercial	Industrial	Agriculture	Others	Total
PESCO	24,464	2,505	128	128	11	27,236
IESCO	4,892	533	11	30	17	5,483
GEPCO	8,238	993	244	770	00	10,245
FESCO	47,008	2,188	457	1,910	42	51,605
LESCO	21,506	1,901	684	1,082	00	25,173
MEPCO	49,366	3,064	829	4,315	13	57,587
QESCO	740	232	23	06	08	1,009
SEPCO	756	105	58	12	00	931
HESCO	1,601	290	63	77	01	2,032
K-Electric	24,098	9,746	396	03	00	34,243
Total	182,669	21,557	2,893	8,333	92	215,544

TABLE 8

Above table illustrates that a total of 215,544 number of ripe connections are pending as on 31st December, 2019 which shows complete non-performance by distribution companies. Taking a closer look, it is observed that MEPCO and FESCO are the major contributors in increasing such pendency followed by K-Electric, PESCO and LESCO.

It is also a matter of fact that electricity is in surplus and billions of rupees are being paid for idle capacity under the head of capacity payments. Despite knowing this fact, the non-provision of connections to the consumers by DISCOs actually shows their irresponsible behavior towards generating the electricity demand. However, DISCOs can play a major role in increasing the power demand in the country by providing new connections within the prescribed time frame.

2.6 Load Shedding (Hours):

Below mentioned table indicates the figures of average daily load shedding carried out by the distribution companies during the FY 2018-19.

Name of DISCO	Reported Figures of Average Daily Load Shedding Hours
PESCO	2.16
IESCO	1.55
GEPCO	0.5
FESCO	0.32
LESCO	2.4
MEPCO	0.43
QESCO	7.33
SEPCO	2.25
HESCO	5.5
K-Electric	1.77

TABLE 9

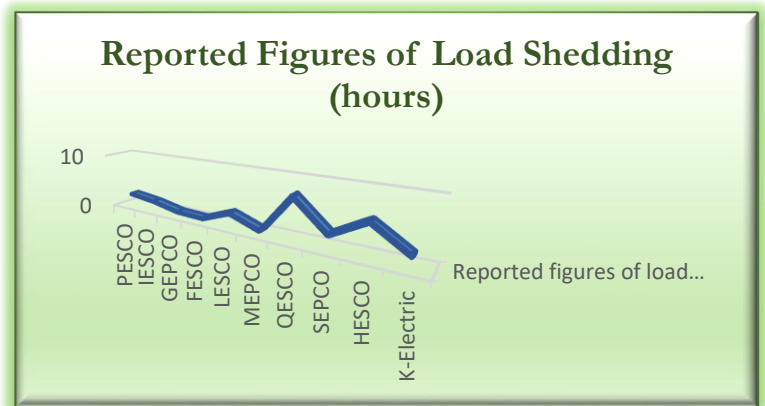


FIGURE 9

The figures reported by the DISCOs except QESCO represent that they carried out load shedding for averagely 2 to 3 hours on daily basis, whereas, QESCO has reported it as 7.33 hours. Overall, this indicates that duration of load shedding in the country significantly decreased due to ample power generation.

It is further observed that distribution companies are carrying out the load shedding as per AT&C losses criteria which is not in line with the requirements of Performance Standards (Distribution) Rules 2005, wherein, Rule 4 (f) states that

“A distribution company shall have plans and schedules available to shed up to 30% of its connected load at any time upon instructions of NTDC. When instructed by NTDC, distribution company shall shed the load in the following order:

- 1) Supply to consumers in rural areas; and residential consumers in urban areas where separate feeders exist;*
- 2) Supply to consumers other than industrial, in urban areas;*
- 3) Supply to agriculture consumers where there is dedicated power supply;*
- 4) Supply to industrial consumers;*
- 5) Supply to schools & hospitals;*
- 6) Supply to defense and strategic installations.”*

Keeping in view the requirements of Performance Standards, distribution companies are advised to follow the order of load shedding according to different categories of consumers as provided in PSDR 2005. The distribution companies are also directed to submit their proposals regarding amendment in the said Rule if deemed necessary.

2.7 Nominal Voltage (% of consumers whose voltage remained beyond prescribed limit):

According to Rule 4 (d) of Performance Standards (Distribution) Rule 2005, a distribution company shall supply power to at least 95% of its consumers within the range of $\pm 5\%$ of the nominal voltage.	Name of DISCO	No. of consumers who made complaint about voltage	Total No. of consumers in DISCO	% of complainants w.r.t total no. of consumers	Allowed % in PSDR 2005
	(1)	(2)	(3)	4=(2/3)*100	(5)
	PESCO	19,118	3,301,587	0.58	5
	IESCO	10,079	2,938,543	0.34	5
	GEPCO	9,604	3,438,882	0.28	5
	FESCO	5,682	3,914,319	0.15	5
	LESCO	12,287	5,031,162	0.24	5
	MEPCO	7,888	6,126,517	0.13	5
	QESCO	4,525	596,420	0.76	5
	SEPCO	928	762,175	0.12	5
	HESCO	191	1,115,723	0.02	5
	K-Electric	3,069	2,820,393	0.11	5

TABLE 10

Following are the nominal voltages for the distribution system:

- | | | |
|--------------|-----------|----------|
| (a) 400/230V | (b) 11kV | (c) 33kV |
| (d) 66kV | (e) 132kV | |

From the data given above, it is observed that all DISCOs have provided the voltages to more than 95% of its consumers. Further, it is surprisingly noted that there is no single complaint regarding voltage in MEPCO, which is far away from ground facts.

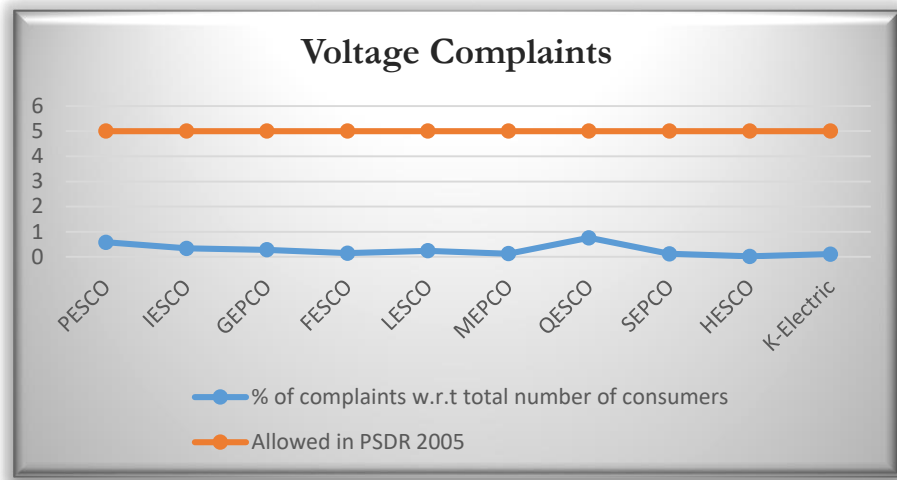


FIGURE 10

It is pertinent to highlight that NEPRA team during visits of different grid stations and Power Distribution Centers (PDCs) of DISCOs physically monitored the voltage levels and found them below the prescribed limits particularly for the feeders of long length. Accordingly, legal proceedings are initiated and penalties are imposed.

2.8 Consumer Service Complaints:

Following table depicts the analysis of number of average complaints per day per complaints received and subsequently resolved by the DISCOs in FY 2018-19.

Name of DISCO	Reported Figures of Complaints	Total No. of Complaint Centers in DISCO	No. of complaints per complaint center	Average number of complaints per day per complaint center
(1)	(2)	(3)	4=(2/3)	5=4/365
PESCO	79,832	174	458.80	1.26
IESCO	555,437	124	4479.33	12.27
GEPCO	838,502	146	5743.16	15.73
FESCO	354,801	376	943.62	2.59
LESCO	548,487	233	2354.02	6.45
MEPCO	88,785	217	409.15	1.12
QESCO	48,378	75	645.04	1.76
SEPCO	7,571	78	97.06	0.27
HESCO	90,703	88	1030.72	2.82
K-Electric	1,807,368	30	60245.60	165.06

TABLE 11

Above table also indicates that SEPCO is the distribution company who did not receive any single complaint in a day in any of its complaint center. Similarly, PESCO, MEPCO, QESCO, FESCO and HESCO have also submitted that only 2 to 3 complaints per day were received

by them in each of their complaint centers. However, all this is not based on true facts as NEPRA team is continuously carrying out monitoring activities since 2015-16 and found lot of discrepancies in data submitted by the DISCOs. Further, NEPRA is also in process to make the correct data available at DISCOs by conducting meetings with them in order to develop the computerized data base. It is also fact that all DISCOs have been penalized due to submission of such fudged data.

2.9 SAFETY (No. of Fatalities for both Employees and Public):

Name of DISCO	No. of fatalities for Employees	No. of fatalities for Public	Total No. of Fatalities Reported	Target
(1)	(2)	(3)	4=(2+3)	(5)
PESCO	16	0	16	00
IESCO	08	21	29	00
GEPCO	01	11	12	00
FESCO	06	02	08	00
LESCO	06	03	09	00
MEPCO	10	04	14	00
QESCO	04	05	09	00
SEPCO	05	07	12	00
HESCO	05	07	12	00
K-Electric	01	53	54	00
Total	62	113	175	00

TABLE 12

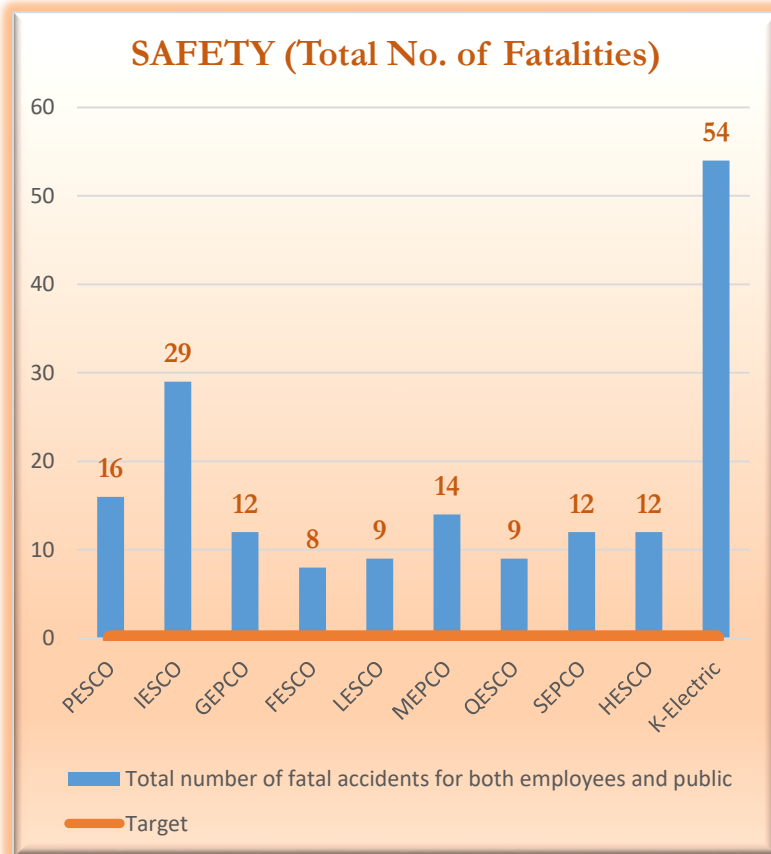


FIGURE 11



FIGURE 12

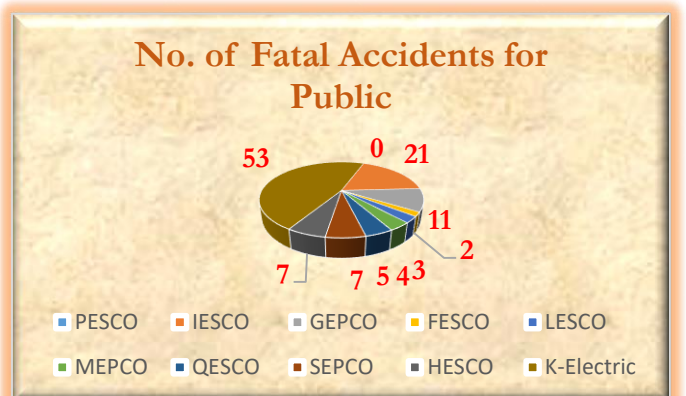


FIGURE 13

FY 2018-19 reveals a terrible picture with respect to number of fatal accidents as a total of **175** fatalities including both employees and public occurred in distribution companies. This clearly shows that DISCOs have failed to comply with Safety Standards as prescribed in Performance Standards (Distribution) Rules 2005, wherein, Rule 4 (g) states that a distribution company shall implement suitable, necessary and appropriate rules, regulations and working practices as outlined in its Distribution Code or applicable documents to ensure the safety of its staff and general public.

Individually, it is noted that K-Electric was the major contributor as **54** number of fatalities occurred in its service territory followed by IESCO with **29** number. If the figures of employees are looked then PESCO is the largest culprit where **16** employees were dead in a year followed by MEPCO with the number of **10**. Averagely 18 fatal accidents in each distribution company in a year is very alarming and need to think out of box and accordingly to take measures/steps.

It is pertinent to highlight that NEPRA being Regulator considers the safety as of paramount importance and persistently advises the DISCOs to develop safety culture by adhering the safety standards. Further, legal proceedings were also initiated against DISCOs and subsequently fines have been imposed. In addition, DISCOs are directed to conduct detailed surveys and identify all points of safety hazards and take immediate steps to remove such safety hazards in order to avoid fatal accidents.

2.9.1 No. of Fatal Accidents (Employees & Public) as on 31st Dec, 2019:

Name of DISCO	July-Dec, 2019		
	Fatal Accidents – Employees	Fatal Accidents – Public	Total No. of Fatal Accidents
PESCO	11	15	26
IESCO	04	06	10
GEPCO	02	04	06
FESCO	04	02	06
LESCO	02	00	02
MEPCO	03	01	04
QESCO	01	04	05
SEPCO	01	04	05
HESCO	03	01	04
K-Electric	01	51	52
Total	32	88	120

TABLE 13

In addition to above, data related to fatal accidents of employees and public occurred in all distribution companies for the period of July to December, 2019 has also been sought and evaluated. Table 13 also shows failure of DISCOs as 120 fatalities have been occurred in a period of six months and again K-Electric is major shareholder with a number of 52. Similarly, the number of fatal accidents occurred in PESCO and IESCO are also on higher side.

NEPRA Authority has taken serious notice of increasing such electrocutions in the country and decided to conduct investigations against K-Electric, PESCO and IESCO under Section

27A of the NEPRA Act. Accordingly, K-Electric has been thoroughly investigated and after due legal process, a fine of Rs. 50 Million is imposed on KE in addition to some other directions such as complete earthing/grounding system, compensation to victim's families, and compliance with safety standards in letter & spirit etc. For PESCO and IESCO, investigations are under process.

2.10 Fault Rate (No. of Faults/Kilometer):

Fault Rate is a Key Performance Indicator which is used to measure the distribution company's performance in terms of number of faults occurred in one kilometer length of line.

In this regard, the data submitted by DISCOs is given in Table 14. The same is reviewed and observed that PESCO remained an efficient company in FY 2018-19 followed by QESCO and HESCO as they have reported their fault rate less than 1. Further, the ratio of faults per kilometer for FESCO, SEPCO and K-Electric ranges from 1 to 2.

Whereas, IESCO is worst in this regard as average number of 12 faults were occurred in one kilometer length of its distribution system followed by LESCO and MEPCO with the number of 6.08 and 6.67.

Name of DISCO	Total Length of Distribution System (km)	Total No. of Faults	Fault Rate (No. of Faults/km)
(1)	(2)	(3)	4=(3/2)
PESCO	92,903.05	53,370	0.57
IESCO	56,045.14	6777.03	12.09
GEPCO	44,606	148,419	3.327
FESCO	78,952	98,455	1.25
LESCO	47,582.7	289,644	6.08
MEPCO	51,299.6	342,094	6.67
QESCO	62,590.55	48,975	0.78
SEPCO	41,609.94	78,837	1.89
HESCO	46,707.49	46,619	0.998
K-Electric	29,627	38,836	1.31

TABLE 14

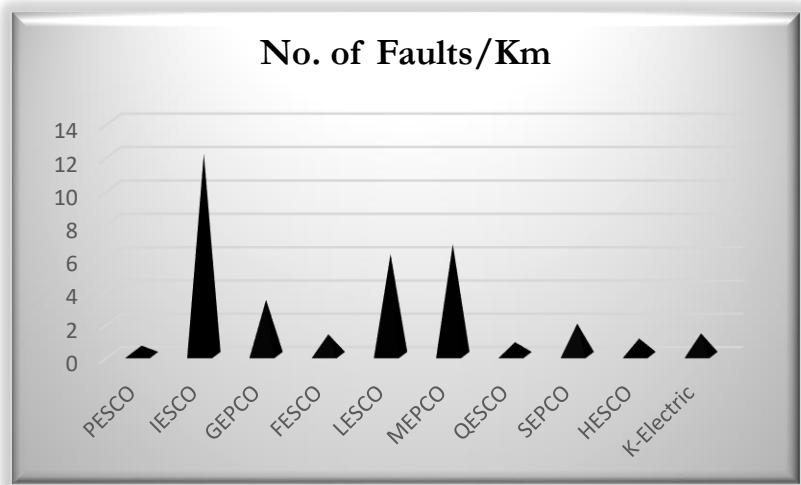


FIGURE 14

This all leads to uncertainty of the data as on the other hand their data related to unplanned power supply interruptions is on higher side. The aforementioned data can also be hard to believe as most of the time NEPRA team during their visits of different DISCOs found the system in deteriorated condition.

3. COMPARISON OF DATA FOR FY 2018-19 WITH LAST FOUR YEARS (2014-15, 2015-16, 2016-17 & 2017-18):

3.1 Transmission and Distribution (T & D) Losses (%):

Name of DISCO	2014-15	2015-16	2016-17	2017-18	2018-19
IESCO	9.41	9.10	9.02	9.13	8.86
PESCO	34.8	33.8	32.6	38.1	36.6
GEPCO	10.72	10.58	10.24	10.01	9.87
FESCO	11	10.2	10.6	10.5	9.8
LESCO	14.1	13.9	13.8	13.8	13.2
MEPCO	16.7	16.4	16.9	16.6	15.8
QESCO	24.4	23.8	23.1	22.4	23.6
SEPCO	38.29	37.72	37.8	36.47	37.0
HESCO	27.1	26.5	30.8	29.8	29.5
K-Electric	23.69	22.24	21.71	20.4	19.1

TABLE 15

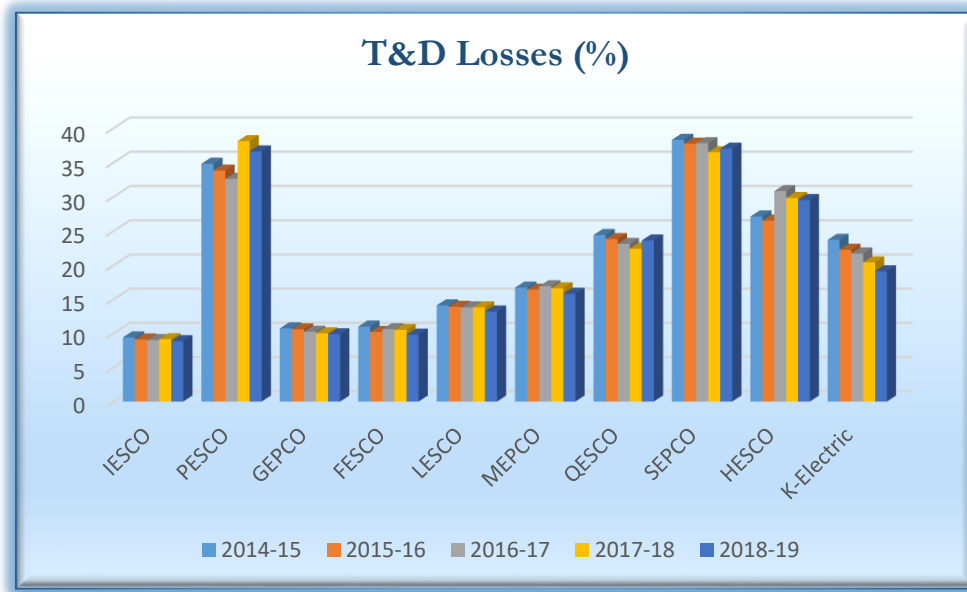


FIGURE 15

Above table and figure indicate the trend of data related to T&D losses of all distribution companies over the period of last five years. Further, it is observed that all DISCOs have improved their T&D losses figures in 2018-19 as compared to 2017-18 except QESCO and SEPCO. Overall, all DISCOs have made gradual decrease in their losses during the period of last five years starting from 2014-15 except PESCO, QESCO and SEPCO.

3.2 Recovery (%):

Name of DISCO	2014-15	2015-16	2016-17	2017-18	2018-19
IESCO	99.8	99.3	99.64	99.1	88.00
PESCO	88.0	88.6	89.1	89.5	88.6
GEPCO	97	99.6	98	97.0	98
FESCO	100.06	100.06	97.21	97.93	91.03
LESCO	95.88	99.65	100.45	97.8	97.67
MEPCO	102.33	99.99	96.21	99.68	99.80
QESCO	32.6	71.6	43.5	46.1	24.4
SEPCO	57.81	55.2	110.8	60.1	63.9
HESCO	78.2	72.4	95.2	76.7	74.5
K-Electric	90.37	87.63	90.04	91.04	92.6

TABLE 16

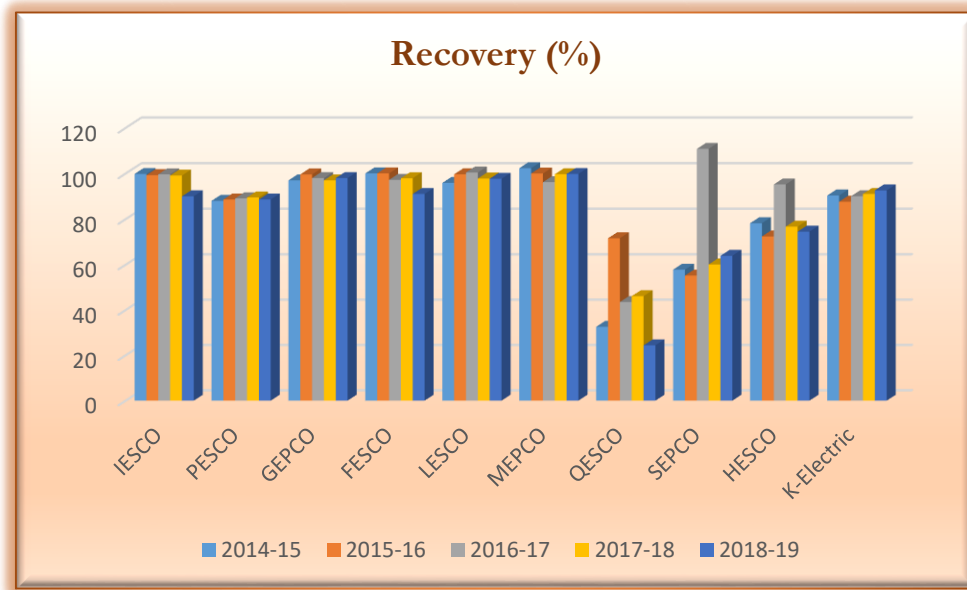


FIGURE 16

Table 16 and its graphical representation illustrate that only GEPCO, MEPCO, SEPCO and K-Electric have improved their recoveries in FY 2018-19 as compared to 2017-18, whereas, other distribution companies remained downward. Overall, the inconsistency in collection of revenues actually shows the inefficiencies of DISCOs which can be made consistent by applying good governance techniques.

3.3 System Average Interruption Frequency Index (SAIFI – No.):

Name of DISCO	2014-15	2015-16	2016-17	2017-18	2018-19
IESCO	0.036	0.03	0.029	0.04	0.05
PESCO	315.40	261.65	160.60	170	189.01
GEPCO	10.41	35.44	3.26	30.97	27.13
FESCO	46.54	32.41	39.99	38.87	36.86
LESCO	52.49	45.79	37.44	32.92	30.19
MEPCO	177.61	203	235	316.22	369.159
QESCO	112.58	107	96.92	95.18	97.98
SEPCO	227.96	216.71	601.37	568.59	516.37
HESCO	202.3	184	188.40	180.74	170.86
K-Electric	22.21	20.52	19.6	17.55	28.95

TABLE 17

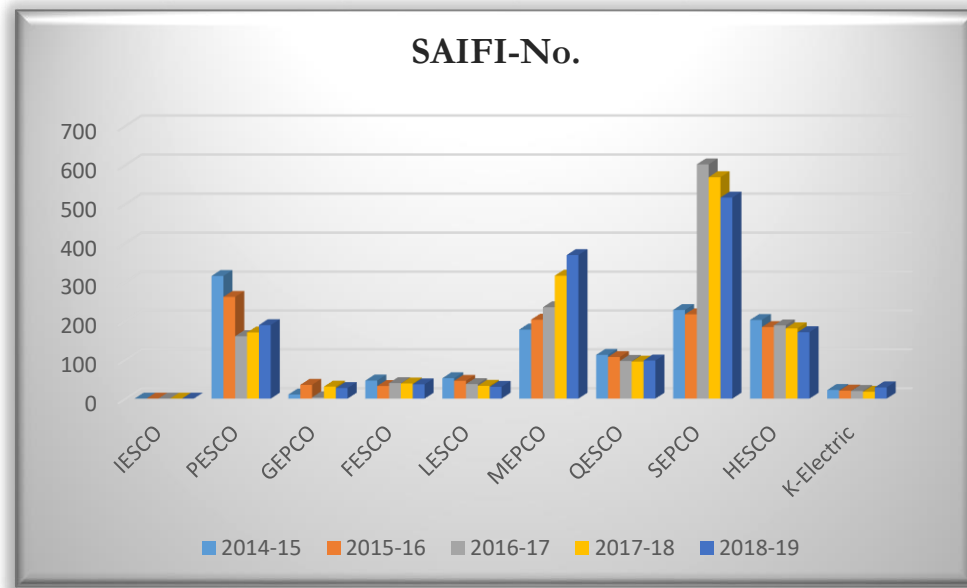


FIGURE 17

While comparing the data of SAIFI for FY 2018-19 as compared to 2017-18, it is observed that GEPCO, FESCO, LESCO, SEPCO and HESCO have shown improvement. Whereas, PESCO, MEPCO, QESCO and K-Electric have shown decline in their performance in this regard. Hence, it can be said that these distribution companies have failed to provide reliable power supply in 2018-19 as compared to 2017-18.

3.4 System Average Interruption Duration Index (SAIDI – Min.):

Name of DISCO	2014-15	2015-16	2016-17	2017-18	2018-19
IESCO	0.995	0.82	0.79	0.73	1.27
PESCO	27934.98	24927.12	14,643	16222.79	16696.51
GEPCO	13.20	59.49	55.03	53.67	45.19
FESCO	2682.58	1714	1532.04	1951.38	1627.99
LESCO	3010.29	2926.29	5595.63	4338.23	3538.93
MEPCO	15677.65	17592	20411.32	26822.35	31419.30
QESCO	7506.81	7290	8310.4	8287.90	8402.4
SEPCO	2141.36	1879.37	5666.01	4397.44	4306.74
HESCO	10642.7	12623	12,799.12	12292.57	10973.67
K-Electric	1330.30	1210	1142.5	1451.42	2950.22

TABLE 18

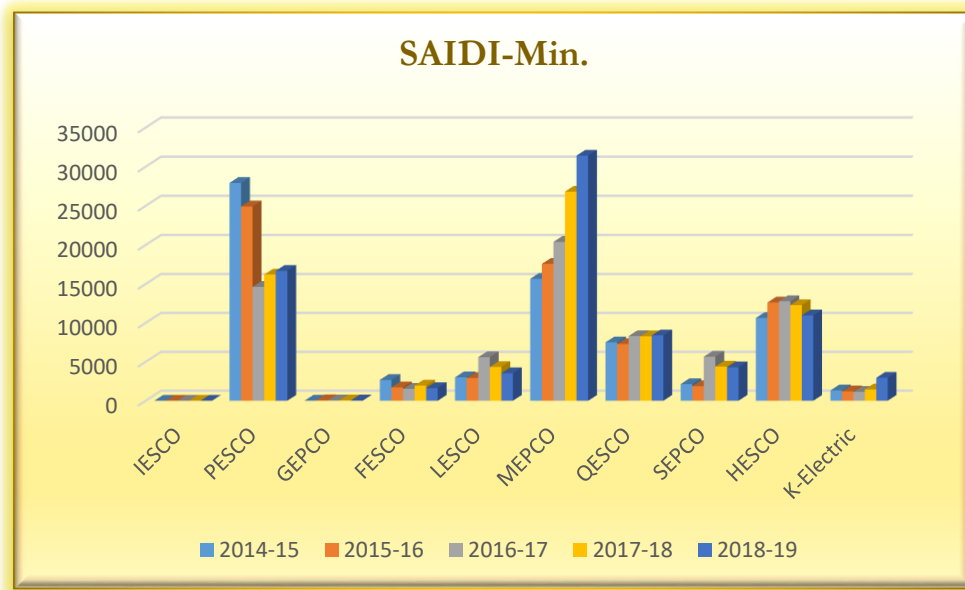


FIGURE 18

Similarly, the figures of SAIDI of all distribution companies indicate that GEPCO, FESCO, LESCO, SEPCO and HESCO have improved in 2018-19 as compared to 2017-18, whereas, remaining DISCOs have failed to do the same.

It is also matter of fact that there is no computerized data base mechanism in the distribution companies based upon which it can be said that the data related to SAIFI and SAIDI as submitted by the DISCOs is 100% correct.

2.5 Time Frame for New Connection (% of Pending Ripe Connections):

Name of DISCO	2014-15	2015-16	2016-17	2017-18	2018-19
IESCO	0	0	0	0	0.0
PESCO	3.2	3.6	4.2	2.23	0.5
GEPCO	8.60	8.6	12.35	18.79	21.9
FESCO	25.3	19.8	34.7	15.94	21
LESCO	5.24	9.95	5.77	5.23	4.1
MEPCO	9.15	5.7	5.14	5.28	7.9
QESCO	12.5	20.3	20.4	1.31	4.13
SEPCO	13.8	1.23	1.27	4.3	13.2
HESCO	3.3	0	0	0.03	0.003
K-Electric	4.8	1.9	8.0	4.0	3.30

TABLE 19

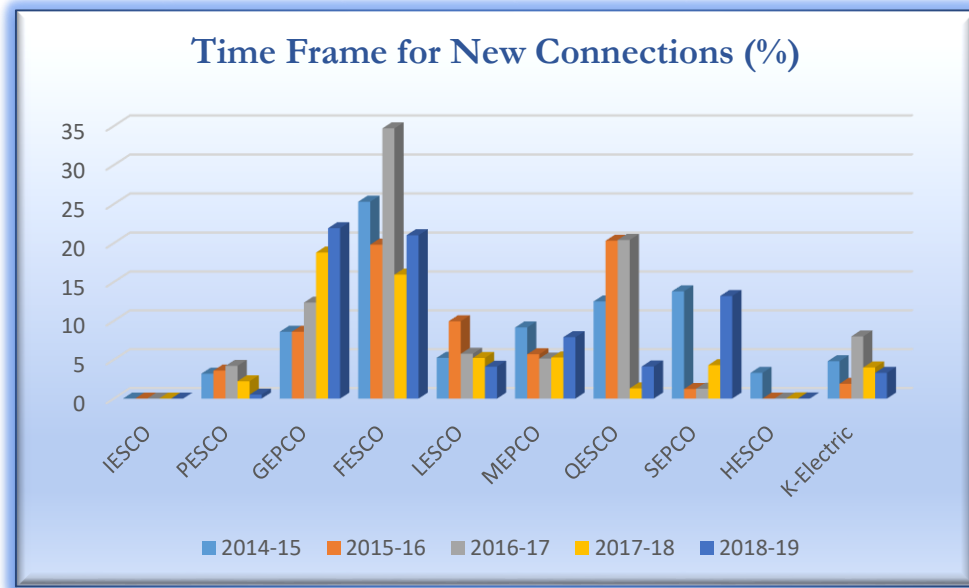


FIGURE 19

Aforementioned table and figure represent the data pertaining to %age of consumers who were not provided new connections within the prescribed time frame. The trend of last five years as given above shows variations in terms of increase and decrease in %age which means that DISCO's performance is inconsistent in this regard. If the data for FY 2018-19 is compared with 2017-18, it can be seen that GEPCO, FESCO, MEPCO, QESCO and SEPCO have failed to enhance its performance and reduce the pendency of ripe connections.

2.6 Load Shedding (Hours):

Name of DISCO	2014-15	2015-16	2016-17	2017-18	2018-19
IESCO	4	3.43	3.33	3.125	2.16
PESCO	2.5	2.3	3.2	3.25	1.55
GEPCO	4	4	3.25	11	0.5
FESCO	4.33	3.5	3.23	0.74	0.32
LESCO	2.33	1.67	2	1.7	2.4
MEPCO	4.25	3.2	3.35	1.30	0.43
QESCO	3.4	2.83	3.875	5.8	7.33
SEPCO	1	1	2.25	2.25	2.25
HESCO	4	3.33	4.5	3.75	5.5
K-Electric	1.1	1.33	2.5	1.26	1.77

TABLE 20

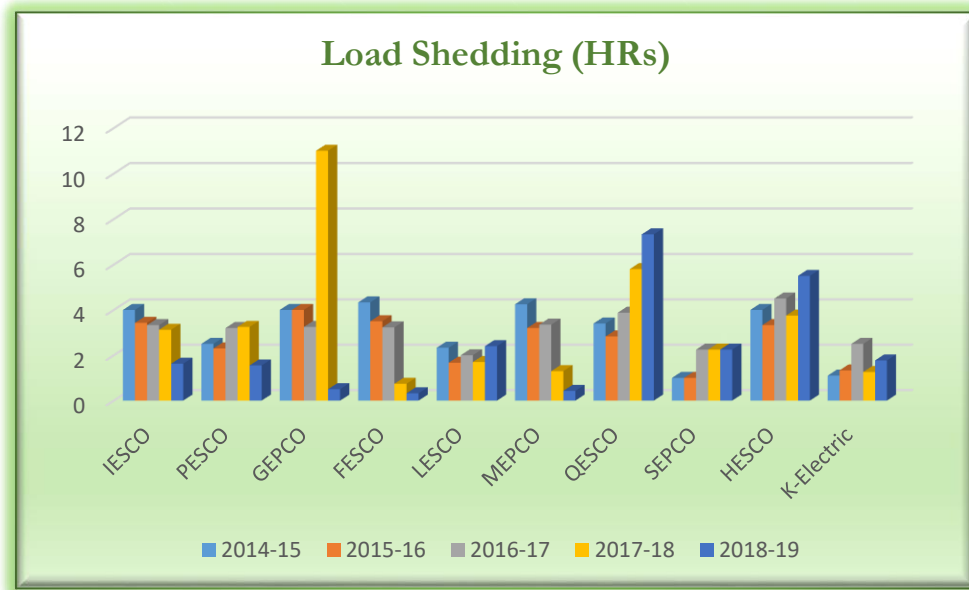


FIGURE 20

Table 20 and Figure 20 indicate the data related to average daily load shedding hours for the period of last five years. FY 2018-19 shows that all DISCOs except QESCO and HESCO have reduced the time duration (hours) of load shedding as compared to 2017-18.

2.7 Nominal Voltage (No. of Consumers who made complaint about Voltage):

Name of DISCO	2014-15	2015-16	2016-17	2017-18	2018-19
IESCO	5,710	6,508	6,890	6,352	10,079
PESCO	37,704	38,635	19,564	6,812	19,118
GEPCO	3,744	3,906	5,071	5,485	9,604
FESCO	9,223	10,488	4,127	4,572	5,682
LESCO	8,363	17,631	10,887	3,303	12,287
MEPCO	0	0	0	0	7,888
QESCO	144	4,273	4,355	4,541	4,525
SEPCO	0	0	1,033	1,734	928
HESCO	681	186	201	212	191
K-Electric	258	253	293	628	3,069

TABLE 21

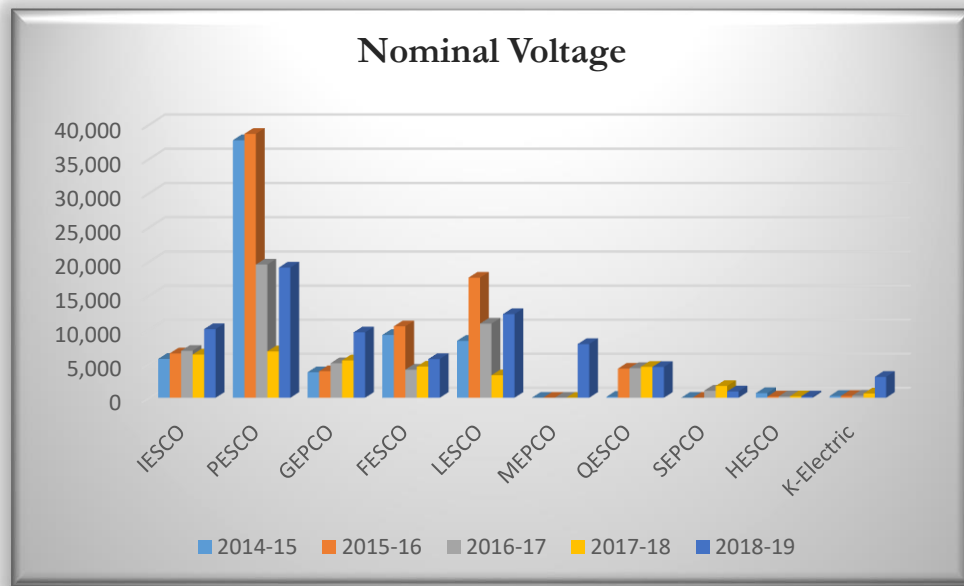


FIGURE 21

Above table and figure show the data related to number of consumers who made complaint about voltage fluctuation in 2018-19. However, it is surprisingly noted that the numbers given by DISCOs are very less as compared to their total number of consumers being served by them. This leads to the indication of dubious data as NEPRA team during its visits of different DISCOs found the voltage levels beyond the prescribed limits.

2.8 Consumer Service Complaints:

Name of DISCO	2014-15	2015-16	2016-17	2017-18	2018-19
IESCO	62,167	63,831	46,587	43,504	555,437
PESCO	102,859	103,983	441,951	99,729	79,832
GEPCO	841,178	826,226	824,816	820,260	838,502
FESCO	392,399	353,019	496,176	464,662	354,801
LESCO	227,596	1,548,464	1,245,699	6,231,274	548,487
MEPCO	91,373	73,296	74,869	48,425	88,785
QESCO	41,952	5,198	52,211	68,876	48,378
SEPCO	8,857	8,516	9,085	28,900	7,571
HESCO	5,696	56,602	61,925	62,269	90,703
K-Electric	457,486	481,061	2,675,268	1,966,269	1,807,368

TABLE 22

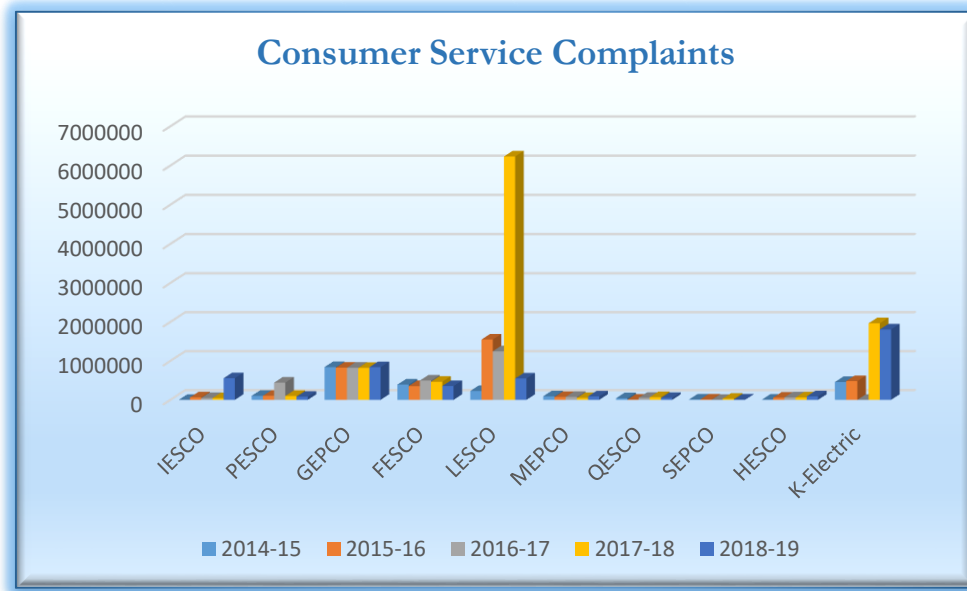


FIGURE 22

The table and figure in this section depict the number of complaints received by the distribution companies over the period of last five years starting from 2014-15. Overall, a mixed trend has been observed in form of increasing and decreasing trends. Further, IESCO, GEPCO, MEPCO and HESCO received more number of complaints in 2018-19 as compared to 2017-18. The lower number of complaints and minimum time for disposal of the same are the actual indicators of customer satisfaction.

2.10 Safety (Total No. of Fatal Accidents for both Employees and General Public):

Name of DISCO	2014-15	2015-16	2016-17	2017-18	2018-19
IESCO	15	19	15	20	29
PESCO	29	23	20	10	16
GEPCO	15	12	16	29	12
FESCO	29	15	15	07	8
LESCO	24	24	29	21	9
MEPCO	34	20	10	17	14
QESCO	20	5	11	06	09
SEPCO	34	17	20	17	12
HESCO	22	24	3	15	12
K-Electric	04	13	8	10	54
Total	226	172	147	152	175

TABLE 23

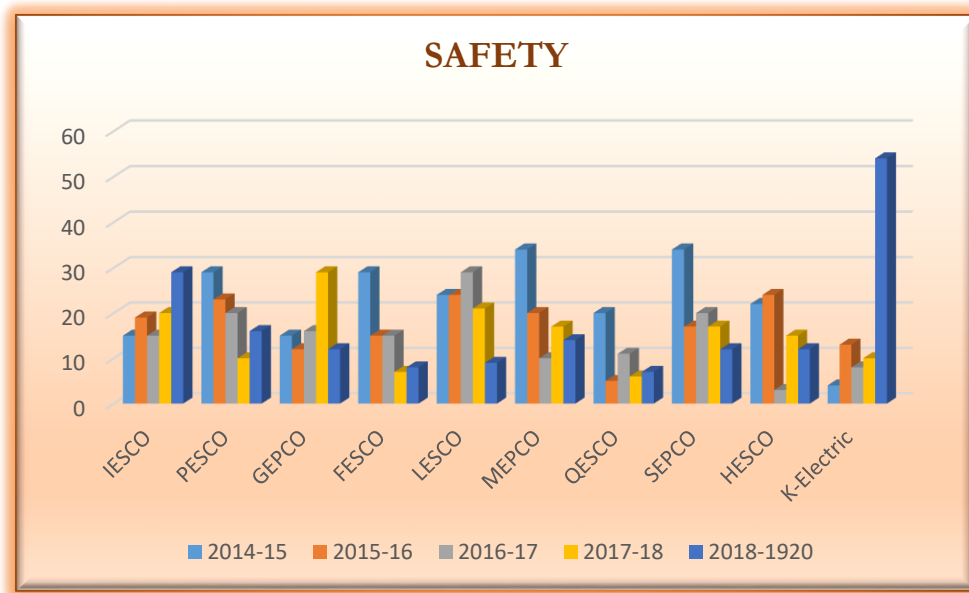


FIGURE 23

It is noted with grave concern that the number of fatal accidents in 2018-19 has been increased as compared to 2017-18 from 152 to 175 which is very alarming and indicates that distribution companies have failed to adhere the safety practices and K-Electric is on top in this regard followed by PESCO and IESCO. DISCOs has to give importance to every single human life and keep safety in their top priority.

2.10 Fault Rate (No. of Faults/km):

Name of DISCO	2014-15	2015-16	2016-17	2017-18	2018-19
IESCO	2.62	7.2	1.41	8.52	12.09
PESCO	0.78	0.93	0.86	0.45	0.574
GEPCO	3.12	2.97	3.04	3.04	3.327
FESCO	1.78	1.99	1.64	1.11	1.247
LESCO	7.79	10.48	2.99	5.91	6.08
MEPCO	2.72	3.35	4.06	5.82	6.67
QESCO	0.59	0.53	0.49	0.48	0.782
SEPCO	2.004	1.58	3.12	2.49	1.89
HESCO	0.78	0.89	1.696	0.84	0.998
K-Electric	1.546	1.39	0.95	0.85	1.31

TABLE 24

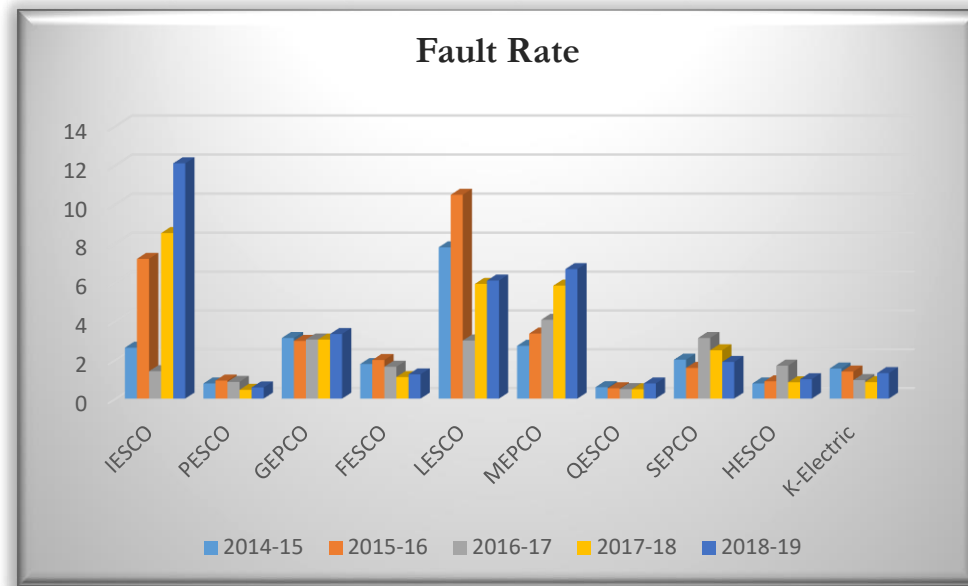


FIGURE 24

While reviewing the data pertaining to Fault Rate for the last five years, it is observed that the neither the results of this parameter are uniform nor showing the gradual improvement. Further, the comparison of data for the FY 2018-19 with the FY 2017-18 indicates that only SEPCO has improved its fault rate whereas, remaining all distribution companies failed to do the same.