



2021-22

PERFORMANCE EVALUATION **REPORT**

Distribution Companies

Along with Comparison of Last Four Years
FY 2017-18, 2018-19, 2019-20 & 2020-21

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EXECUTIVE SUMMARY

The availability, accessibility, and affordability of electricity for people across the country is necessary for economic progress as well as the social uplift of citizens. The rapid technological advancement and unique commercial dynamics of the power sector pose complex challenges for policy making and planning to develop sectors capable to ensure energy security and affordability for all segments of the societies.

NEPRA established under the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997, amended from time to time, is performing its function as stipulated in NEPRA Act. Since FY 2010 as per requirements of donor agencies, every year NEPRA publishes the Performance Evaluation Report of Distribution Licensees, which presents the data of year-long performance of distribution segment in power sector of the country. Each distribution company is required to submit to NEPRA an Annual Performance Report (APR) in a prescribed format, according to Performance Standard distribution Rules (PSDR) 2005. The APRs for the year 2021-22, 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 Voltages, Consumers Complaints, Safety, and Fault Rate.

A Comprehensive report namely “Performance Evaluation Report (PER)” indicating the compliance level with performance standards by the distribution companies (DISCOs) has been prepared. The report comprises the analysis of data for FY 2021-22 along with the comparison of last four years i.e., 2017-18, 2018-19, 2019-20 and 2020-21.

While analyzing the data provided by the distribution companies, it is observed that in FY 2021-22, there are some significant improvements by some of the distribution companies especially from losses and recovery point of view as compared to last years. Whereas the performance of some of the DISCOs in other areas seems not distinguishable as no remarkable achievement is observed. Parameter wise detail is as under:

T&D Losses & Recovery:

The section of losses reveals that GEPCO, FESCO, MEPCO and K-Electric have achieved the NEPRA determined targets and compensate the financial loss of other DISCOs to be suffered by the National Exchequer on account of breach of NEPRA targets. IESCO has just missed the NEPRA target which has very minute impact. Whereas, PESCO, QESCO, SEPCO and HESCO are far away from the targets set by NEPRA and largely contributed in overall loss of **Rs. 122 Billion** to be borne by the National Exchequer. PESCO’s share is the highest among all DISCOs followed by HESCO in this regard.

Similarly, with respect to recovery GEPCO, FESCO and MEPCO have also collected maximum revenues against billed amounts and marked their recoveries almost near to 100%. IESCO and K-Electric have also reported more than 95% whereas, HESCO and

SEPCO remained in middle somewhere as compared to the target of 100%. QESCO's performance has been pointed out as worst in this regard with the recovery of 35% only. Due to low collection of revenues by some of the DISCOs, the National Exchequer has to bear a total financial loss of around Rs. **170 Billion**.

SAIFI and SAIDI:

Supplying reliable power supply to the end consumers is being treated by NEPRA as a priority for the purpose of economic growth. In order to assess the reliability of DISCO's distribution system, there are two types of NEPRA Standards i.e., SAIFI and SAIDI. In FY 2021-22, the data submitted by DISCOs indicates the poor reliability of power supply provided by DISCOs as the DISCOs are far away from NEPRA Standards. It is pertinent to highlight that NEPRA had received queries from few DISCOs regarding calculation mechanism of SAIFI and SAIDI. In this regard, detailed sessions were held with two DISCOs wherein, it was disclosed that there is misunderstanding on part of DISCOs as they were considering planned outages/shutdowns & load shedding in addition to faults/unplanned outages while calculating SAIFI and SAIDI. Therefore, initially two DISCOs were clarified with complete mechanism that only unplanned interruptions shall be considered for SAIFI/SAIDI calculation and later on a comprehensive meeting/session was conducted with all DISCOs. During meeting/session, issues like clear understanding of SAIFI/SAIDI calculation, setting up of limit of short duration power supply interruption, development of tripping/interruption data base, setting up of SAIFI/SAIDI targets and quarterly uploading of SAIFI/SAIDI data on quarterly basis on NEPRA online data exchange portal were discussed at length.

Provision of New Connections (Pending Ripe Connections):

NEPRA Performance Standards specifies time frame for provision of new connections to the eligible consumers from submission of application by the consumer to payment of demand notice by the consumer and to the installation of connection by the distribution company. Collectively, DISCO's data reveals that most of the DISCOs except GEPCO, FESCO, QESCO and K-Electric provided new connections to more than 95% of its eligible consumers. It is important to mention here that NEPRA has established an online portal whereby, all DISCOs are required to submit data pertaining to pendency of ripe pending connections on monthly basis. The Authority considered the monthly reports and based on the report for the month of Dec, 2022, it was observed that around 500,000 number of connections were pending due to a load of 1870MW could not be injected. The Authority took serious notice and directed to initiate legal proceedings against DISCOs. Explanations were sought from DISCOs and hearing opportunities were also given wherein, it was revealed that this huge pendency was occurred due to inflation, variation in dollar price and non-participation of bidders in tendering process. As a result of that, around one million new connections were provided to the eligible consumers and a total load of more than 3000MW was served. Being Regulator, NEPRA is always striving for provision of continuous, reliable and sustainable electricity to the consumers of Pakistan.

Load Shedding:

It is matter of fact that DISCOs are deliberately drawing less power as compared to their demand despite fact that they are being provided sufficient quota and carrying out load shedding as per AT&C losses policy which is in clear contradiction with NEPRA Act and Performance Standards Rules, therefore, the Authority has decided to initiate legal proceedings against DISCOs on account of such shear violation of NEPRA laws. In addition, the data related to T&D losses, recovery and AT&C losses was obtained from DISCOs for last four years and after thorough examination, it was assessed that no significant improvement has been made by the DISCOs especially PESCO, QESCO, HESCO, SEPCO and K-Electric. It is further added that carrying out AT&C based load shedding is an easy path for DISCOs rather taking some efforts to get rid of such so-called policy.

Moreover, NEPRA is also of the view that DISCOs should establish their writ at least in its urban areas and lift up such AT&C based load shedding by ensuring minimum losses and maximum recovery in such type of pockets. DISCOs can do this exercise by taking some concrete measures such as identification of high loss areas, surveillance/controlling of such illegal activities, installation of ABC cable, installation of AMI/AMR meters at PMT level and etc. For K-Electric, NEPRA has issued directions to carry out load shedding (if any) at PMT level rather feeder level as it has installed around 50K AMI/AMR meters on all PMTs in its service territory. NEPRA laws clearly state that DISCOs can never carry out load shedding on their own until & unless there is generation shortage in the country or there are transmission system constraints. NEPRA vigorously monitor the situation of load shedding on daily basis through examination of DISCO's demand, quota allocated to them and subsequent drawl of power by them.

Complaints:

The data submitted by DISCOs illustrates that a total number of 3,998,033 complaints were received by the DISCOs in FY 2021-22 regarding voltage fluctuations and other issues. Some of the DISCOs have received less number of complaints despite the fact that their operational performance is not up to the mark which is reported in media on regular basis and also physical complaints being received by NEPRA in this regard. This means that there is no proper complaint handling mechanism and even no reporting system. It is a matter of serious concern that SEPCO did not receive a single complaint in a day in each of its complaint center. NEPRA has serious reservations over the data reported by XWAPDA DISCOs. Out of total number of complaints, around 46% were received by KE alone which shows that it has proper system so that every consumer can approach KE and register its complaint.

NEPRA being Regulator is mandated to watch the 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.

Safety:

FY 2021-22 portrays the dreadful picture with respect to number of fatalities both for employees and public occurred in all distribution companies i.e., 196 which is around 11% more than the last year. During the reported period, PESCO's share remained high followed by HESCO, K-Electric and IESCO. NEPRA has been taking serious notice of such terrible number of fatalities since last three years and accordingly investigations against all DISCOs under section 27 A of NEPRA Act have been conducted. Based on the investigation reports, all DISCOs have been heavily fined. Further, DISCOs have also been directed to provide compensation to the bereaved families equal to the amount given to its employees along with a job to next of their kin. During investigations, it was disclosed that some of the accidents occurred in DISCOs due to lack of earthing/ grounding of poles/structures of DISCO's distribution system. The Authority took serious notice of such situation and directed all DISCOs to submit the detail of poles/structures to be earthed along with concrete plan. The implementation of same is under process. It is a matter of record that the same exercise has already been done by KE upon instructions of NEPRA Authority and around 216,000 poles/structures were grounded.

Conclusion:

It is relevant to state that in FY 2021-22, NEPRA continued monitoring activities in terms of investigations under Section 27A of NEPRA Act. The only purpose was to enforce Performance Standards and other enabling provisions of NEPRA laws in order to facilitate the end consumer with respect to provision of affordable, reliable and sustainable electricity. However, performance of distribution companies throughout this period remained below par and power sector reforms could not be achieved. Keeping in view the continuous poor performance, it is evident that under the given circumstances, the existing DISCO's set up would not be able to deliver. In this regard, structural changes at mega scale such as closure of PPMC, bifurcation of large DISCOs, provincialization of DISCOs, privatization/corporatization of DISCOs and reduction of Union's influence are required.

INTRODUCTION

01

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 August of the succeeding year in the prescribed format.

The Annual Performance Report Should cover 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 the Annual Performance Report Should also contain all relevant information with respect to compliance with these Rules during the year, including comparisons with a compliance report to Authority for previous year.

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

- Transmission and Distribution Losses
- Recovery in Percentage
- System Average Interruption Frequency Index (SAIFI)
- System Average Interruption Duration Index (SAIDI)
- Percentage Consumers who were not given new connections is permitted time period
- Total number of consumers who made complaints about voltages
- 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 permanent disability/serious injury to the member of staff or public

ANALYSIS

02

2.1 Transmissions and Distribution (T&D) Losses:

The difference in the generated energy and distributed energy is known as Transmission and Distribution (T&D) losses. Power System losses can be divided into two categories i.e., Technical and Non-Technical. Technical losses are naturally occurring losses whereas, non-technical losses are caused by external actions to the power system. Losses in the distribution of electricity cannot be eliminated but can be minimized by proper planning of the distribution systems.

NEPRA being a regulator considers T&D Losses as an important parameter in DISCOs performance and always give strict targets regarding T&D Losses to DISCOs in order to reach at better performance level.

Name of DISCO	Actual Reported (%)	Allowed in Tariff Determination (%)	Breach of Target (%)
PESCO	37.23	21.33	15.9
IESCO	8.18	8.15	0.03
GEPCO	9.07	9.51	-0.44
FESCO	9.10	9.34	-0.24
LESCO	11.50	9.08	2.42
MEPCO	14.70	14.90	-0.2
QESCO	28.10	17.15	10.95
SEPCO	35.60	18.11	17.49
HESCO	27.40	19.47	7.93
K-Electric	15.30	15.95	-0.65
W.AVG:	16.69	13.46	3.23

Table 01: Transmission and Distribution Losses

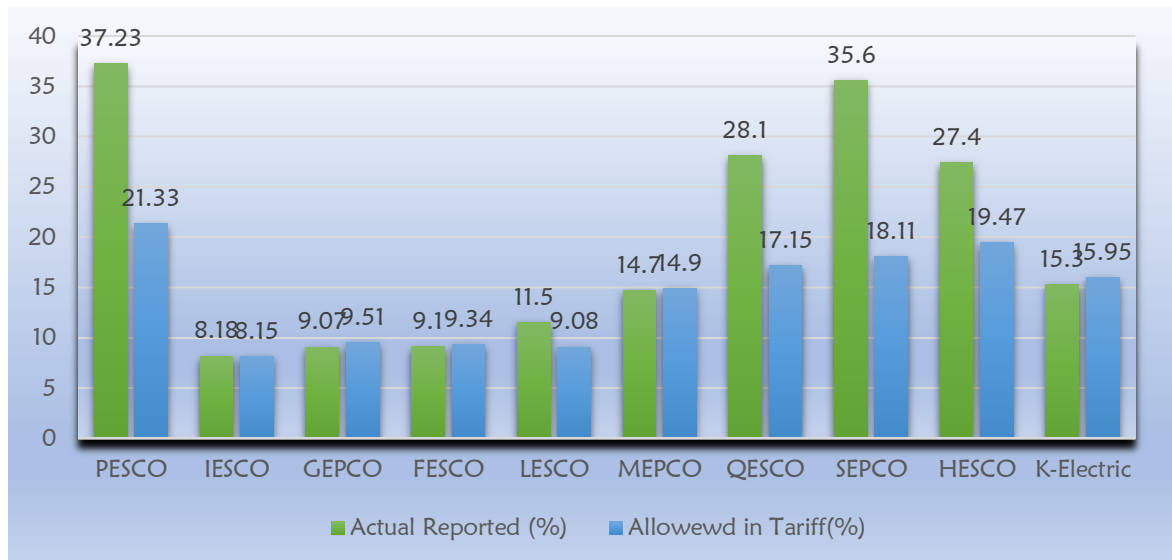


Figure 01: Transmission and Distribution Losses

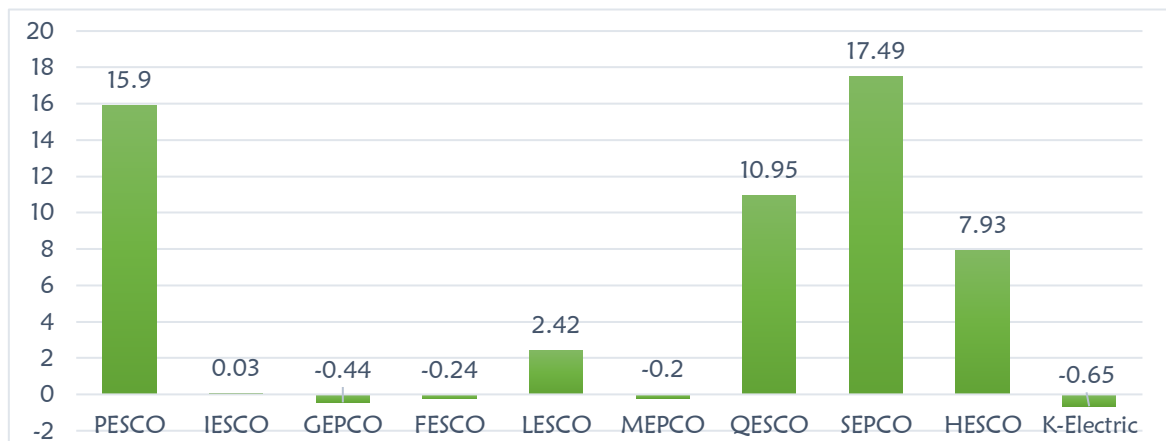


Figure 02: Breach of NEPA Targets (Transmission and Distribution Losses)

Table 1 illustrates the % age wise T&D losses for the year 2021-22 as reported by DISCOs and allowed by NEPA in their respective tariff determinations. The data reveals that three DISCOs i.e., GEPCO, FESCO, MEPCO and K-Electric have met with the Regulator's expectations and have achieved the NEPA targets. Whereas, IESCO is near to achievement and LESCO is little far from the value allowed by NEPA. Further, it is noted with concern that the performance of PESCO and SEPCO remained worst in this regard followed by QESCO and HESCO. It goes without saying that these four companies have been failed to perform and have contributed in increasing the overall %age losses rather making any improvement.

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

2.1.1.1 PESCO

Month	T&D Losses (%)			Monthly Energy Purchase from CPPAG (Units)	Energy Loss (kWh)	Applicable Tariff including FCA & QTAs (Rs.)	Financial loss (Rs.)
	Target	Actual	Breach				
July	21.33	42.24	20.91	1,831,260,370	382916543.4	19.84997487	7600883764
August	21.33	39.72	18.39	1,765,882,050	324745709	20.42677487	6633507489
September	21.33	35.08	13.75	1,644,021,866	226053006.6	21.00007487	4747130063
October	21.33	19.62	-1.71	1,216,551,731	-20803034.6	23.31637487	-485051353.2
November	21.33	29.26	7.93	1,055,975,733	83738875.63	22.87377487	1915424189
December	21.33	43.35	22.02	1,236,039,481	272175893.7	21.66857487	5897663732
January	21.33	40.78	19.45	1,242,799,897	241724580	24.52177487	5927515731
February	21.33	34.84	13.51	1,079,592,002	145852879.5	26.1542	3814665380
March	21.33	39.1	17.77	1,110,196,770	197281966	24.1692	4768147293
April	21.33	39.98	18.65	1,356,561,777	252998771.4	24.55555621	6212525552
May	21.33	40.25	18.92	1,517,679,712	287145001.5	29.2012	8384978618
June	21.33	39.15	17.82	1,504,984,322	268188206.2	31.7729	8521117056
Total					2662018398		63,938,507,514.75

Table 02: PESCO's Financial Impact

2.1.1.2 IESCO

Month	T&D Losses (%)			Monthly Energy Purchase from CPPAG (Units)	Energy Loss (kWh)	Applicable Tariff including FCA & QTAs (Rs.)	Financial loss (Rs.)
	Target	Actual	Breach				
July	8.15	14.08	5.93	1,492,575,962	88,509,754.55	17.29794	1,531,036,423.56
August	8.15	8.14	-0.01	1,499,031,371	-149,903.14	17.87184	-2,679,044.88
September	8.15	3.97	-4.18	1,344,084,111	-56,182,715.84	18.44494	-1,036,286,822.70
October	8.15	-5.15	-13.3	970,483,509	-29,074,306.70	20.75944	-2,679,510,325.42
November	8.15	2.12	-6.03	737,767,168	-44,487,360.23	20.31824	-903,904,862.13
December	8.15	12.68	4.53	826,645,075	37,447,021.90	19.11304	715,726,427.41
January	8.15	6.64	-1.51	856,701,753	-12,936,196.47	21.96624	-284,159,596.35
February	8.15	-6.02	-14.17	721,451,511	-102,229,679.11	22.35583	-2,285,429,327.11
March	8.15	17.1	8.95	840,638,540	75,237,149.33	20.37083	1,532,643,178.69
April	8.15	11.29	3.14	1,109,999,258	34,853,976.70	20.75719	723,470,616.64
May	8.15	15.08	6.93	1,309,304,827	90,734,824.51	25.40283	2,304,921,322.14
June	8.15	9.78	1.63	1,318,072,506	21,484,581.85	27.97453	601,021,079.44
Total					3,207,147.35		216,849,069.28

Table 03: IESCO's Financial Impact

2.1.1.3 GEPCO

Month	T&D Losses (%)			Monthly Energy Purchase from CPPAG (Units)	Energy Loss (kWh)	Applicable Tariff including FCA & QTAs (Rs.)	Financial loss (Rs.)
	Target	Actual	Breach				
July	9.51	16.26	6.75	1,456,156,617	98290571.65	17.89333301	1758745930
August	9.51	10.08	0.57	1,601,906,211	9130865.403	18.47013301	168648298.5
September	9.51	7.97	-1.54	1,328,310,397	-20455980.11	19.04343301	-389552087
October	9.51	2.67	-6.84	1,004,006,243	-68674027.02	22.15573301	-1521523408
November	9.51	-5.21	-14.72	677,641,898	-99748887.39	22.15573301	-2210009717
December	9.51	2.79	-6.72	684,856,463	-46022354.31	20.50793301	-943823359.3
January	9.51	3.2	-6.31	663,457,910	-41864194.12	23.68610233	-991599586
February	9.51	1.45	-8.06	589,081,137	-47479939.64	23.57990233	-1119572339
March	9.51	11.54	2.03	882,022,245	17905051.57	21.59490233	386657840
April	9.51	12.29	2.78	1,147,530,051	31901335.42	21.98125854	701231501.6
May	9.51	15.06	5.55	1,332,125,581	73932969.75	26.62690233	1968605965
June	9.51	12.32	2.81	1,311,100,459	36841922.9	29.19860233	1075732656
Total					-56,242,665.91		-1,116,458,305.5

Table 04: GEPCO's Financial Impact

2.1.1.4 FESCO

Month	T&D Losses (%)			Monthly Energy Purchase from CPPAG (Units)	Energy Loss (kWh)	Applicable Tariff including FCA & QTAs (Rs.)	Financial loss (Rs.)
	Target	Actual	Breach				
July	9.34	17.56	8.22	1,889,674,336	155331230.4	18.46812172	2868676070
August	9.34	7.94	-1.4	1,995,111,493	-27931560.9	19.04492172	-531954390.9
September	9.34	5.36	-3.98	1,728,967,372	-68812901.41	19.61822172	-1349986757
October	9.34	1.63	-7.71	1,421,008,008	-109559717.4	22.73052172	-2490349536
November	9.34	-2.02	-11.36	998,994,607	-113485787.4	22.73052172	-2579591155
December	9.34	3.55	-5.79	1,009,146,517	-58429583.33	21.08272172	-1231854646
January	9.34	4.52	-4.82	978,152,055	-47146929.05	23.93592172	-1128505203
February	9.34	2.94	-6.4	933,854,652	-59766697.73	24.11289	-1441147808
March	9.34	12	2.66	1,341,485,655	35683518.42	22.12789	789600970.5
April	9.34	15.05	5.71	1,640,054,945	93647137.36	22.51424621	2108394707
May	9.34	15.48	6.14	1,860,093,990	114209771	27.15989	3101924817
June	9.34	11.79	2.45	1,714,976,952	42016935.32	29.73159	1249230294
Total					-44,244,584.68		-635,562,636.5

Table 05: FESCO's Financial Impact

2.1.1.5 LESCO

Month	T&D Losses (%)			Monthly Energy Purchase from CPPAG (Units)	Energy Loss (kWh)	Applicable Tariff including FCA & QTAs (Rs.)	Financial loss (Rs.)
	Target	Actual	Breach				
July	9.08	13.39	4.310	3,011,769,710	129807274.5	18.99255078	2465371252
August	9.08	14.48	5.400	3,141,202,927	169624958.1	19.56935078	3319450305
September	9.08	10.33	1.250	2,657,294,155	33216176.94	20.14265078	669061852.2
October	9.08	12.83	3.750	2,238,380,194	83939257.28	22.45895078	1885187647
November	9.08	3.09	-5.990	1,601,866,555	-95951806.64	22.01635078	-2112508633
December	9.08	6.73	-2.350	17,155,611,089	-403156860.6	20.81115078	-8390158213
January	9.08	5.72	-3.360	1,781,696,510	-59865002.74	23.66435078	-1416666424
February	9.08	3.33	-5.750	1,553,723,408	-89339095.96	23.65487	-2113304701
March	9.08	12.68	3.600	2,128,447,254	76624101.14	21.66987	1660434311
April	9.08	11.63	2.550	2,618,228,303	66764821.73	22.05622621	1472580011
May	9.08	13.7	4.620	2,949,321,905	136258672	26.70187	3638361346
June	9.08	18.62	9.540	2,936,854,659	280175934.5	29.27357	8201749830
Total					328,098,430.2		9,279,558,584

Table 06: LESCO's Financial Impact

2.1.1.6 MEPCO

Month	T&D Losses (%)			Monthly Energy Purchase from CPPAG (Units)	Energy Loss (kWh)	Applicable Tariff including FCA & QTAs (Rs.)	Financial loss (Rs.)
	Target	Actual	Breach				
July	14.90	19.97	5.07	2,710,092,266	137401677.9	19.88240532	2731875852
August	14.90	17.96	3.06	2,801,971,912	85740340.51	20.45920532	1754179231
September	14.90	15.26	0.36	2,334,570,761	8404454.74	21.03250532	176766739
October	14.90	6.18	-8.72	1,788,465,898	-155954226.3	23.34880532	-3641344869
November	14.90	1.89	-13.01	1,153,490,953	-150069173	22.90620532	-3437515289
December	14.90	11.41	-3.49	1,107,977,208	-38668404.56	21.70100532	-839143253.1
January	14.90	6.87	-8.03	1,066,624,154	-85649919.57	24.55420532	-2103065711
February	14.90	6.11	-8.79	1,089,772,434	-95790996.95	24.3731	-2334723548
March	14.90	16.48	1.58	1,568,256,402	24778451.15	22.3881	554742442.2
April	14.90	15.72	0.82	2,194,332,374	17993525.47	22.77445621	409792757.8
May	14.90	20.34	5.44	2,599,399,561	141407336.1	27.4201	3877403297
June	14.90	18	3.10	2,096,554,351	64993184.88	29.9918	1949262602
Total					-45,413,749.61		- 901,769,748.85

Table 07: MEPCO's Financial Impact

2.1.1.7 QESCO

Month	T&D Losses (%)			Monthly Energy Purchase from CPPAG (Units)	Energy Loss (kWh)	Applicable Tariff including FCA & QTAs (Rs.)	Financial loss (Rs.)
	Target	Actual	Breach				
July	17.15	31.05	13.90	638,822,375	88796310.13	21.83719457	1939062301
August	17.15	30.10	12.95	642,764,765	83238037.07	22.41399457	1865696911
September	17.15	27.14	9.99	579,370,479	57879110.85	22.98729457	1330484171
October	17.15	23.45	6.30	525,851,052	33128616.28	25.30359457	838273075
November	17.15	21.19	4.04	513,000,424	20725217.13	24.86099457	515249510.6
December	17.15	27.04	9.89	530,561,211	52472503.77	23.65579457	1241278770
January	17.15	30.99	13.84	461,229,596	63834176.09	26.50899457	1692179827
February	17.15	24.45	7.30	472,011,519	34456840.89	26.16349	901511212
March	17.15	27.46	10.31	549,621,655	56665992.63	24.17849	1370098136
April	17.15	30.37	13.22	589,989,262	77996580.44	24.56484621	1915974003
May	17.15	31.18	14.03	626,751,213	87933195.18	29.21049	2568571719
June	17.15	30.08	12.93	586,443,356	75827125.93	31.78219	2409952123
Total					732,953,706.4		18,588,331,759.48

Table 08: QESCO's Financial Impact

2.1.1.8 HESCO

Month	T&D Losses (%)			Monthly Energy Purchase from CPPAG (Units)	Energy Loss (kWh)	Applicable Tariff including FCA & QTAs (Rs.)	Financial loss (Rs.)
	Target	Actual	Breach				
July	19.47	31.07	11.60	620,792,688	72011951.81	25.96779965	1869991937
August	19.47	29.41	9.94	590,339,704	58679766.58	26.54459965	1557630911
September	19.47	32.82	13.35	571,568,665	76304416.78	27.11789965	2069215517
October	19.47	27.85	8.38	492,091,641	41237279.52	29.43419965	1213786318
November	19.47	15.15	-4.32	335,671,750	-14501019.6	28.99159965	-420407754.7
December	19.47	21.32	1.85	293,975,753	5438551.431	27.78639965	151117763.5
January	19.47	17.77	-1.70	295,426,875	-5022256.875	30.63959965	-153879940
February	19.47	8.16	-11.31	269,125,009	-30438038.52	29.59983	-900960765.7
March	19.47	34.57	15.10	405,661,902	61254947.2	27.61483	1691544954
April	19.47	32.43	12.96	551,163,666	71430811.11	28.00118621	2000147443
May	19.47	35.77	16.30	617,839,234	100707795.1	32.64683	3287790268
June	19.47	27.66	8.19	566,673,923	46410594.29	35.21853	1634512907
Total					483,514,798.9		14,000,489,557.95

Table 09: HESCO's Financial Impact

2.1.1.9 SEPCO

Month	T&D Losses (%)			Monthly Energy Purchase from CPPAG (Units)	Energy Loss (kWh)	Applicable Tariff including FCA & QTAs (Rs.)	Financial loss (Rs.)
	Target	Actual	Breach				
July	18.11	47.03	28.92	560,539,941	162108150.9	24.58460687	3985365162
August	18.11	40.11	22.00	558,928,145	122964191.9	25.16140687	3093952063
September	18.11	37.13	19.02	504,574,075	95969989.07	25.73470687	2469759537
October	18.11	29.9	11.79	360,514,492	42504658.61	28.04900687	1192213461
November	18.11	21.85	3.74	225,821,813	8445735.806	27.60640687	233156419
December	18.11	24.12	6.01	209,072,210	12565239.82	26.40120687	331737495.9
January	18.11	23.17	5.06	195,084,302	9871265.681	29.25440687	288778022.6
February	18.11	17.34	-0.77	180,891,872	-1392867.414	27.6739	-38546073.54
March	18.11	37.34	19.23	268,444,735	51621922.54	25.6889	1326110406
April	18.11	38.54	20.43	415,218,976	84829236.8	26.07525621	2211944084
May	18.11	38.81	20.70	527,323,926	109156052.7	30.7209	3353372179
June	18.11	36.27	18.16	483,354,237	87777129.44	33.2926	2922328860
Total					786,420,705.9		21,370,171,615.04

Table 10: SEPCO's Financial Impact

2.1.1.10 K-Electric

Month	T&D Losses (%)			Monthly Energy Purchase from CPPAG (Units)	Energy Loss (kWh)	Applicable Tariff including FCA & QTAs (Rs.)	Financial loss (Rs.)
	Target	Actual	Breach				
July	15.95	14.31	-1.64	1,966,698,264	-32253851.53	21.81	-703,446,825.71
August	15.95	16.57	0.62	1,801,517,719	11169409.86	21.88	244406792.6
September	15.95	22.56	6.61	1,922,002,808	127044385.6	24.88	3160584817
October	15.95	11.27	-4.68	1,776,978,475	-83162592.62	28.67	-2384030359
November	15.95	4.2	-11.75	1,406,044,775	-165210261	26.83	-4433086935
December	15.95	3.08	-12.87	1,171,279,109	-150743621.3	25.00	-3768364417
January	15.95	9.64	-6.31	1,093,999,124	-69031344.71	30.40	-2098711651
February	15.95	13.85	-2.10	1,144,221,781	-24028657.4	28.51	-685071439.7
March	15.95	27.19	11.24	1,628,845,186	183082198.9	31.95	5849695953
April	15.95	21.38	5.43	1,926,579,749	104613280.4	35.94	3759361922
May	15.95	19.13	3.18	1,999,271,549	63576835.27	40.18	2554644395
June	15.95	11.49	-4.46	1,954,884,001	-87187826.42	41.77	-3641512915
Total					-122,132,045		- 2,145,530,662.70

Table 11: K-Electric's Financial Impact

Fiscal Year	Energy Loss (kWh)	Financial Loss (Rs. Bln)
2021-22	4,728,180,142	122.59

As already discussed, that in FY 2021-22, DISCOs like GEPCO, FESCO, MEPCO and K-Electric who have achieved the NEPRA targets have reduced the burden of National Exchequer in terms of Rs. 1.1 Billion, Rs. 0.64 Billion, Rs. 0.90 Billion and Rs. 2.15 Billion respectively. Similarly, IESCO which is almost near to NEPRA figure have little bit contributed in financial loss of around Rs. 0.22 Billion. Regarding LESCO, it is noted that the breach of target seems not so high i.e., 2.42%, but the financial impact is on higher side i.e., Rs. 9.3 Billion. As far as PESCO, HESCO, QESCO and SEPCO are concerned, it is seriously observed that these four DISCOs have heavily burdened the National Exchequer in terms of Rs. 64 Billion, Rs. 21.4 Billion, Rs. 18.6 Billion, and Rs. 14 Billion respectively. Overall, the financial loss born by the National Exchequer in FY 2021-22 due to breach of NEPRA targets by the distribution companies i.e., is around **Rs. 122.6 Billion**. It is pertinent to highlight that PESCO has contributed highest among all followed by HESCO.

2.2 Recovery (%)

Collection of Bills is most important factor for sustaining the increased supply of electricity. Recovery plays a key role in the financial health of distribution companies. Considering its importance, NEPRA has made this parameter an essential component of DISCO's performance criteria. DISCOs are encouraged to achieve a rate of 100% recovery.

Name of DISCO	Actual Recovery (%)	Target (%)	Breach of Target (%)
PESCO	92.20	100	-7.8
IESCO	95.62	100	-4.38
GEPCO	99.70	100	-0.3
FESCO	99.53	100	-0.47
LESCO	97.10	100	-2.9
MEPCO	99.73	100	-0.27
QESCO	35.40	100	-64.6
SEPCO	64.70	100	-35.3
HESCO	75.10	100	-24.9
K-Electric	96.60	100	-3.4
W. Avg:	93.68	100	6.32

Table 12: Recovery (%)

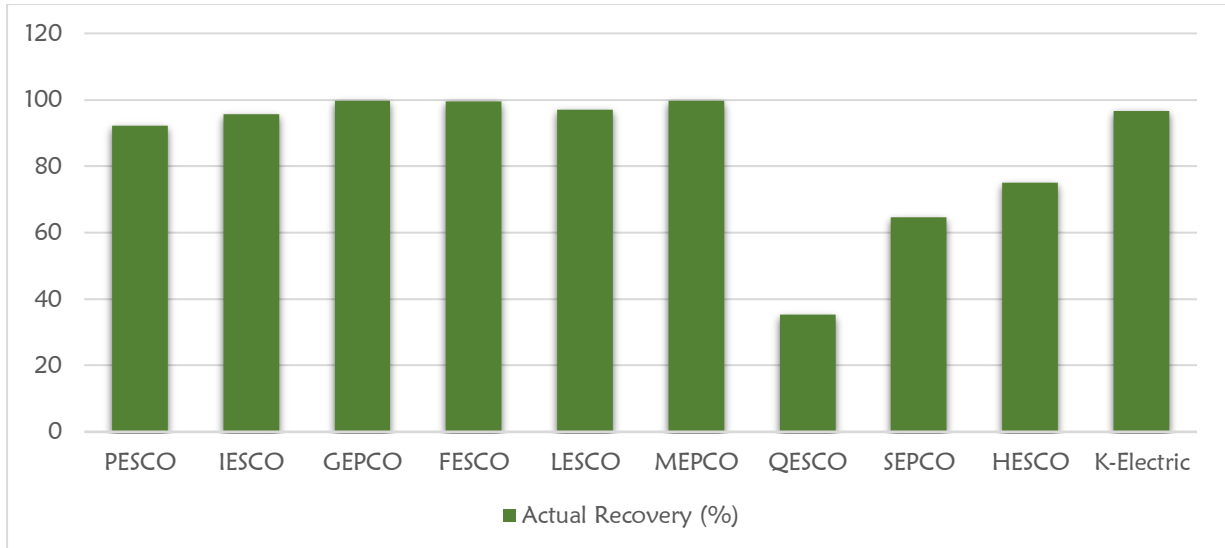


Figure 03: Recovery (%)



Figure 04: Breach of Recovery Targets (%)

From Table 12, it is observed that none of DSICOs have achieved the target of 100% recovery which has resulted into fiscal deficit. Taking a closer look, it is noted that three DISCOs i.e., GEPCO, FESCO and MEPCO have nearly missed the target as they have reported more than 99% recoveries. Similarly, PESCO, IESCO, LESCO and K-Electric have also crossed the figure of 90%. HESCO and SEPCO remained in some where middle with the reported values of 75% & 64%. However, QESCO has performed worst in this regard as its recovery position remained very poor i.e., only 35.4%.

2.2.1 Financial Loss Due to Breach of Recovery Targets by DISCOs:

Name of DISCO	Billing (Million Rs.)	Collection (Million Rs.)	Loss (Million Rs.)
PESCO	232,628.96	214,419.68	18,209.28
IESCO	289,977.00	277,285.00	12,692.00
GEPCO	249,149.00	248,407.00	742.00
FESCO	328,930.00	327,371.00	1,559.00
LESCO	587,305.79	570,273.94	17,031.85
MEPCO	364,078.83	363,095.23	983.60
QESCO	96,144.30	34,053.30	62,091.00
SEPCO	62,300.00	40,300.00	22,000.00
HESCO	86,037.40	64,649.70	21,387.70
K-Electric	390,236.00	377,335.00	12,901.00
Total	2,686,787.28	2,517,189.85	169,597.43

Table 13: Financial Loss Due to breach of Recovery Targets

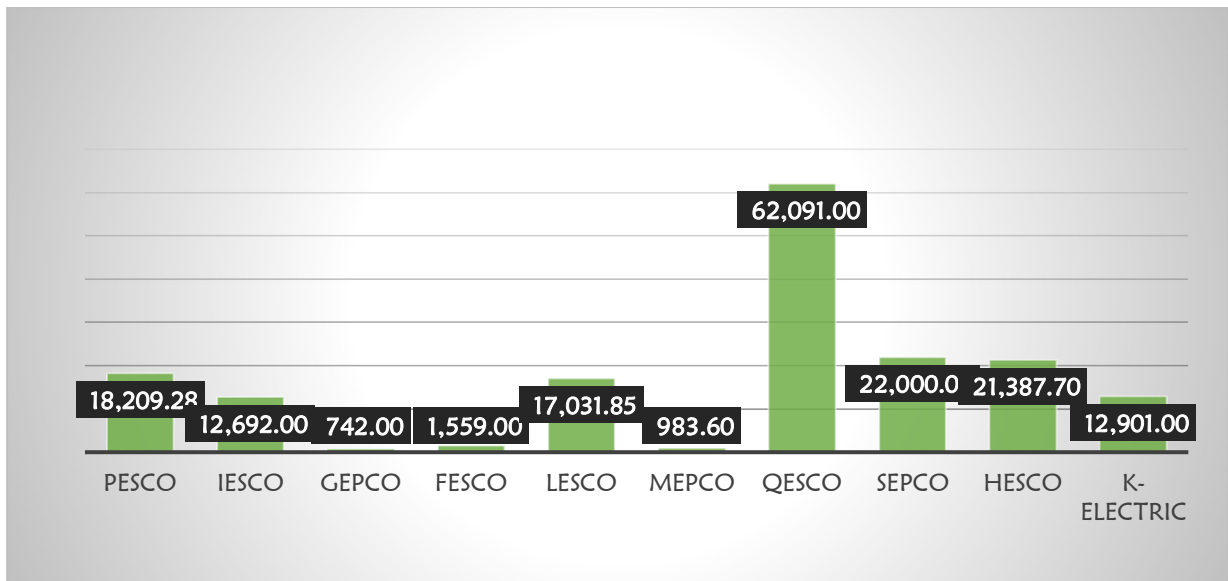


Figure 05: Financial Loss Due to breach of Recovery Targets

Above table 13 explains the revenue loss which distribution companies has failed to recover due to their poor governance/management. In FY 2021-22, around Rs. 2,517 Billion were collected against billed amount of Rs. 2,686 Billion. Hence, a total loss of around Rs. 170 Billion has to be suffered by National Exchequer for FY 2021-22. In this regard, the highest contributor is QESCO followed by SEPCO and HESCO. It evident that less recovery of such huge amount has mainly contributed in increasing the circular debt of Pakistan.

2.3 System Average Interruption Frequency Index (SAIFI):

In order to measure the reliability and assess the health of power distribution system, the indicator namely system average interruption frequency index (SAIFI) is used. SAIFI is the average number of times that a customer experiences an outage during the year. SAIFI is a key performance indicator which is used to gauge the performance of company as a whole.

According to Rule 4(a) of Performance Standard (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).

Name	Reported Figure (NO.)	Target by NEPRA (No.)	Breach of Target
PESCO	188.92	13	Far Away
IESCO	20.56	13	Near to Limit
GEPCO	23.02	13	Near to Limit
FESCO	35.2	13	Near to Limit
LESCO	32.86	13	Near to Limit
MEPCO	43.94	13	Near to Limit
QESCO	97.11	13	Far Away
SEPCO	410.7	13	Far Away
HESCO	134.05	13	Far Away
K-Electric	25.95	13	Near to Limit

Table 14 : System Average Interruption Frequency Index(SAIFI)

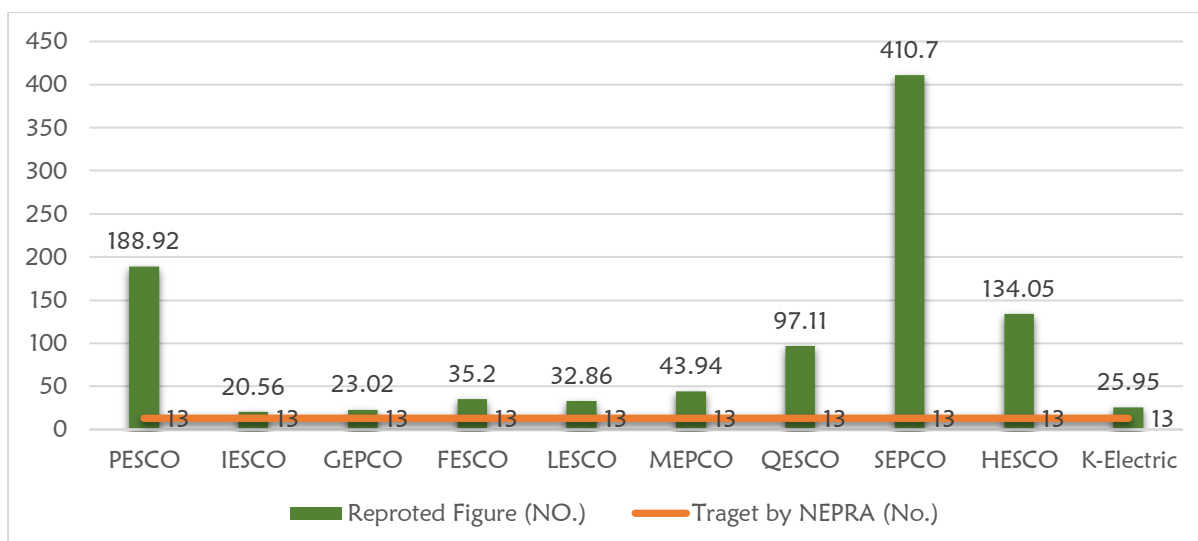


Figure 06: System Average Interruption Frequency Index (SAIFI)

Above table and graph indicate that none of the distribution companies has met with SAIFI standard of 13 as specified in Performance Standards Rules. However, IESCO, GEPCO, FESCO, LESCO, MEPCO and K-Electric are near to the targeted value. Whereas, PESCO, QESCO, SEPCO and HESCO are far away from the limits set by NEPRA to achieve the desired level of reliability.

2.4 System Average Interruption Duration Index (SAIDI)

The System Average Interruption Duration Index (SAIDI) is the average total duration of outages experienced by a customer in a year. SAIDI is a key point indicator used to gauge the company's performance in terms of the duration (minutes) of outages for which consumers suffered during the year.

According to Rule 4(b) of Performance Standards (Distribution) Rules 2005, a distribution company shall ensure that the System Average Interruption Duration Index (SAIDI) of supply of power per consumer per annum does not exceed fourteen (14).

Name	Reported Figure (Min.)	Target by NEPRA (Min.)	Breach of Target
PESCO	14518	14	Far Away
IESCO	1027.01	14	Far Away
GEPCO	38.98	14	Near to Limit
FESCO	1243.15	14	Far Away
LESCO	3747.88	14	Far Away
MEPCO	2794	14	Far Away
QESCO	8015.17	14	Far Away
SEPCO	3593.3	14	Far Away
HESCO	7558	14	Far Away
K-Electric	1963.6	14	Far Away

Table 15: System Average Interruption Duration Index (SAIDI)

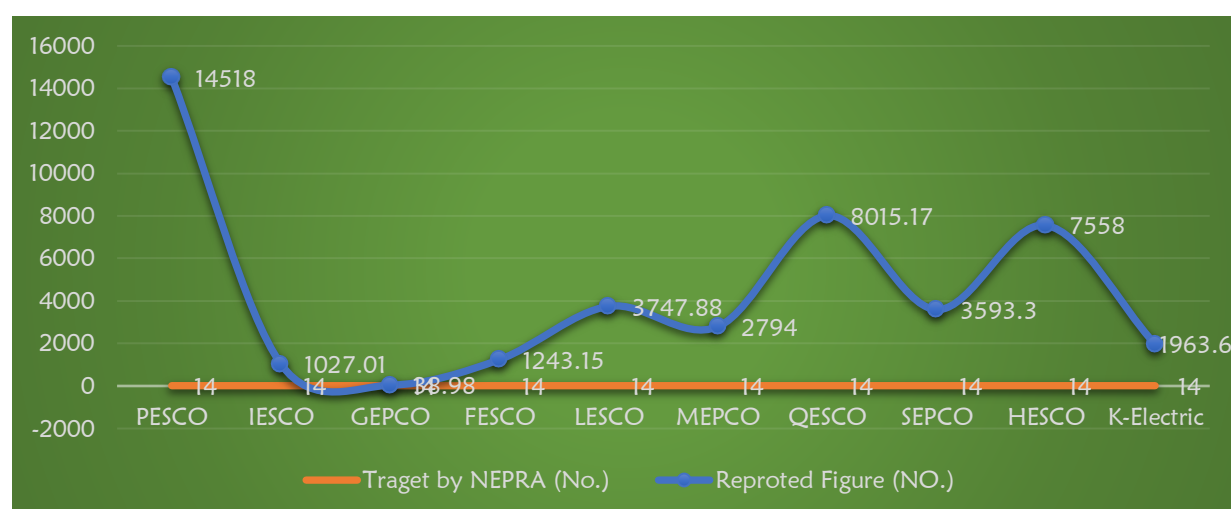


Figure 07: System Average Interruption Duration Index (SAIDI)

Above Table and Graph show that almost all DISCOs are far away from the NERPA set target of 14 minutes. GEPCO is near to the limit as it has submitted that its consumer experienced 39 min duration of outage on average basis in FY 2021-22 which seems not practical.

It is imperative to state that distribution companies have the understanding issues regarding SAIFI and SAIDI calculation mechanism despite the fact that NEPRA conducted comprehensive workshops two times in each DISCO during the years 2010-11 and 2011-12. Distribution Companies has to understand that only faults/unplanned outages occurring due to DISCO's own distribution system will be considered for calculation of SAIFI and SAIDI. The outages like planned, maintenance shut downs, load management and etc. shall not be considered while calculating SAIFI and SAIDI. Contrary to above, few DISCOs have serious misunderstanding and they were considering all such outages during SAIFI & SAIDI Calculations. Hence, it can be obviously said that the data mentioned above is not based on factual position.

Keeping in view such situation, initially interactive sessions with IESCO and MEPCO were conducted and mechanism related to SAIFI & SAIDI calculation was clarified. Later on, a comprehensive meeting/session was conducted with all DISCOs and discussed all issues such as types of outages to be considered, proformas for development of database regarding SAIFI/SAIDI interruptions, limit of short duration power supply interruption and setting up of SAIFI/SAIDI targets. In addition to above, DISCOs were informed that an online portal has been developed by NEPRA for online submission of SAIFI and SAIDI data. Accordingly, all DISCOs were agreed to submit the same on quarterly basis.

For K-Electric, it is pertinent to highlight that KE has installed more than 50K AMI/AMR meters on all PMTs in its service territory. Taking advantage of such technology, KE has been directed to submit SAIFI & SAIDI figures by considering the outages at PMT level which will be more accurate data as compared to other DISCOs as they are considering the outages at feeder level. It is further added that all XWAPDA DISCOs are also in process to install AMI/AMR meters at PMT level. In this way, SAIFI/SAIDI will be calculated at PMT level and the outage data will be more authentic to assess the healthiness of distribution system of DISCOs. This will also help DISCOs to identify weak areas and subsequently utilize the investment funds being allowed by NEPRA every year.

Being Regulator, the ultimate goal is to provide uninterrupted and reliable power supply to the people of Pakistan.

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

According to Rule 4 (c)-Time frame for New Connection (OS3) of Performance Standards (Distribution) Rules 2005; A distribution company shall provide electric power services to at least 95% of new connections to its eligible consumer as specified in the Consumer Eligibility Cafeteria laid down by the Authority pursuant to section 21(2)(b) of Ac in each of the following categories within the time limits specified by NEPRA from the date of application for new connection.

Name of DISCO	% Eligible consumers who were not provided new connections within prescribed time frame	Allowed Limit in PSDR 2005(%)	Breach (%)
PESCO	5.14	5	0.14
IESCO	0	5	0
GEPCO	25	5	20
FESCO	20.5	5	15.5
LESCO	1.99	5	0
MEPCO	4.67	5	0
QESCO	37.4	5	32.4
SEPCO	4.16	5	0
HESCO	0.04	5	0
K-Electric	15.69	5	10.69

Table 16: % Eligible consumer who were not provided new connection within prescribed time frame

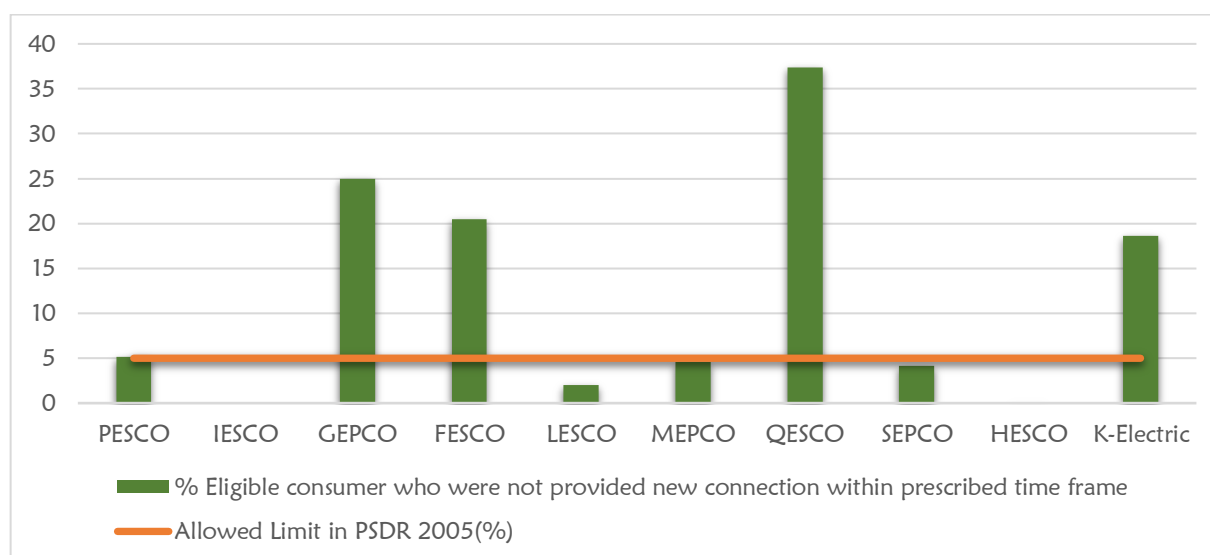


Figure 08: % Eligible consumer who were not provided new connection within prescribed time frame

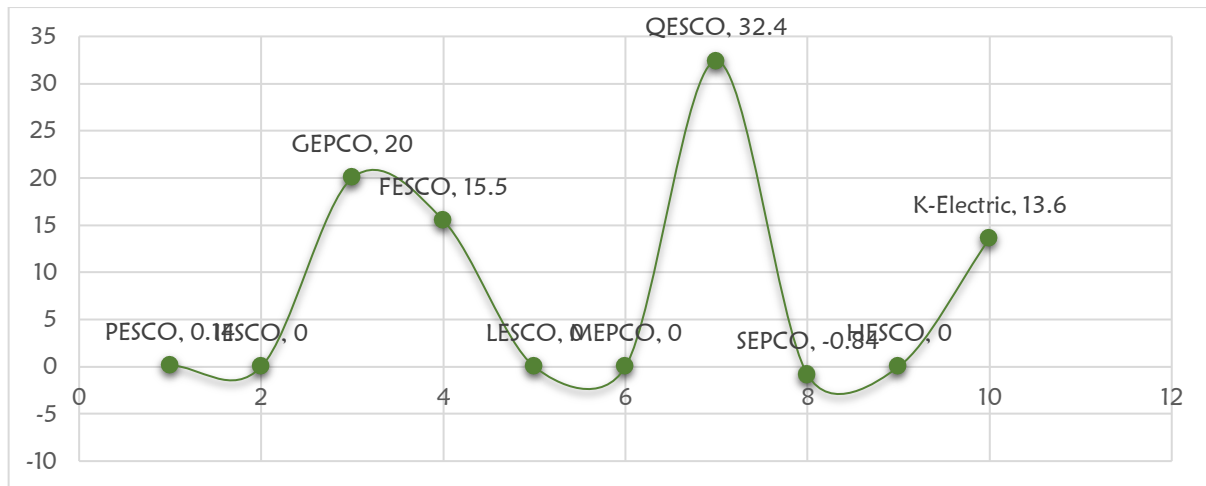


Figure 09: Breach of Targets (%)

Table 16 mentions the %age of consumers who were not provided new connections within the prescribed time frame during the year 2021-22. The data submitted by DISCOs is compared with the limit envisaged in Performance Standards (Distribution) Rules 2005, wherein Rule (c) states that “a distribution company shall provide electric power services to at least 95% of new connections to its eligible consumer”. It is further noted that IESCO, LESCO, MEPCO, SEPCO and HESCO have provided the connections more than 95% of its eligible consumers and met with the specified limit. However, QESCO, GEPCO, FESCO and K-Electric remained away from the target set by NERRA. They did not provide the new connections to 32.4%, 20%, 15.5% and 10.6% respectively of eligible consumers within the specified time frame despite the fact that these consumers had made the payment within time.

It is pertinent to highlight that NEPRA developed an online data exchange portal through which all DISCOs were required to submit data on monthly basis regarding category wise number of pending ripe connections, load (MW) could not be served due to pendency and duration of pendency in terms of months. Accordingly, data was submitted by all DISCOs from July, 2021 and monthly reports were presented before the Authority. The report for the month of Dec, 2021 revealed alarming figures pertains to pending ripe connections and load (MW) could not be served i.e., 482,522 and 1870 MW respectively. NEPRA also received a number of consumer complaints in this regard that despite payment of demand notices, connections are not provided by the DISCOs since long. Based on the report and complaints, the Authority took serious notice of such situation and directed to initiate legal proceedings against DISCOs.

Accordingly, Explanations were issued to DISCOs on account of failure to provide new connections within the time provided in Performance Standards (Distribution) Rules 2005. In response, DISCOs submitted their replies wherein, almost all admitted the facts and contended that the pendency occurred due to shortage of material, non-participation of bidders, variation in dollar price and inflation etc. All DISCOs were provided opportunities of personal hearings wherein, they committed to clear all pendency within two months. In this regard, reports were examined regularly and in May, 2022 around **01 Million** new connections were provided in all over Pakistan and **3,077 MW** load was injected in the system.

2.6 Load Shedding (Hours):

Table 17 illustrates the figures of average daily load shedding carried out by the distribution companies during the FY 2021-22.

The figures reported by the DISCOs are not based on ground realities. Except PESCO, QESCO and HESCO, all other DISCOs represent that they carried out load shedding for averagely 1 to 3 hours on daily basis which is far away from ground facts as major part of FY 22 remained under power generation crises due to fuel constraints.

Name	Reported figures of average daily load-shedding hours
PESCO	6
IESCO	2.5
GEPCO	0.8
FESCO	1
LESCO	0.5
MEPCO	0.6
QESCO	11
SEPCO	2.3
HESCO	8
K-Electric	3.4

Table 17: Average Load Shedding (Hours) daily

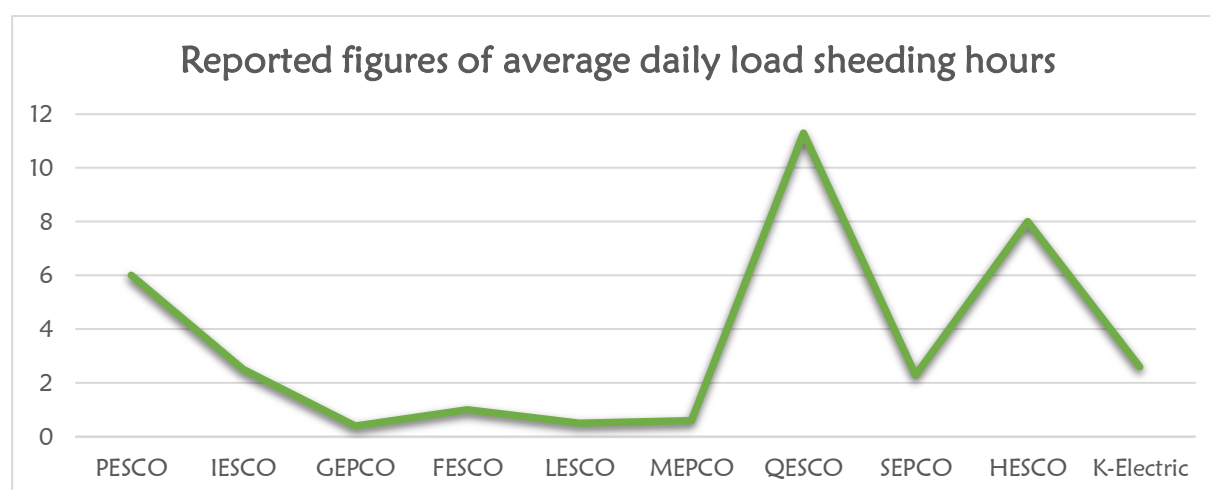


Figure 10: Average Load Shedding (Hours) daily

It is further observed that distribution companies especially PESCO, QESCO, SEPCO, HESCO and K-Electric are carrying out load shedding as per AT&C losses criteria which is not in line with the requirements Performance Standards (Distribution) Rules 2005. In this regard, Rule 4(f) of PSDR states that

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

- 1. Supply to consumers in rural area, and residential consumers in urban areas where separate feeders exist;*
- 2. Supply to the consumers other than the industrial, in urban areas;*

3. Supply to agriculture consumers where there is a dedicated power supply;
4. Supply to industrial consumers;
5. Supply to school & hospital;
6. Supply to defense and strategic installation;"

Keeping in view the requirements of performance Standards, distribution companies are persistently directed to follow the order of load shedding according to different categories of consumers as provided in PSDR 2005. So that a particular class of consumers cannot be overburdened.

The distribution companies like PESCO, QESCO, SEPCO, HESCO and K-Electric are also directed to submit their proposals regarding gradual decrease in AT&C losses in order to avoid load shedding. Moreover, the data pertaining to AT&C Losses for last four years has been critically analyzed and surprisingly observed that no significant improvement has been achieved by the DISCOs. It is matter of concern that these five DISCOs have failed to make their distribution system healthy particularly 11kV feeders despite the fact that NEPRA allowed colossal amounts under O&M head every year in their respective tariff determinations.

2.7 Nominal Voltages (% of consumers whose voltages remained beyond the 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 voltages.

Following are the nominal voltage for the distribution system:

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

Name of DISCO	No. of Consumers complaints made about voltages	Total No. of Consumers in DISCO	% of Complaints w.r.t total no. of consumer	Allowed % in PSDR 2005
PESCO	24,594	3,693,563	0.666	5
IESCO	7,125	3,428,263	0.208	5
GEPCO	10,600	4,025,502	0.263	5
FESCO	5,613	4,731,382	0.119	5
LESCO	5,385	5,887,253	0.091	5
MEPCO	4,085	7,181,724	0.057	5
QESCO	2,987	657,013	0.455	5
SEPCO	1087	814,833	0.134	5
HESCO	183	1,179,237	0.016	5
K-Electric	164,505	3,401,076	4.837	5

Table 18: No. of Consumers Complaints made about Nominal Voltages

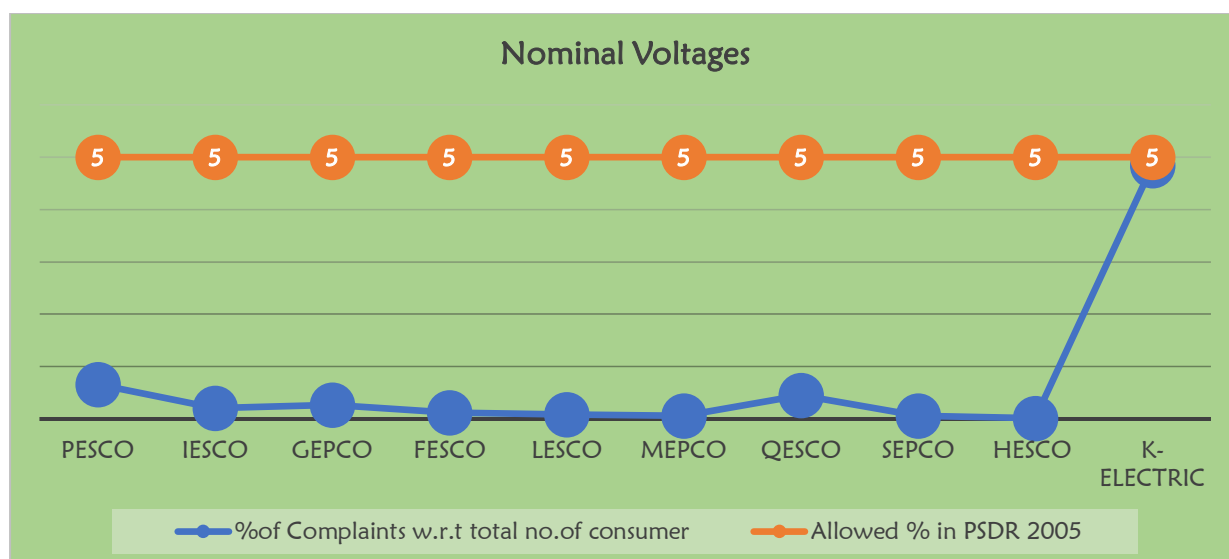


Figure 11: No. of Consumers Complaints made about Nominal Voltages

From the above table and graph, it is noted that the highest number of complaints pertaining to voltage fluctuations were received by K-Electric followed by PESCO and GEPCO i.e., 164,505, 24,594, and 10,600 respectively. Similarly, the lowest number of complaints were reported by SEPCO and HESCO i.e., 1087 and 183 respectively, which seems not based on factual position. This shows two possibilities either HESCO and SEPCO have not proper complaint handling mechanism so that maximum number of consumers can register their complaints or there is no proper data base system. Remaining DISCOs have also submitted the voltage related complaints in the range of 2000 to 7000. Overall, it is observed that all DISCOs have provided the voltages within limits to more than 95% of its total consumers which needs to be verified.

2.8 Consumer Service Complaints:

Name of DISCO	Reported Complaints	Total No. of complaint centers in DISCO	No. of Complaints per complaint center	Average number of complaints per day per complaint center
PESCO	90,084	174	517.724	1.418
IESCO	329,722	124	2659.048	7.285
GEPCO	255,884	146	1752.630	4.802
FESCO	356,100	376	947.074	2.595
LESCO	768,076	233	3296.464	9.031
MEPCO	270,443	217	1246.281	3.414
QESCO	33,876	75	451.680	1.237
SEPCO	7,480	78	95.897	0.263
HESCO	117,716	88	1337.682	3.665
K-Electric	1,543,091	30	51436.367	140.922

Table 19: Consumer Complaints

The above table depicts the reported number of consumer complaints received by DISCOs and analysis of number of average consumer complaints per day received by each complaint center in DISCOs and subsequently resolved by the DISCOs in FY 2021-22. The number of complaint centers mentioned in the above table are also reported by the distribution companies.

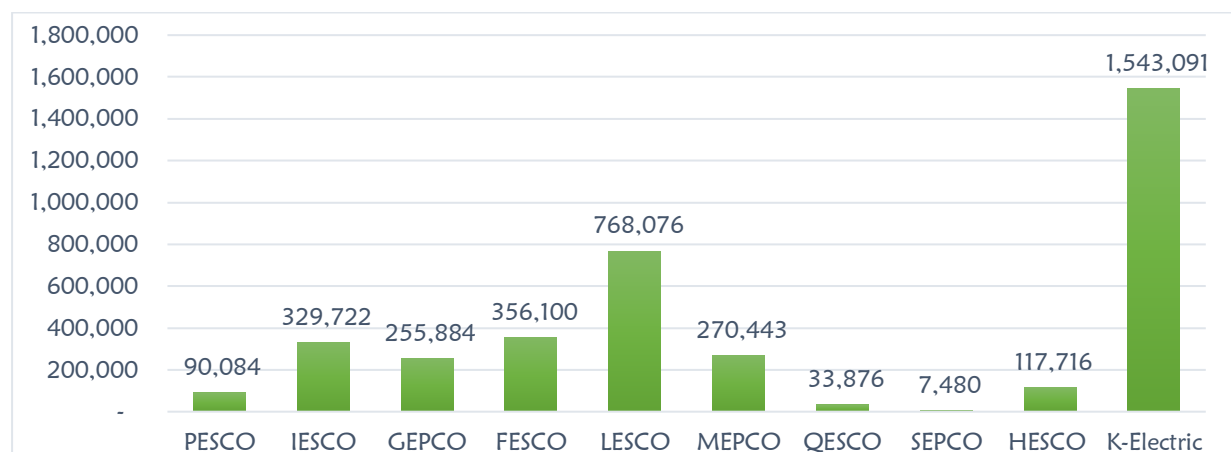


Figure 12: Consumer Complaints

The table indicates that SEPCO did not receive a single complaint in a day in each of its complaint centers. Whereas, K-Electric received 141 number of complaints per day per complaint center which clearly indicates that mechanism related to lodging/filing/registration of complaints in KE is effective as compared to all other DISCOs. Similarly, data submitted by PESCO, FESCO, MEPCO, QESCO and HESCO shows that they received only 2-3 complaints in a day in each of their complaint centers during the year 2021-22. Apparently, all this is not based on true facts because there is no proper system of registration of complaints in DISCOs.

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

FY 2021-22 reveals a terrible picture with respect to the number of fatal accidents as a total of 196 including both Public and employees occurred in service territories of DISCOs which is higher than last year. This clearly reflects that DISCOs have failed to comply with the 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

Name	No. of fatalities for employees	No. of fatalities for Public	Total No. of fatalities reported
PESCO	10	29	39
IESCO	10	17	27
GEPCO	3	7	10
FESCO	5	0	5
LESCO	9	18	27
MEPCO	4	4	8
QESCO	4	4	8
SEPCO	2	8	10
HESCO	3	32	35
K-Electric	0	27	27
Total	50	146	196

Table 20: Safety Accidents

working practices as outlined in the Distribution Code or applicable documents to ensure the safety of its staff and public.

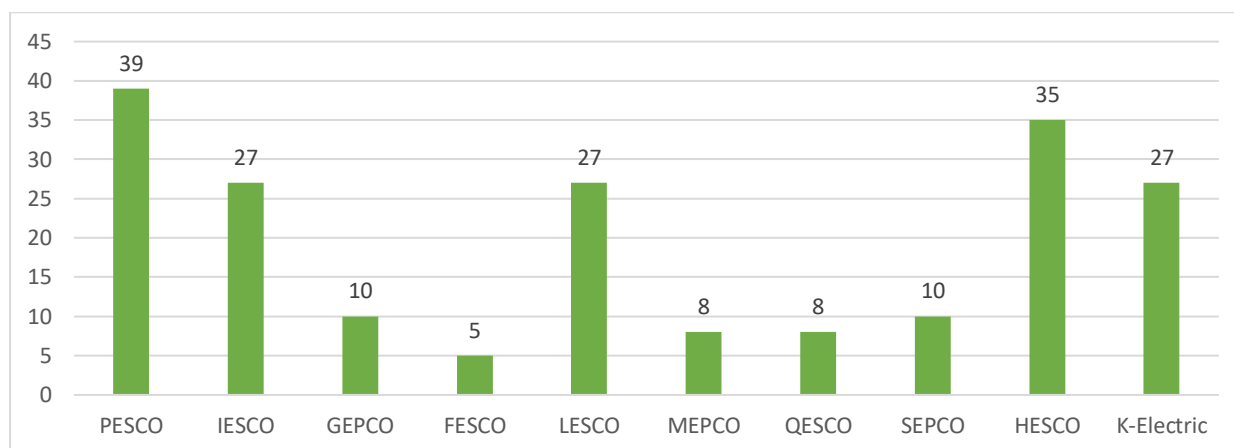


Figure 13: Safety Accidents

The highest number of deaths occurred in PESCO followed by HESCO, K-Electric and IESCO during FY 2021-22. Further it is observed that most of the fatalities of these distribution companies pertain to general public. Similarly, the lowest number of deaths occurred in FESCO followed by MEPCO and QESCO.

NERPA being a Regulator consider the safety as of paramount importance and persistently directs the DISCOs to develop safety culture by adhering the safety standards. NEPRA has established health, safety and Environment (HSE) Department in order to frame safety legislation, review and update of already existing safety standards and subsequent its implementation in letter & spirit. Furthermore, investigations against all DISCOs have been carried out on account of fatal accidents and heavy fines have been imposed. NEPRA while considering the grief of victim families, has issued directions to all DISCOs to compensate the bereaved families with equal amount given by DISCOs to their employee's families along with a job to the next of their kin.

In addition, DISCOs are directed to conduct detailed surveys to identify all safety hazard points including earthing/grounding of HT/LT poles/structures and take immediate steps to remove such safety hazards in order to avoid fatal accidents in future. All DISCOs have also been directed to submit a robust plan in this regard. Upon instructions and continuous follow up by NEPRA, K-Electric has completed the earthing/grounding of around 216,000 HT/LT poles/structures of its distribution system.

2.10 Fault Rate (No. of faults/KM):

Fault rate is 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 distribution line.

Name	Total length of Distribution System (Km)	Total No. of Faults	Fault Rate (No. of Faults/km)
PESCO	88548.25	39526	0.45
IESCO	58930.55	289285	4.91
GEPCO	46316	160509	3.47
FESCO	98014	110603	1.13
LESCO	50220	270774	5.39
MEPCO	52195.5	55145	1.06
QESCO	67858.54	83379	1.23
SEPCO	41170	48878	1.18
HESCO	47024.82	55839	1.18
K-Electric	29456	39339	1.34

Table 21: Fault Rate (No. of faults/KM)

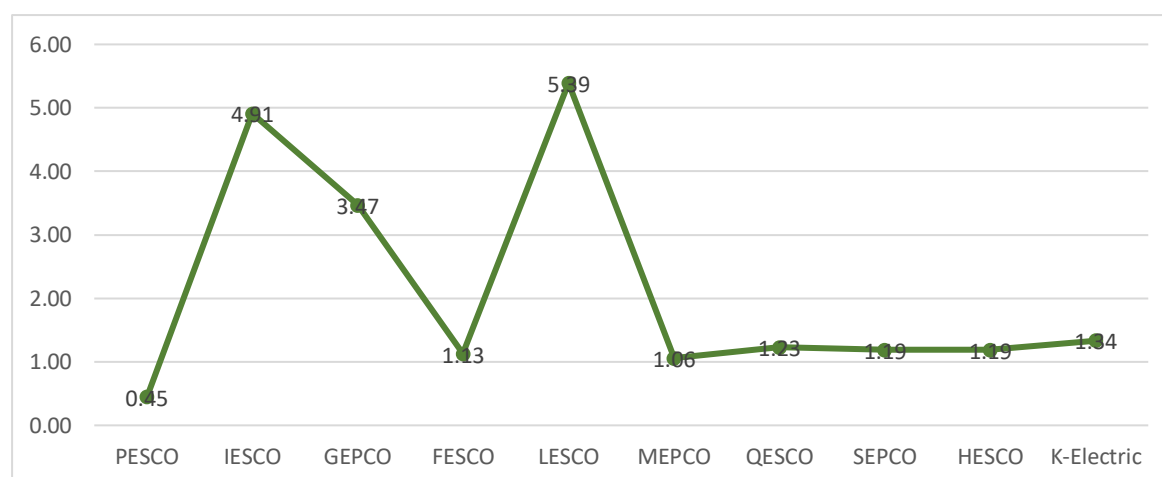


Figure 14: Fault Rate (No. of faults/KM)

The above table explains the ratios of faults/km based on the data submitted by DISCOs. The data reveals that PESCO's distribution system is most efficient system in the country, which is far away from ground reality. Similarly, the ratios of other DISCOs also seem not realistic. On one hand, DISCOs have tried to show that their system is too healthy and there were no faults in FY 2022, whereas on the other hand, daily reports regarding power failure indicate that severe power outages occurred in FY 2022 in addition to scheduled load shedding due to which consumers suffered from dark for unexplainably longer durations. It is further observed that the results of SAIFI and SAIDI are also in contradiction with the figures of these ratios. Ideally, all these parameters should be consistent with each other if the performance of DISCOs is going to be better in true sense.

03

Comparison of DATA for FY 2021-20 With Last Four Year (2017-18, 2018-19, 2019-20, & 2020-21):

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

Name of DISCO	2017-18	2018-19	2019-20	2020-21	2021-22
PESCO	38.1	36.6	38.9	38.2	37.23
IESCO	9.13	8.86	8.69	8.55	8.18
GEPCO	10.1	9.87	9.51	9.23	9.07
FESCO	10.5	9.8	9.6	9.3	9.1
LESCO	13.8	13.2	12.4	12	11.5
MEPCO	16.6	15.8	15.2	14.9	14.7
QESCO	22.4	23.6	26.7	27.9	28.1
SEPCO	36.47	37	36.3	35.3	35.6
HESCO	29.8	29.5	28.9	28	27.4
K-Electric	20.4	19.1	19.73	17.54	15.3

Table 22: Transmission and Distribution (T&D) Losses

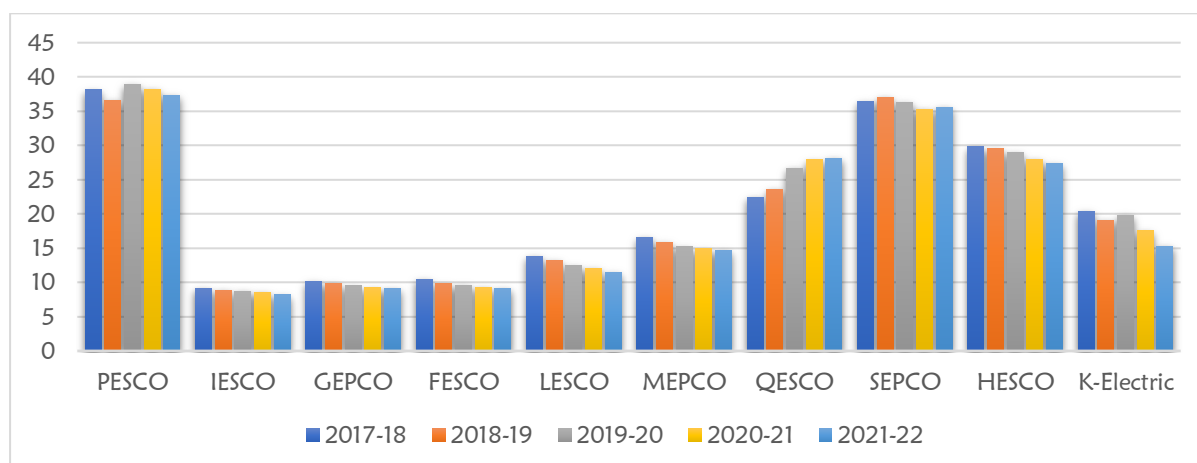


Figure 15: Transmission and Distribution (T&D) Losses

The above table and figure reflect the trends of T&D losses for the last four years in comparison to FY 2021-22. Further, it is observed that all DISCOs except QESCO and SEPCO have performed well in comparison to last four years and gradually decreasing the losses ratio. However, it is noted with concern that the losses of PESCO, QESCO, SEPCO and HESCO are still on higher side and require concrete measures to bring down near to NEPRA assigned targets.

3.2 Recovery (%):

Name of DISCO	2017-18	2018-19	2019-20	2020-21	2021-22
PESCO	89.5	88.6	87.7	102.5	92.2
IESCO	99.1	90	90.3	116.87	95.62
GEPCO	97	98	94.36	106	99.7
FESCO	97.93	91.03	94.18	102	99.53
LESCO	97.8	97.67	94.6	98.72	97.1
MEPCO	99.68	99.8	94.21	103.61	99.73
QESCO	46.1	24.4	80.6	39.8	35.4
SEPCO	60.1	63.9	56.6	64.7	64.7
HESCO	76.7	74.5	70.1	76.7	75.1
K-Electric	91.04	92.6	92.14	94.8	96.6

Table 23: Recovery (%)

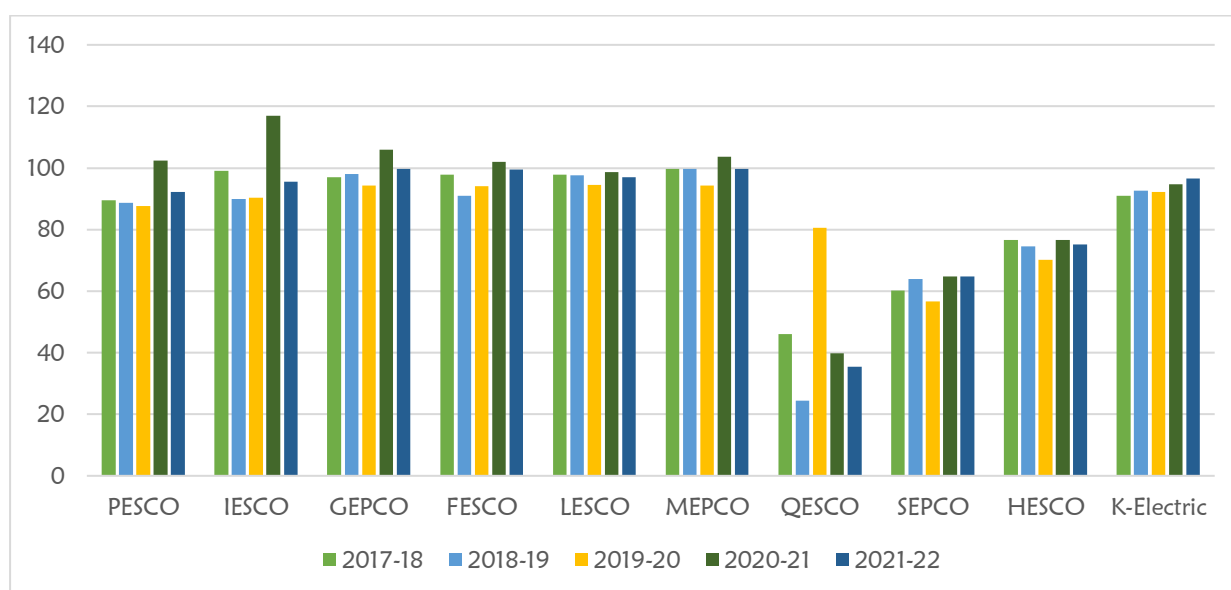


Figure 16: Recovery (%)

Above table and graph illustrate that the performance in terms of recovery of all the DISCOs have declined in FY 2021-22 as compared to last year except K-Electric. Although the recoveries of GEPCO, FESCO and MEPCO are more than 99% but are less in comparison to FY 2020-21 as they achieved more than 100% previous year. Similarly, the recovery position of PESCO, IESCO and LESCO is more than 90% but is less than the last year. The Performance of SEPCO remained same in this regard.

3.3 System Average Interruption Frequency Index (SAIFI):

Name of DISCO	2017-18	2018-19	2019-20	2020-21	2021-22
PESCO	170	189.01	187.93	193.7	188.92
IESCO	0.04	0.05	0.06	0.05	20.56
GEPSCO	30.97	27.13	25.64	24.78	23.02
FESCO	38.87	36.86	35.65	35.53	35.2
LESCO	32.92	30.19	33.03	34.66	32.86
MEPCO	316.22	369.159	375.98	471	43.94
QESCO	95.18	97.98	99.12	97.96	97.11
SEPCO	568.59	516.37	478	441.04	410.7
HESCO	180.74	170.86	162.85	137.1	134.05
K-Electric	17.55	28.95	27.56	28	25.95

Table 24: System Average Interruption Frequency Index

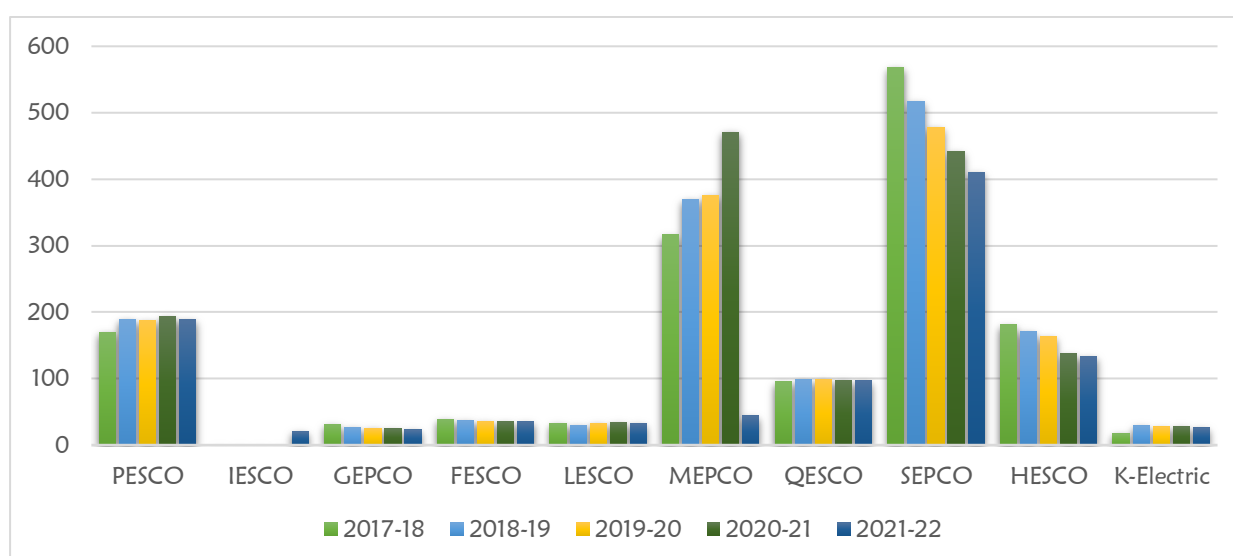


Figure 17: System Average Interruption Frequency Index

The above data of last five years indicate that all DISCOs have gradually improved their performance in terms of SAIFI except IESCO and MEPCO. MEPCO has drastically reduced the number of SAIFI as it had made its understandings better for calculating SAIFI and excluded all type of planned outages. Similarly, the figure of IESCO has significantly gone upward from 0.05 to 20.5 because previously it had miscalculated the SAIFI and now whole mechanism has been clarified to IESCO after several meetings with NEPRA team.

3.4 System Average Interruption Duration Index (SAIDI):

Name of DISCO	2017-18	2018-19	2019-20	2020-21	2021-22
PESCO	16222.79	16696.51	14924.4	14821	14518
IESCO	0.73	1.27	1.36	1.36	1027.01
GEPCO	53.67	45.19	42.4	40.33	38.98
FESCO	1951.38	1627.99	1331.1	1252.7	1243.15
LESCO	4338.23	3538.93	3593.73	3821.84	3747.88
MEPCO	26822.35	31419.3	31920.87	39.733	2794
QESCO	8287.9	8402.4	8375.85	8176.2	8015.17
SEPCO	4397.44	4306.74	4095	3893.3	3593.3
HESCO	12292.57	10973.67	9751	7852.2	7558
K-Electric	1451.42	2950.22	2655	2564.66	1963.6

Table 25: System Average Interruption Duration Index (SAIDI)

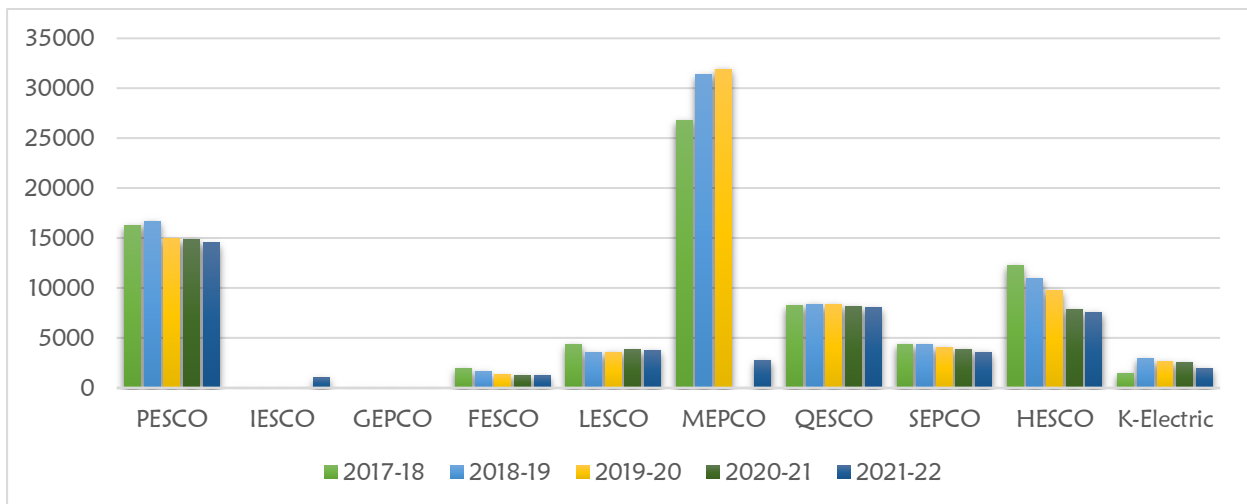


Figure 18: System Average Interruption Duration Index (SAIDI)

While comparing the data of SAIDI with last four years, it is observed that all DISCOs are improving but the values are still on higher side. However, same observations for MEPCO and IESCO have been noted as were observed in SAIFI.

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

Name of DISCO	2017-18	2018-19	2019-20	2020-21	2021-22
PESCO	2.23	0.5	2.01	6.9	5.14
IESCO	0	0	0	0	0
GEPCO	18.79	21.9	22.9	23.2	25
FESCO	15.94	21	17.43	17.9	20.5
LESCO	5.23	4.1	1.85	1.7	1.99
MEPCO	5.28	7.9	5.44	4.6	4.6
QESCO	1.31	4.13	17.72	31.3	37.4
SEPCO	4.3	13.2	13.39	8.75	4.16
HESCO	0.03	0.003	3.78	0.03	0.038
K-Electric	4	3.3	9.62	17.5	15.96

Table 26: % of Pending Ripe Connections

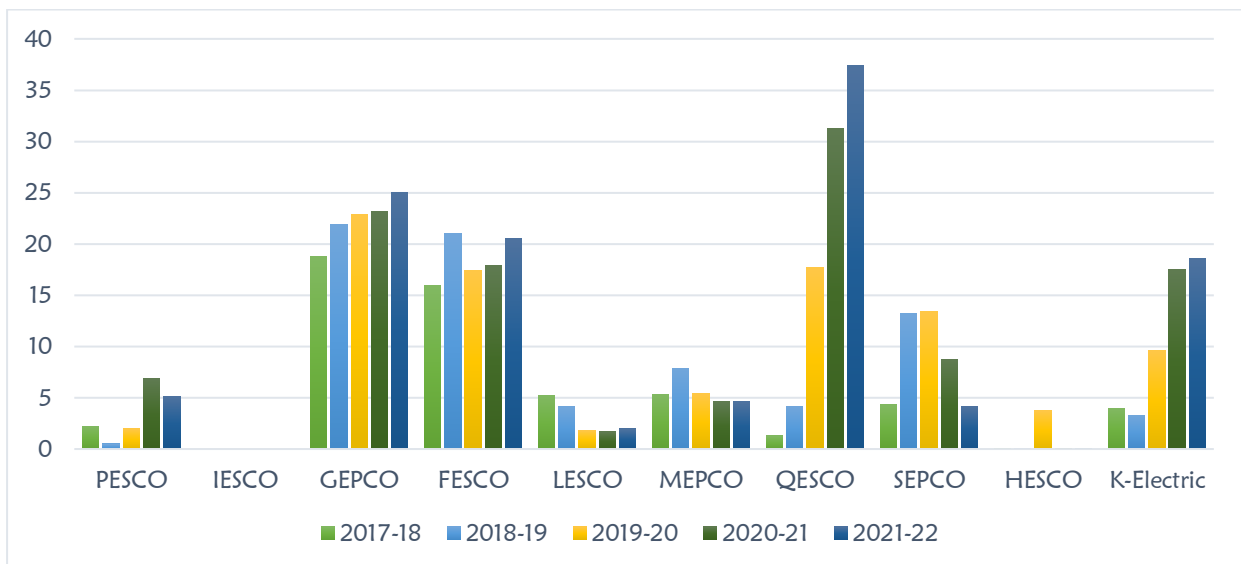


Figure 19: % of Pending Ripe Connections

Table 26 and figure 19 represent the data pertaining to % of pending Ripe connections who were not provided new connections as per time limits specified in PSDR, 2005. The trend of last four year's shows that DISCOs are remained inconsistent in their performance as there are variations in data in different years and the number of few DISCOs are on higher side in comparison to previous year.

3.6 Load Shedding (Hours):

Name of DISCO	2017-18	2018-19	2019-20	2020-21	2021-22
PESCO	3.25	1.55	2.92	1.8	6
IESCO	3.125	1.625	1.83	1	2.5
GEPCO	11	0.5	0	0.33	0.4
FESCO	0.74	0.32	0	0	1
LESCO	1.7	2.4	3	3	0.5
MEPCO	1.3	0.43	0.32	0.66	0.6
QESCO	5.8	7.33	6	8	11.3
SEPCO	2.25	2.25	2.33	7.3	2.3
HESCO	3.75	5.5	5.67	6	8
K-Electric	1.26	1.77	2.73	1.94	3.4

Table 27: Load Shedding (Hours)

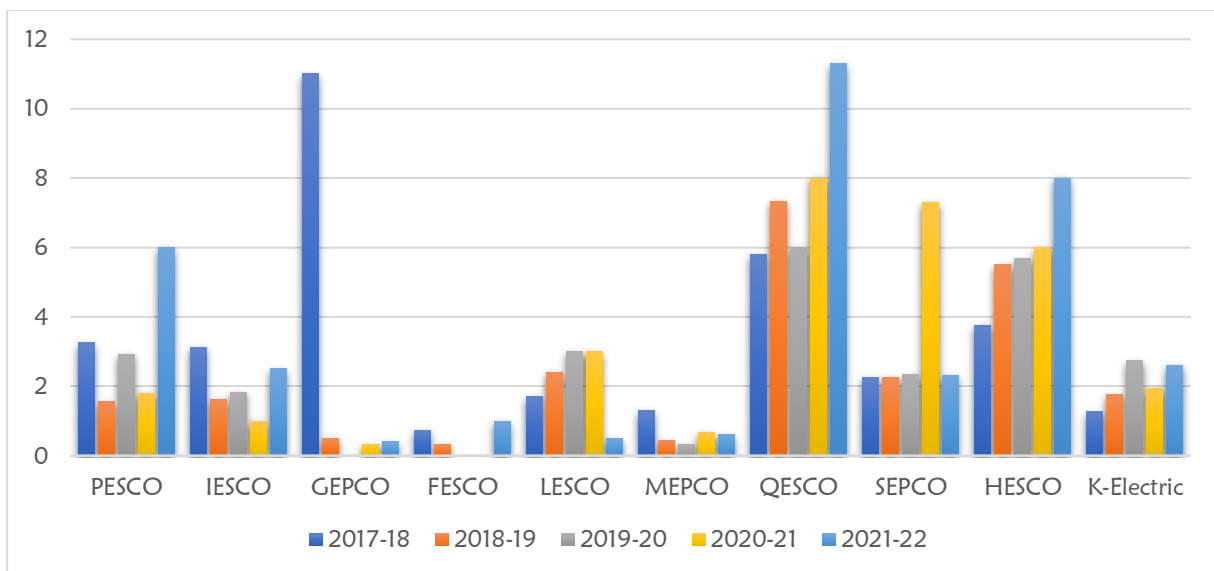


Figure 20: Load Shedding (Hours)

Above Table and figure indicate the average daily load shedding hours in each DISCO. The trend analysis shows the variation in data pertaining to Load Shedding submitted by DISCOs. Whereas, average load-shedding timing is increased in PESCO, IESCO, QESCO, HESCO, and K-Electric.

3.7 Nominal Voltages (No. of Consumers Complaints who made about Voltages):

Name of DISCO	2017-18	2018-19	2019-20	2020-21	2021-22
PESCO	6812	19118	9640	10869.5	24,594
IESCO	6352	10079	10114	9513	7,125
GEPCO	5485	9604	10433	10133	10,600
FESCO	4572	5682	5241	7782	5,613
LESCO	3303	12287	4197	5525	5,385
MEPCO	0	7888	6623	4308	4,085
QESCO	4541	4525	3519	3273	2,987
SEPCO	1734	928	1100	432	484
HESCO	212	191	186	189	183
K-Electric	628	3096	262170	219577	164,505

Table 28: No. of Consumers complaints who made about Voltages

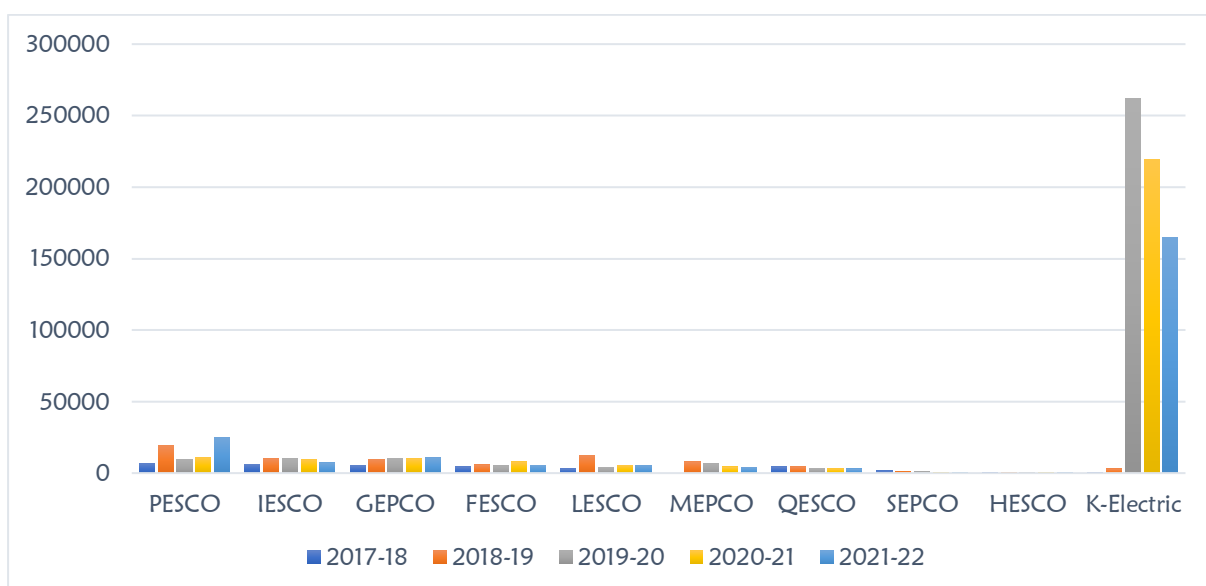


Figure 21: No. of Consumers complaints who made about Voltages

The above data shows the number of consumers who made complaints about voltage fluctuations in FY 2021-22. The number of complaints is on the lower side as compared to previous year. However, it is a matter of fact that the problem is severe and especially in summer season being faced by consumers at large scale. Further, it is important to note that voltage fluctuations can be controlled and better quality of supply can be provided to consumers by taking some measures such as preventive maintenance of feeders, timely rehabilitation and up-gradation of distribution system etc.s

3.8 Consumer Service Complaints:

Name of DISCO	2017-18	2018-19	2019-20	2020-21	2021-22
PESCO	99729	79832	111303	124363	90,084
IESCO	43504	555437	513524	372326	329,722
GEPCO	820260	838502	255019	239918	255,884
FESCO	464662	354801	335662	312514	356,100
LESCO	6231274	548487	528442	544663	768,076
MEPCO	48425	88785	218091	226862	270,443
QESCO	68876	48378	47152	36827	33,876
SEPCO	28900	7571	7598	21148	7,480
HESCO	62269	90703	120113	126437	117,716
K-Electric	1966269	1807368	2034227	2018041	1,543,091

Table 29: Consumer Service Complaints

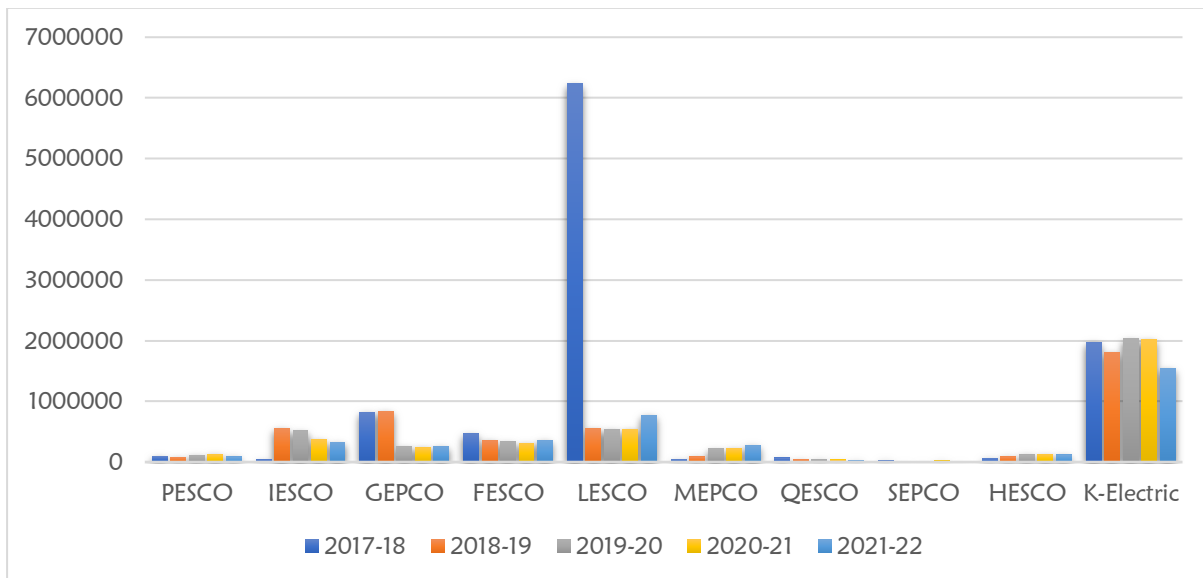


Figure 22: Consumer Service Complaints

The above table depicts the number of complaints received by the distribution companies over the period of last 04 years in comparison with FY 2021-22. Overall mixed trend has been observed. GEPCO, FESCO, LESCO and MEPCO have received higher number of consumer complaints in FY 2021-22 as compared to last year. Whereas, the remaining DISCOs have reported less number as compared to FY 2020-21.

3.9 SAFETY (Total No. of fatal Accidents for both Employees and General Public):

Name of DISCO	2017-18	2018-19	2019-20	2020-21	2021-22
PESCO	10	16	31	23	39
IESCO	20	29	17	22	27
GEPCO	29	12	8	7	10
FESCO	7	8	12	9	5
LESCO	21	9	8	11	27
MEPCO	17	14	13	13	8
QESCO	6	7	7	6	8
SEPCO	17	12	13	14	10
HESCO	15	12	8	32	35
K-Electric	10	54	43	39	27
Total	152	173	160	176	196

Table 30: No. of Fatal Accidents

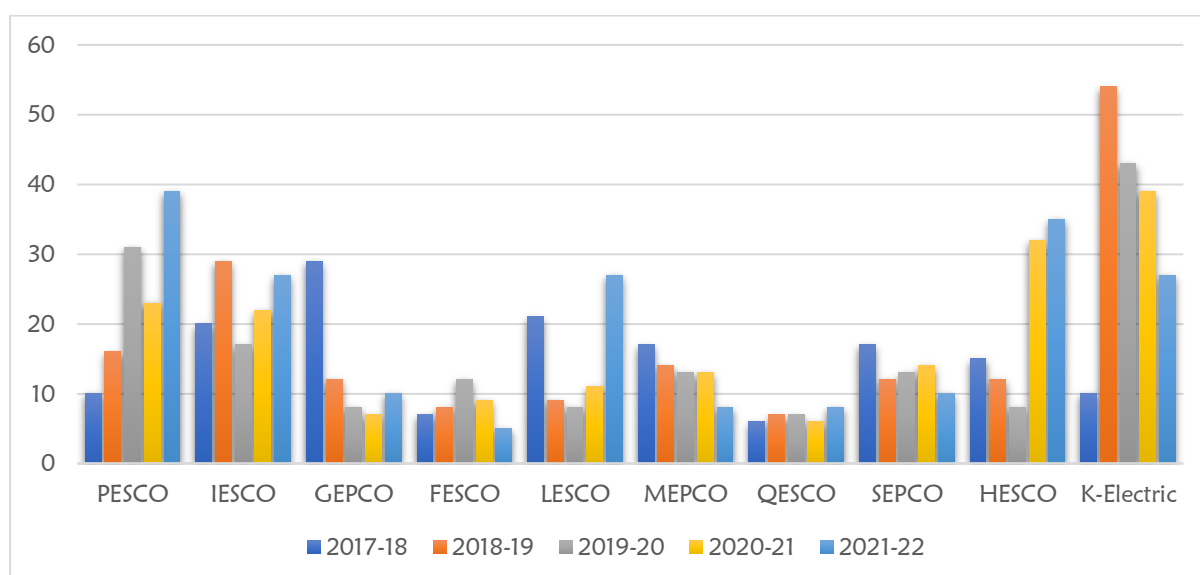


Figure 23: No. Fatal Accidents

While comparing the data of safety accidents submitted by DISCOs, the number of safety accidents has exponentially increased in last three years which is very alarming and a matter of serious concern. Taking a closer look, the performance of IESCO, LESCO and HESCO has been significantly declined since 2019-20. Whereas, FESCO and MEPCO have improved as their number has been decreased. Although the number of K-Electric has also been decreased but still it is a big number. It is pertinent to highlight that NEPRA had initiated legal proceedings against all DISCOs and imposed heavy fines. Further, NEPRA has also issued directions to provide compensation to the victim families of Public Persons equal to the amount given to their Employees along with a job to next of kin.

3.10 Fault Rate (No. of Faults/KM):

Name of DISCO	2017-18	2018-19	2019-20	2020-21	2021-22
PESCO	0.45	0.574	0.4	0.379	0.45
IESCO	8.52	12.09	11.34	8.77	4.91
GEPCO	3.04	3.327	3.49	2.28	3.46
FESCO	1.11	1.247	1.38	1.609	1.13
LESCO	5.91	6.08	5.58	5.46	5.39
MEPCO	5.82	6.67	60.6	6.55	1.06
QESCO	0.48	0.782	1.01	1.34	1.23
SEPCO	2.49	1.89	1.55	1.26	1.18
HESCO	0.84	0.998	0.96	0.82	1.18
K-Electric	0.85	1.31	1.34	1.34	1.34

Table 31: No. of Faults/KM

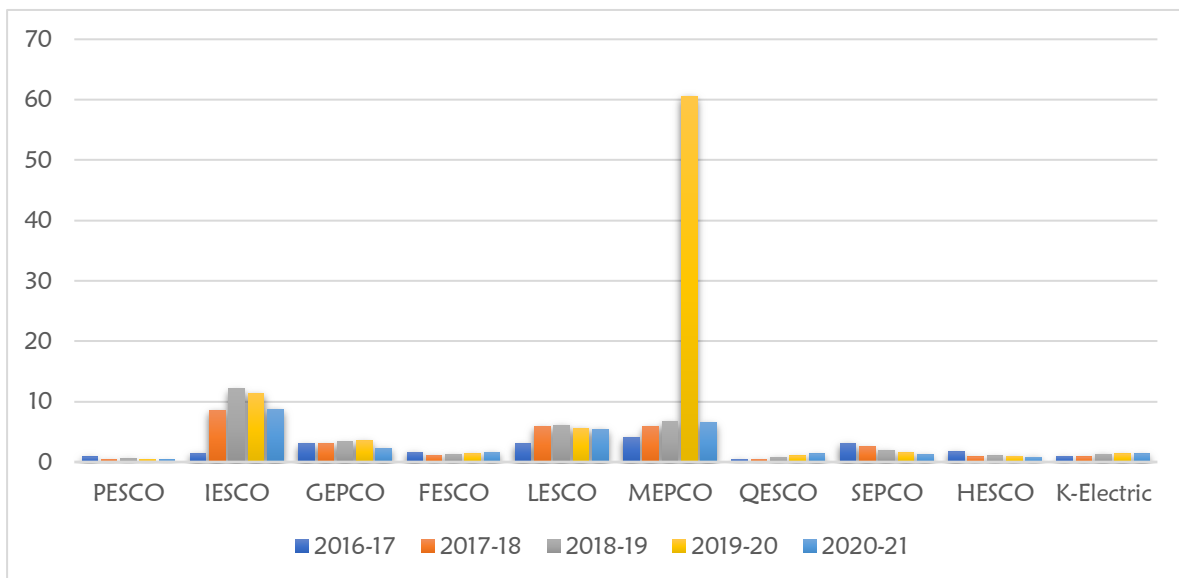


Figure 24: No. of Faults/KM

While observing the data pertaining to fault rate for the last five years, it is observed that the results of this parameter are inconsistent. Further, the comparison of data for FY 2020-21 with 2021-22 indicate that all the DISCOs have claimed improved performance in terms of fault rate except PESCO, GEPCO and HESCO.