

KERALA STATE ELECTRICITY REGULATORY COMMISSION

THIRUVANANTHAPURAM

No.1114 / CE/ 2019/ KSERC

Dated 9th August, 2019

NOTICE

In exercise of the powers conferred under subsection (3) of Section 181 of the Electricity Act, 2003 (Central Act 36 of 2003) read with Sections 61, 57 and 59 thereof and all other powers enabling it in this behalf, the Kerala State Electricity Regulatory Commission hereby makes the following draft of the 'Kerala State Electricity Regulatory Commission (Power Quality for Distribution System) Regulations, 2019', for information of persons likely to be affected thereby. Any objection or suggestions thereon may be forwarded to the Secretary, Kerala State Electricity Regulatory Commission, KPFC Bhavanam, C.V.Raman Pillai Road, Vellayambalam, Thiruvananthapuram- 695010 within one month from the date of publication of this notice. Objections and suggestions received on or before the said date shall be considered by the Commission before finalization of the said draft Regulation.

By order of the Commission,

Secretary

(DRAFT)

Kerala State Electricity Regulatory Commission (Power Quality for Distribution System) Regulations, 2019.

CHAPTER - 1

PRELIMINARY

1. Short Title, Extent and Commencement.- (1) These Regulations shall be called the Kerala State Electricity Regulatory Commission (Power Quality for Distribution System) Regulations, 2019.

(2) It extends to the whole of the State of Kerala.

(3) These Regulations shall come into force from the date of publication of the same in the Official Gazette.

2. Scope and extent of application.- (1) These Regulations shall apply to the Distribution Licensee(s) including Deemed Distribution Licensee(s), distribution franchisees and all the Designated Customer(s) of electricity connected at or below 33kV voltage level.

(2) The scope of these Regulations is to specify the main characteristics of power quality of electrical supply at the Point of common coupling (PCC) or at the supply terminals of Customers in the distribution system. The characteristics of power quality of electrical supply considered in these Regulations to be controlled by the distribution licensee are:

- (i) Supply voltage variations;
- (ii) Supply voltage flicker;
- (iii) Supply voltage unbalance;
- (iv) Supply voltage dips and swells;
- (v) Supply voltage harmonics;
- (vi) Supply Interruptions;
- (vii) Current harmonics (to be controlled by designated customers).

(3) The limits specified in these Regulations for power quality parameters shall apply only under normal operating conditions.

3. Definitions and Interpretations.- (1) In these Regulations, unless the context otherwise requires,-

- (1) **“Act”** means the Electricity Act, 2003 (Central Act 36 of 2003);
- (2) **“Authority”** means the Central Electricity Authority (CEA);
- (3) **“Consumer”** means any person who is supplied with electricity for his own use by a licensee or the Government or by any other person engaged in the business of supplying electricity to the public under the Act or any other law for the time being in force and includes any person whose premises are for the time being connected for the purpose of receiving electricity with the works of a licensee, the Government or such other person, as the case may be;
- (4) **“Central Commission”** means the Central Electricity Regulatory Commission;
- (5) **“Commission”** means the Kerala State Electricity Regulatory Commission;
- (6) **“Continuous Phenomenon”** means deviations from the nominal value that occur continuously over time;
- (7) **“Contract Demand”** means the demand in Kilo Watt (kW)/ Kilo Volt Ampere (kVA) as mutually agreed between the Distribution Licensee and the Consumer and as entered into in the agreement for which Distribution Licensee makes

specific commitment to supply from time to time in accordance with the governing terms and conditions contained therein or equal to the sanctioned load, wherein the contract demand has not been provided through/ in the agreement;

- (8) “**Declared Supply Voltage (Uc)** ” means the voltage at the consumer’s supply terminals declared by the supplier of electrical energy. Declared supply voltage is usually equal to the nominal voltage;
- (9) “**Designated Customers**” means the customers identified as ‘major power quality polluters’ due to their installed non-linear loads or generation or otherwise under these Regulations and shall inter alia include commercial buildings (Healthcare, Hotels, Airports, malls etc.), IT/ ITES and Banking, Finance & Service Industries (BFSI), Industries such as Automobiles, Iron & Steel, Aluminium, Textile, Paper & Pulp, Chlor-Alkali, Petro-Chemical, Cement, Pharmaceuticals, Fertilizer, Food Processing, Plastic & Rubber etc. and Railways/ Metros, grid connected distributed generating resource, Electric Vehicle Charging infrastructure etc.;
- (10) “**Flicker**” means the impression of unsteadiness of visual sensation induced by a light stimulus whose luminance or spectral distribution fluctuates with time. It is caused under certain conditions by voltage fluctuation changing the luminance of lamps;
- (11) “**Flicker Severity**” means intensity of flicker annoyance evaluated by the following quantities:

- a) Short term severity (P_{st}) measured over a period of 10 min;
 - b) Long term severity (P_{lt}) calculated from a sequence of twelve P_{st} - values over a 2 hour time interval;
- (12) **“Forum”** means the Consumer Grievance Redressal Forum constituted under the Kerala State Electricity Regulatory Commission (Consumer Grievance Redressal Forum & Electricity Ombudsman) Regulations, 2005 including the subsequent amendments thereto in force from time to time ;
- (13) **“Frequency”** means the number of alternating cycles per second, expressed in Hertz (Hz);
- (14) **“Grid Code”** means the Grid/ Distribution/ Supply Code as specified by Kerala State Electricity Regulatory Commission;
- (15) **“Grid Standards”** means the Grid Standards specified by the Authority;
- (16) **“Harmonics”** means the sinusoidal component of a periodic wave, either Voltage or Current waveform, having a frequency that is an integral multiple of the fundamental frequency of 50 Hz;
- (17) **“High Voltage”** means the voltage whose nominal *rms* value is more than 1000 volts but less than or equal to 33000 volts as per CEA standards;
- (18) **“Indian Standards (IS) ”** means the standards specified by the Bureau of Indian Standards;
- (19) **“IEC Standard”** means the standard approved by the International Electro technical Commission (IEC);
- (20) **“Interconnection Point (of the Distribution System) ”** means a point on the electricity system, including a sub-station or switchyard, where the interconnection is established between the customer and the electricity system of the distribution licensee and where electricity injected into or drawn from the electricity system can be measured unambiguously for the customer;
- (21) **“Licensee”** means the distribution licensee;
- (22) **“Low Voltage (LV) ”** means the voltage whose nominal *rms* value is less than or equal to 1000 Volts as per CEA standards;
- (23) **“Maximum demand load current”** means the current value at the point of common coupling calculated as the sum of the currents corresponding to the maximum 15 minute demand during each of the twelve previous months divided by 12;
- (24) **“Nominal voltage (of the Distribution System) (Un) ”** means the value of voltage by which the electrical installation or part of the electrical installation is

designated and identified;

- (25) **“Normal Operating Condition”** means the operating condition for an electricity network, wherein the generation and load demands meet, system switching operations are concluded, faults are cleared by automatic protection systems and in the absence of:
- i) temporary supply arrangement; and
 - ii) exceptional situations such as:
 - a) exceptional weather conditions and other natural disasters;
 - b) force majeure;
 - c) third party interference;
 - d) acts by public authorities;
 - e) Industrial actions (subject to legal requirements);
 - f) Power shortages resulting from external events.
- (26) **“Nominal Frequency”** means the frequency of 50 Hz of the supply voltage;
- (27) **“Point of Common Coupling (PCC)”** means the point of metering, or any other point on supply system of distribution licensee, electrically nearest to the particular load at which other loads are, or could be, connected. For Industrial users, office complex, shopping malls etc. supplied through a dedicated service transformer, the PCC is usually at the HV side of the transformer. For users supplied through a common service transformer, the PCC is commonly at the LV side of the service transformer;
- (28) **“Power Factor” or “Displacement Power Factor”** means the *cosine* of the electrical angle between the voltage and current vectors in an AC electric circuit;
- (29) **“Power Quality Meter”** means a device suitable for monitoring and recording of power quality; capable of accurate measurement, monitoring and recording of; harmonics, sags, swells, flickers and other power quality parameters;
- (30) **“Rural areas”** means the areas covered by Gram Panchayats, including major and minor Panchayats;
- (31) **“rms (root-mean-square) value”** means square root of the arithmetic mean of the squares of the instantaneous values of a quantity taken over a specified time interval and bandwidth;
- (32) **“Sanctioned load”** means the load in kilo watt (kW)/ kilovolt ampere (kVA) for which the Distribution Licensee has agreed to supply from time to time subject to governing terms and conditions;

- (33) **“Supply Area”** means the area within which a Distribution Licensee is authorized by his License to supply electricity;
- (34) **“Supply Terminals”** means the point in a distribution system designated as such and contractually fixed, at which electrical energy is exchanged between the Customer and distribution licensee. This point can differ from the electricity metering point or the point of common coupling;
- (35) **“Supply Voltage”** means the *rms* value of the voltage at a given time at the supply terminal, measured over a given interval;
- (36) **“Supply Voltage Interruption”** means a condition in which the voltage at the supply terminals is completely lost or lower than 10% of the nominal voltage condition. It is further classified as:
- a) **“Forced or Accidental Supply Interruptions”**, caused by permanent or transient faults, mostly related to external events, equipment failures or interference;
 - b) **“Planned or Prearranged Supply Interruptions”** caused by a planned supply interruption in the network with advance information to the affected users;
 - c) Forced or Planned supply interruption is further classified as:
 - (i) **“Sustained or long interruption”** means the period of supply interruption is more than 3 minutes; and
 - (ii) **“Short interruption”** means the period of supply interruption is from 20 milli second (ms) to 3 minutes;
 - d) For poly-phase systems, a supply interruption is considered to be occurred when the voltage falls below 10% of the nominal voltage on all phases (otherwise, it is considered to be a dip).
- (37) **“Supply voltage dip”** means a temporary reduction of the *rms* supply voltage at a given point in the electrical supply system of 10 to 90% of the declared voltage for a duration from 10 ms upto and including 1 minute. Typically a dip is associated with the occurrence and termination of a short-circuit or other extreme current increase on the system or installation connected to it;
- (38) **“Supply voltage dip duration”** means the time between the instant at which the *rms* voltage falls below the start threshold and the instant at which it rises to the end threshold. For poly-phase events, a dip begins when voltage falls below the ‘dip start threshold’ in one or more phases and ends when

voltages on all the phases are equal to or above the 'dip end threshold';

- (39) **“Supply voltage dip end threshold”** means the *rms* value of the supply voltage specified for the purpose of defining the end of a supply voltage dip;
- (40) **“Supply voltage dip start threshold”** means the *rms* value of the supply voltage specified for the purpose of defining the start of a supply voltage dip;
- (41) **“Supply voltage dip residual voltage”** means the minimum value of *rms* voltage recorded during a voltage dip;
- (42) **“Supply voltage swells (temporary Power Frequency Over voltage)”** means the temporary increase in the *rms* supply voltage at a given point in the electrical supply system above 110% of the declared voltage for a duration from 10 ms upto and including 1 minute;
- (43) **“Supply voltage swell duration”** means the time between the instant at which the *rms* voltage exceeds the start threshold and the instant at which it falls below the end threshold;
- (44) **“Supply voltage swell end threshold”** means the *rms* value of the supply voltage specified for the purpose of defining the end of a supply voltage swell;
- (45) **“Supply voltage swell start threshold”** means the *rms* value of the supply voltage specified for the purpose of defining the start of a supply voltage swell;
- (46) **“System Average Interruption Duration Index (SAIDI) ”**means the average duration of sustained interruptions per consumer occurring during the reporting period, determined by dividing the sum of all sustained consumer interruption durations, in minutes, by the total number of consumers;
- (47) **“System Average Interruption Frequency Index (SAIFI) ”**means the average frequency of sustained interruptions per consumer occurring during the reporting period, determined by dividing the total number of all sustained consumer interruption by the total number of consumers;
- (48) **“True Power Factor”** means the ratio between total active power used in a circuit (including harmonics) and the total apparent power (including harmonics) supplied from the source. True power factor is always less than **displacement power** factor if harmonics are present in the system;
- (49) **“Transient over voltages”** means short duration oscillatory or non-oscillatory over voltages usually highly damped and with duration of few milli seconds or in micro seconds;
- (50) **“Total Demand Distortion (TDD) ”**means the ratio of the root mean square of “the harmonic content, considering harmonic components upto the 50th order, expressed as a percent of the maximum demand current;
- (51) **“Total Harmonic Distortion” or “THD”** means the ratio of the root mean

- square of the current harmonic content, considering harmonic components upto the 50th order, expressed as a percent of the fundamental;
- (52) **“Voltage Events”** means the sudden and significant deviations from normal or desired wave shape, that has occurred due to unpredictable events (e.g. faults) or external causes (e.g. weather conditions);
- (53) **“Voltage Fluctuation” or ‘Voltage Variations’** means a series of voltage changes or a cyclic variation of the voltage envelope, the magnitude of which does not normally exceed the specified voltage ranges;
- (54) **“Voltage unbalance”** means a condition in a poly-phase system in which the values of the line-to-line voltages (fundamental component), or the phase angles between consecutive line voltages, are not equal. The degree of inequality is usually expressed as the ratios of negative and zero sequence components to the positive sequence component;
- (55) **“Urban Areas”** means the areas covered by all Municipal Corporations and other Municipalities including the areas falling under the various Urban Development Authorities, Cantonment Authorities, Industrial Estates and Townships including those specified by the State Government;
- 2) In the interpretation of these Regulations, unless the context otherwise requires:-
- (a) Words in the singular or plural term, as the case may be, shall also be deemed to include the plural or the singular term, respectively;
- (b) reference to any Statute, Rule, Regulation or Guideline shall be construed as including consolidations, amendments and replacements of such Statute, Rule, Regulation or Guideline referred to, as the case may be;
- (c) terms “include” and “including” shall be deemed to be followed by “without limitation” or “but not limited to”, regardless of whether such terms are followed by such phrases or words of like import;
- (d) The headings are inserted for convenience and may not be taken into account for the purpose of interpretation of these Regulations;
- (e) Words or expressions occurring in these Regulations and not defined herein but defined in the Act shall bear the same meaning as in the Act.

CHAPTER - 2

GENERAL

4. Objectives.- (1) The Power Quality of the electrical system refers to both the extent of deviation or distortion in pure supply waveform and the continuity of supply. An ideal power supply is never interrupted, always within voltage and frequency tolerances and has a noise free sinusoidal waveform. Poor power quality causes performance degradation and premature failures of electrical equipment. It also results in increased system losses.

(2) Different types of disturbances that affect the power quality include Harmonics (waveform distortion), frequency deviations, voltage unbalance, voltage fluctuations, flicker, supply interruptions, transient overvoltage or surges, voltage dips and voltage swells etc. Each of these disturbances has different causes and effects.

(3) Power quality disturbances can propagate upstream or downstream and could affect other customers connected in the same supply network. Power quality monitors are available to measure all aspects of power quality.

(4) The objective of standards specified in these Regulations is to ensure the quality and reliability of electricity supplied by the distribution licensee to the end consumers and by the designated customers.

(5) Any failure by the Distribution Licensee or Designated Customer to achieve and maintain the power quality parameters specified in these Regulations shall render the Distribution Licensee or Designated Customer liable to pay compensation under the Act to an affected entity.

5. Assessment of Power Quality.- (1) The assessment of Power Quality shall consist of measuring the various parameters of the power quality and comparing them with the standards specified in these Regulations.

(2) Measurement methods for assessment of Power Quality under these Regulations shall be as per applicable notified Indian Standards and in the absence of IS, it shall be as per IEC 61000-4-30:2015, namely 'Testing and measurement techniques – Power quality measurement methods', as amended from time to time.

(3) For three phase four-wire connections, the line to neutral voltages shall be considered. For three phase three-wire connections, the line to line voltages shall be considered. For single phase connections, the supply voltage (line to line or line to neutral, according to the network user connection) shall be considered.

6. Roles and Responsibilities.- (1) Distribution licensee shall be responsible to their consumers for supplying electricity with adequate power quality levels as defined in these Regulations.

(2) Distribution licensee shall identify strategic locations in their electrical network and install the power quality meters at all such locations to maintain power quality in their area of supply.

(3) Distribution licensees have to identify the designated customers which are major power quality polluters and those inject harmonics into the distribution system beyond the limits specified in these Regulations.

(4) The designated customers shall be responsible to control the harmonic injection into the distribution system within the limits specified in these Regulations.

7. Redressal of Consumer Complaints with regard to Power Quality.- (1) The consumer complaints in relation to the Power Quality shall be redressed in the following manner in accordance with these Regulations.

(2) On receipt of a power quality complaint, the distribution licensee shall demonstrate and satisfy that it meets the requirement of Power Quality standards specified in these Regulations.

(3) In case of complaint on voltage variations, unbalance and voltage harmonics, distribution licensee shall—

- (a) ensure that the power quality parameters are brought within the specified limits within 2 days of the receipt of a complaint, provided that the fault is identified to a local problem;
- (b) ensure that the power quality parameters are brought within the specified limits, within 10 days of the receipt of a complaint, provided that no expansion/ enhancement of the network is involved; and
- (c) resolve the complaint within 180 days, provided that if up-gradation of the distribution system is required.

(4) Where, the designated customer is required to demonstrate that he meets the requirement of Power Quality standards; a reasonable period may be given to the designated customer, on case to case basis.

(5) The consumer, who is aggrieved by non-redressal of his grievances of Power Quality, may make a representation for the redressal of his grievance to the Consumer Grievance Redressal Forum.

(6) The cost of the verification shall be borne by the distribution licensee.

CHAPTER – 3

STANDARDS OF POWER QUALITY

8. Supply Voltage Variations.- (1) The supply voltage variations in the LV network from declared voltage shall comply with the values given in the *Tables 1 & 2* below and specified with reference to mean *rms* values of supply voltage measured over a period of 10 minutes :

Table 1 – Supply Voltage Variation Limits for LV Systems interconnected with Transmission System.

Supply Voltage Characteristic	Reference Time Frame	Limits
Mean <i>rms</i> value of the supply voltage over 10 minutes	99% of each period of one Week	$Un \pm 10 \%$
	100% of time	$Un \pm 15\%$

Table 2 – Supply Voltage Variation Limit for LV System not interconnected with Transmission System

Supply Voltage Characteristic	Reference Time Frame	Limits
Mean <i>rms</i> value of the supply voltage over 10 min.	100% of time	$Un +10 \%$ / -15%

Provided that the measurements shall be undertaken in accordance with applicable notified IS and in absence of IS, IEC 61000-4-30:2015 as amended from time to time.

(2) For statistical evaluation, voltage variations shall be assessed for the period not less than 7 continuous days. The short time 10 minute values (measured as per IEC) are accumulated over periods of one week and the 95th and 99th percentile values (i.e., those values that are exceeded for 5% and 1% of the measurement period) are calculated for each 7-day period for comparison with the recommended limits. The values are measured in normal operating condition;

(3) For poly-phase systems, the voltage variations shall be measured in all phases of the supply.

9. Supply Voltage Flicker (P_t).- (1) The voltage flicker shall be assessed for Long-Term severity (P_{lt}) and Short-Term Severity (P_{st}) levels:

Short term severity (P_{st}) shall be measured over a period of 10 minutes;

Long term severity shall be calculated from a sequence of twelve P_{st} - values over a two hour time interval, according to the following expression:

$$P_{lt} = \sqrt[3]{\sum_{i=1}^{12} \frac{P_{st}^3}{12}}$$

The permissible limits of short-term voltage flicker and long-term voltage flicker severity for distribution licensees at all supply terminals shall be 1.0 and 0.8 respectively for 100% of the time:

Provided that the measurements shall be undertaken in accordance with IEC 61000-4-30.

(2) For statistical evaluation, voltage flicker shall be assessed for the period not less than 7 continuous days. The short time 10 minute values are accumulated over periods of one week and the 95th percentile values (i.e., those values that are exceeded for 5% of the measurement period) are calculated for each 7-day period for comparison with the recommended limits. The values are measured in normal operating condition, excluding the time period of a voltage dip.

(3) For poly phase systems, the voltage flicker shall be measured in all phases of the supply.

10. Supply Voltage Unbalance (UB).- The supply voltage unbalance in respect of three phase supply shall be assessed from the ratio of *rms* value of negative phase sequence component (fundamental) to the *rms* value of positive phase sequence component (fundamental) of the supply voltage. The supply voltage unbalance shall be maintained less than or equal to 2%, by the distribution licensee:

Provided that for statistical evaluation, voltage unbalance shall be assessed for the period not less than seven continuous days. The short time 10 minute values are accumulated over periods of one week and the 95th percentile values (i.e., those values that are exceeded for 5% of the measurement period) are calculated for each 7-day period for comparison with the recommended limits. The values are measured in normal operating condition.

11. Voltage Dip or Sag.- The supply voltage dips shall comply with the values given in the Table 3 below and are specified with reference to:

- (i) Number of events per year;
- (ii) Event duration (t);
- (iii) Residual Voltage (u);
- (iv) Declared voltage (Uc).

Table 3: Supply Voltage Dip Limits for LV Networks in Terms of number of Events per Year

Residual Voltage (%)	Duration t (milli second)				
	$10 \leq t \leq 200$	$200 < t \leq 500$	$500 < t \leq 1000$	$1000 < t \leq 5000$	$5000 < t \leq 60000$
$90 > u \geq 80$	30	40	10	5	5
$80 > u \geq 70$	30	40	5	5	5
$70 > u \geq 40$	10	40	5	5	5
$40 > u \geq 5$	5	20	5	5	5

Provided that the voltage dips shall be measured in all phases of supply, in accordance with IEC 61000-4-30 and shall not fall outside the duration from 10 ms upto and including 1 minute;

12. Voltage Swells.- The supply voltage swell shall comply with Table 4 given below

and are specified with reference to:

- (i) Number of events per year;
- (ii) Event duration (t);
- (iii) Swell Voltage (u);
- (iv) Declared voltage (Uc).

Table 4: Supply Voltage swell Limits for LV Networks in Terms of Number of Events per Year

Swell Voltage u (%)	duration t (ms)		
	$10 \leq t \leq 500$	$500 < t \leq 5000$	$5000 < t \leq 60000$
$u \geq 120$	--	--	--
$120 > u \geq 110$	--	--	--

Values may be as per relevant IEC/ IEEE standards;

Provided that, the voltage swell shall be measured in all phases of supply in accordance with IEC 61000-4-30 and shall not fall outside the duration from 10 ms

upto and including 1 min;

13. Voltage Harmonics.- (1) The voltage harmonic distortion of the supply voltage shall be assessed in terms of the Total Harmonic Distortion (THD_V) considering harmonic components upto the 50th order. THD_V shall be taken as square root of the sum of squares of all voltage harmonics expressed as a percentage of the magnitude of the fundamental measured with following formula:-

$$THD_V = \sqrt{\sum_{h=2}^N V_h^2}$$

Where, V_h represents the percent *rms* value of the h^{th} harmonic voltage component and N represents the highest harmonic order considered in the calculation.

The distribution licensee shall control the value of THD_V measured at Point of Common Coupling (PCC) for LV network to less than or equal to 5% for 100% of time.

(2) The distribution licensee shall also control the mean rms values of each individual harmonic voltage measured over 10 minutes period upto the 25th harmonic order component to the values as given in Table 5 below:

Table 5: Values of Individual Harmonic Voltages of the Supply Voltage in Percent of the Fundamental Voltage

Odd Harmonics (%)				Even Harmonics (%)	
Other than Multiple of 3		Multiple of 3			
Harmonic	LV	Harmoni c	LV	Harmonic	LV
5	6	3	5	2	1.9
7	5	9	1.5	4	1
11	3.5	15	0.5	6 to 24	0.5
13	3	21	0.5		
17	2				
19	1.5				
23	1.5				
25	1.5				

(3) For statistical evaluation, voltage harmonics shall be assessed for the period not less than 7 continuous days. The short time 10 min values are accumulated over periods of one week and the 95th percentile values (i.e., those values that are exceeded for 5% of the measurement period) are calculated for each 7-day period for comparison with the recommended limits. The values are measured at PCC in normal operating condition:

Provided that the limits of individual voltage harmonics by the distribution licensee in its electricity system, point of harmonic measurement i.e. Point of Common

Coupling (PCC), method of harmonic measurement and other matters shall be in accordance with the IS applicable and in the absence of IS, the IEEE 519-2014 standard namely 'IEEE Recommended Practices and Requirements for Harmonic Control in Electrical Power Systems', as modified from time to time.

14. Current Harmonics.- (1) The designated customers shall limit the value of harmonic currents at Point of Common Coupling (PCC) measured over 10 minutes period to the values as given in Table 6 below:

Table 6: Values of Current distortion limits (TDD)

Maximum harmonic current distortion in percent of I_L						
Individual harmonic order (odd harmonics) ^{a, b}						
I_{sc}/I_L	$3 \leq h < 11$	$11 \leq h < 17$	$17 \leq h < 23$	$23 \leq h < 35$	$35 \leq h \leq 50$	TDD
$< 20^*$	4.0	2.0	1.5	0.6	0.3	5.0
$20 < 50$	7.0	3.5	2.5	1.0	0.5	8.0
$50 < 100$	10.0	4.5	4.0	1.5	0.7	12.0
$100 < 1000$	12.0	5.5	5.0	2.0	1.0	15.0
> 1000	15.0	7.0	6.0	2.5	1.4	20.0

Note: * All power generation equipment is limited to these values of current distortion, regardless of actual I_{sc}/I_L ;

^a Even harmonics are limited to 25% of the odd harmonic limits above;

^b Current distortions that result in a dc offset, e.g., half-wave converters, are not allowed; where;

I_{sc} = maximum short-circuit current at PCC;

I_L = maximum demand load current (fundamental frequency component);

(2) For statistical evaluation, current harmonics shall be assessed for a period not less than 7 continuous days. The short time 10 min values are accumulated over periods of one week and the 95th and 99th percentile values (i.e., those values that are exceeded for 5% and 1% of the measurement period) are calculated for each 7-day period for comparison with the recommended limits. The values of TDD are measured at PCC in normal operating condition:

Provided that weekly 95th percentile short time 10 minutes harmonic current values should be less than the value given in Table 6 above. However, the weekly 99th

percentile short time 10 minutes harmonic current values should be less than 1.5 times the value given in above Table 6.

(3) The limits of current harmonics injected by the designated customer, point of harmonic measurement i.e. Point of Common Coupling (PCC), method of harmonic measurement and other matters shall be in accordance with the applicable IS and in the absence of IS, the IEEE 519-2014 standard, namely 'IEEE Recommended Practices and Requirements for Harmonic Control in Electrical Power Systems', as modified from time to time.

(4) The measurements undertaken to determine compliance shall be carried out in accordance with the requirements as specified in IEC 61000-4-7 and 61000-4-30.

15. Short Supply Voltage Interruptions.- (1) short voltage interruptions shall comply with Table given below and are specified with reference to:

- (i) Number of events per year;
- (ii) Event duration (t);
- (iii) Declared voltage (Uc).

Table7: Short Voltage Interruption Limits (number of events per year) for LV Network

Residual Voltage (%)	Duration t (milli second)				
	10 ≤ t ≤ 200	200 < t ≤ 500	500 < t ≤ 1000	1000 < t ≤ 5000	5000 < t ≤ 60000
5 > u	5	20	30	10	10

Provided that the short voltage interruptions shall be measured in all phases of supply in accordance with IEC 61000-4- 30 and shall not fall outside the duration from 10 ms up to and including 1 min;

16. Long or Sustained Supply Voltage Interruptions.- (1) The Distribution Licensee shall calculate the reliability of its distribution system on the basis of number and duration of sustained or long supply voltage interruptions (longer than 3 min) in a reporting period, using the following indices:

- i) System Average Interruption Frequency Index (SAIFI);
- ii) System Average Interruption Duration Index (SAIDI);

(2) The Indices shall be computed for the distribution licensees for each month for all the 11kV and 33kV feeders in the supply area, and then aggregating the number and duration of all interruptions in that month for each feeder. The Indices shall be computed using the following formulae:

$$SAIFI = \frac{\sum_{i=1}^N A_i * N_i}{N_t}$$

$$SAIDI = \frac{\sum_{i=1}^N B_i * N_i}{N_t}$$

Where,

- A_i = Total number of sustained interruptions (each longer than 3 minutes) on ith feeder for the month;
- B_i = Total duration in minutes of all sustained interruptions (longer than 3 minutes) on ith feeder for the month;
- N_i = Number of Customers on ith feeder affected due to each sustained interruption;
- N_t = Total number of customers served by the Distribution Licensee in the supply area;
- n = number of 11kV and 33kV feeders in the licensed area of supply.

(3) The distribution licensee shall maintain the reliability on monthly basis within the limits specified in Table 8 below:

Table 8: Limits for Reliability indices

Reliability Indices	Limits *
SAIDI	600 Minutes per customer
SAIFI	15 interruptions per customer

Provided that the feeders must be segregated into rural and urban and the value of the indices must be reported separately for each month.

(4) While calculating the given reliability indices, the following types of interruptions shall not be taken into account:

- (a) Momentary outages of duration less than three minutes;
- (b) Outages due to Force Majeure events such as cyclone, floods, storms, war, mutiny, civil commotion, riots, lightning, earthquake, lockout, grid failure, fire affecting licensee's installations and activities;
- (c) Outages that are initiated by the National Load Despatch Centre/ Regional Load Despatch Centre/ State Load Despatch Centre the occurrence of failure of their facilities.

(5) While calculating the given reliability indices, the interruptions due to scheduled or planned outages shall be taken into account.

(6) The distribution licensee shall capture reliability indices data directly from the feeder monitoring system and there should not be any manual interventions as far as possible.

(7) The Distribution Licensee shall maintain data on the reliability indices specified above for each zone/ circle/ division/ sub-division on a monthly basis.

(8) The Distribution Licensee shall put up, at the end of each month, such monthly information on reliability indices, on website of the Distribution Licensee and shall submit such report to the Commission in every six months.

CHAPTER – 4

MONITORING AND REPORTING OF THE POWER QUALITY

17. Monitoring of Power Quality.- (1) Power Quality (PQ) measurement shall be implemented in phased manner and during first phase, PQ meters shall be installed at selective representative locations based on voltage level, type of consumers and significance of the power quality in such a way that such measurements should adequately represent the Power Quality and Reliability in the area of supply.

(2) The distribution licensee for the purpose of requirements for the quality of the electricity supplied shall identify the locations of 33kV & 11kV feeders, Distribution Transformers (DTRs) and designated customers to ensure the measurement of the power quality parameters at sufficient locations in their electrical networks to adequately characterize and report performance in terms of these Regulations. The feeders and DTRs should be identified for PQ monitoring based on type of load connected.

(3) The distribution licensee shall enforce the continuous monitoring of power quality standards at the inter-connection point of identified locations at or below 33kV voltage level for development of profile of power quality measurement in the area of supply.

(4) In the first phase, the distribution licensee shall install Power Quality meters for 50% of the 33kV & 11kV feeders, 25% of the DTRs and at all the designated customer's supply terminals or at the point of common coupling (PCC). In the second phase, Distribution Licensee shall cover 100% of the 33kV & 11kV feeders and at least 60% the DTRs. In the third phase 100% DTRs shall be covered.

(5) The measurements undertaken to determine compliance shall be carried out in accordance with the requirements as specified in IEC 61000-4-7 and 61000-4-30. There shall be continuous metering of harmonics with permanent Power Quality meters complying with the IEC 61000-4-30 Class-A meters for all new installations/connections of identified locations. For existing installations/connections at identified locations where CTs/ PTs are of lower accuracy class than mandated by IEC 61000-4-30 Class-A meters, the meters complying with the IEC 61000-4-30 Class-B may be installed. These meters should be capable of detecting direction of Harmonics (whether it is upstream or downstream) for all new installations at identified locations.

(6) In the event when the distribution licensee receives a customer complaint concerning Power Quality, the distribution licensee shall deploy power quality meter for a particular period for the purpose of verification. Distribution licensee can also measure the level of harmonics generation at PCC of any consumer(s) on receipt of complaint(s) from other affected consumer(s).

(7) These Regulations specify the minimum requirements for Power Quality meters for measurement at sites directly affecting the quality of the power supplied to the consumer(s). The distribution licensee may install temporarily additional PQ meters, to establish the power quality at other bulk supply points and at other major network nodes and to investigate consumer(s) complaints.

(8) The distribution licensee may opt to integrate the smart grid meters compatible for measurement of the PQ parameters for economic and operational optimization.

18. Compliance of the Power Quality and Reliability Standards.- (1) The distribution licensee shall submit the monthly and quarterly report of information collected on PQ parameters extracted from power quality meters and machine based reliability data in standard formats to the Commission.

(2) It shall be the prime responsibility of the distribution licensee to comply with these Regulations and submit the compliance report every 6 months in standard formats, including transparent data disclosure regarding electrical system, to the Commission. Commission may direct designated agencies to be notified separately, to carry out PQ audit on the basis of compliance reports filed by distribution licensee for verification. The distribution company shall carry out 100% audit by itself once in a year and 5% random audit through the independent agency and shall file the audit report along with ARR truing up petition.

(3) The distribution licensee shall publish the reports indicating the compliance with the standards under these Regulations and post all the reports on its website. The distribution licensee shall also seek comments, if any, on the same from the customers availing supply from the distribution licensee.

(4) The Commission from time to time may seek reports on PQ improvements from distribution licensee.

(5) The distribution licensee shall make efforts to improve power quality in their area of supply by deploying devices to mitigate power quality issues such as filters, controllers etc. The expenses incurred towards deploying these devices by the distribution licensee shall be considered in the ARR.

(6) The distribution companies shall ensure the security of the data provided by the consumer and the data should only be used for identified purpose and should not be transferred to any other person without the consent of the specific consumer.

CHAPTER – 5

INCENTIVE / DISINCENTIVE MECHANISM FOR POWER QUALITY

19. Incentive/ disincentive mechanism for Power Quality.- (1) During the first year after notification of Power Quality Regulations, there shall be monitoring and reporting of power quality parameters by the distribution licensee in prescribed standard formats at regular intervals. Therefore, there shall not be any incentive/ disincentive for the stakeholders during the first year after notification or as may be specified by the Commission.

(2) The expenses incurred towards implementation and monitoring of power quality parameters by the distribution licensee shall be considered in the ARR.

(3) From the second year after notification of these Regulations, an incentive/ disincentive mechanism shall be implemented for distribution licensees and for designated customers. The distribution licensees or designated customers shall be liable to pay compensation:

Provided that the Distribution Licensee shall compensate the affected person(s) within the next two billing cycles. In case the Distribution Licensee fails to pay the compensation or if the affected person is aggrieved by non-redressal of his grievances, he may make a representation for the redressal of his grievance to the concerned Consumer Grievance Redressal Forum:

Provided further that such compensation shall be based on the classification of such failure as determined by the Commission and the payment of such compensation shall be paid or adjusted in the consumer's future bills (issued subsequent to the award of compensation) within thirty (30) days of a direction issued by the Forum or by the Ombudsman, as the case may be.

(4) The Distribution Licensee shall not be excused from failure to maintain the power quality parameters under these Regulations, where such failure can be attributed to negligence or deficiency or lack of preventive maintenance of the distribution system or failure to take reasonable precaution on the part of the Distribution Licensee.

(5) The designated customers shall be liable to pay compensation for injecting current harmonics into the supply system beyond the specified limits as given in Table 9 below. In case the designated customer does not take measures to reduce

the level of current harmonics (which is measured in terms of total demand distortion), he shall be made liable to pay higher compensation progressively on each continued violation as decided by the Commission separately. When there is no improvement in power quality even after 6 months, such consumers shall be served notice of disconnection from the supply network and shall be disconnected after approval of the Commission.

(6) Level of compensation payable for failure to meet power quality standards are given in Table 9 below:

Table 9: Level of compensation

PQ Parameter	Standard	Compensation Payable	Compensation Payable by
Voltage Variation	As per Table 1 and 2	Rs.100/- per week or part thereof for which voltage variation was beyond the specified limits	Distribution Licensee to each consumer connected on the feeder/ Designated DTR. These Compensations shall be cumulative for each violation.
Voltage Unbalance		Rs.100/- per week or part thereof for which voltage unbalance was beyond the specified limits	
Voltage dips or swells	Number of events per year as per Table- 3 and 4	Rs.50/- per event for which voltage dips or swell was beyond the specified limits	
Voltage Harmonics	for LV As per Table 5	Rs.100/- per week or part thereof for which voltage harmonics was beyond the specified limits	

Current Harmonics	As per Table 6	Compensation shall be 50 paisa per unit for the duration for which current harmonics was beyond the specified limits.	Designated Customer to distribution licensee
Short Voltage Interruptions	Number of events per year as per Table 7	Rs.50/- per instance for which voltage dips or swell was beyond the specified limits.	Distribution Licensee to each consumer connected on the feeder/ Designated DTR. These Compensations shall be cumulative for each violation.
Long Supply Voltage Interruptions	SAIDI in Minutes per Customer as per Table 8	5 paisa/min/kW of contract demand for which SAIDI was beyond the specified limits.	
Long Supply Voltage Interruptions	SAIFI in Interruption per Customer as per Table 8	Rs.50/- per interruption for which SAIFI was beyond the specified Limits	

Provided that such compensation as given in Table 9 above shall not be claimed in ARR by the distribution licensee and further the compensation received by the distribution licensee from the designated customers shall be utilized only for the measures taken to improve power quality such as installation of filters, controllers etc.

CHAPTER – 6
MISCELLANEOUS

20. Power to Relax.- The Commission, for reasons to be recorded in writing, may relax any of the provisions of these Regulations on its own motion or on an application made before it by any person.

21. Power to Remove Difficulties.- If any difficulty arises in giving effect to the provisions of these Regulations, the Commission may, by order, make such provision not inconsistent with the provisions of the Act or provisions of other Regulations specified by the Commission, as may appear to be necessary for removing the difficulties in giving effect to the objectives of these Regulations.

22. Power to Amend.- The Commission may, at any time and on such terms as it may deem fit; amend any of these Regulations for the purpose of meeting the objectives with which these Regulations have been framed.

By order of the Commission,

SECRETARY

KERALA STATE ELECTRICITY REGULATORY COMMISSION
THIRUVANANTHAPURAM

Explanatory Memorandum

Sub: Draft Kerala State Electricity Regulatory Commission (Renewable Energy and Net Metering) Regulations, 2019.

1. The Commission vide the notification dated 30.06.2014 has notified the KSERC (Grid Interactive Distributed Solar Energy System) Regulations, 2014 (herein after referred to as Net Metering Regulations, 2014). The Net Metering Regulations 2014 was then notified in line with the Net Metering Regulations notified by 'Forum of Regulators (FoR)' in the year 2013, for promoting roof top solar installations by the electricity consumers of the State. The Net metering Regulations notified by the Commission is applicable to Solar Energy Systems having capacity of and below 1MW installed by a prosumer at his premises for his own use.

Since the year 2014, many technological developments in the roof top solar PV system have taken place in the Country including the drastic reduction in the prices of solar panels.

The FoR during the month of April, 2019 completely revised and notified the draft model Regulations for Grid Interactive Distributed Renewable Energy Sources, which replaced the earlier notified model Regulations on Net Metering published in the year 2013.

The Commission, duly considering the recent developments in the Solar PV technologies and other developments in the sector, decided to completely revisit the existing Net Metering Regulations notified in the year 2014.

2. The Commission vide notification dated 11.11.2015 notified the KSERC (Renewable Energy) Regulation, 2015 (herein after referred to as RE Regulations, 2015). The said Regulations are applicable to all types of renewable energy systems, including Wind, Solar, Small Hydro, Municipal Solid Waste and others. The renewable purchase obligations (RPO), the terms and conditions for the determination of tariff for the electricity generated from renewable energy systems, charges payable by the captive use of renewable energy systems, banking facilities available to captive consumers etc were dealt with in the said Regulations.

As mentioned earlier, in the recent past, developments and technological advancements in all type of renewable energy technologies has led to reduction

in tariff. The capital cost of the Solar PV Plants, Wind Energy systems etc, has reduced drastically. Due to the reduction in capital cost of installation of Renewable Energy Generators and improved capacity utilization, especially wind and solar power plants, the tariff of the electricity generated from Wind & Solar have become much less than the cost of electricity generated from the conventional coal based power stations. Further, the technical parameters and financial norms including interest rates etc. has significantly changed since the year 2015, i.e, after notifying the RE Regulations, 2015.

The Central Government also has fixed an ambitious target of achieving the RE generation capacity of 175 GW by the year 2022; Out of the above 100 GW is targeted from Solar and 60 MW targeted from Wind.

3. Considering the above aspects, the Commission decided to notify a comprehensive Regulations on Renewable Energy which will be in synchronization with the changes in the sector; viz, The draft KSERC (Renewable Energy and Net metering) Regulations, 2019 (herein after referred as draft RE Regulations 2019).

In the proposed draft RE Regulations 2019, there are provisions for net metering facility to the prosumers having RE plant of capacity upto 1MW, specify the Terms and Conditions for determination of tariff for the electricity generated from the RE in the State, RPO of the obligated entities, charges payable by the captive consumers, prosumers and Independent power producers, banking facilities to the prosumers and captive users etc.

4. Important provisions in the draft Kerala State Electricity Regulatory Commission (Renewable Energy and Net Metering) Regulations, 2019 is summarized below.

- (1) The proposed draft Regulations consist of the following chapters, namely,
 - Chapter 1: Preliminary including the definitions and interpretations.
 - Chapter 2: Renewable purchase obligations and Renewable energy certificates.
 - Chapter 3: Grid interactive renewable energy systems with capacity not exceeding 1000kW installed by a prosumer.
 - Chapter 4: Regulations for renewable energy systems in General.
 - Chapter 5: Determination of tariff for electricity generated from renewable energy sources.
 - Chapter 6: Miscellaneous

- (2) The Control period of the proposed draft Regulation is five (5) years from the FY 2019-20 to 2023-24. Accordingly, the norms and parameters specified in these Regulations is applicable for determining the tariff for

the electricity generated from all types of RE plants commissioned during the control period.

- (3) The Chapter 2 of the Draft Regulations specify the renewable purchase obligation to be met by the obligated entities including distribution licensee, captive consumers and open access consumers in the State. The RPO target specified therein is given in the table below.

**Table-1
RPO Targets proposed for the control period (Regulation-3 of the draft RE Regulations 2019)**

Financial Year	Quantum of purchase (in % of total consumption) from Renewable Energy Sources (in terms of energy in KWh)		
	Non Solar	Solar	Total
2019-20	8.00	4.00	12.00
2020-21	9.00	5.25	14.25
2021-22	10.25	6.75	17.00
2022-23	*	*	*
2023-24	*	*	*

*Will be notified by the Commission later.

The Commission noted that, the Central Government in July 2018 has specified a uniform RPO target of 21 % (non-solar RPO target of 10.5% and solar RPO target of 10.5%) by the year 2021-22 across the country. As per the Section 86(1)(e) of the EA-2003, the Commission is empowered to specify the RPO targets to be met by the distribution licensees as a percentage of its total consumption, and the relevant Section of the EA-2003 is extracted below.

“86. (1) The State Commission shall discharge the following functions, namely: -

.....

(e) promote co-generation and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person, and also specify, for purchase of electricity from such sources, a percentage of the total consumption of electricity in the area of a distribution licensee”.

Further the paragraph 6.4 (1) of the Tariff Policy 2016 notified by the Central Government in compliance of the Section 3 of the EA-2003 prescribed as follows.

“6.4 Renewable sources of energy generation including Co-generation from renewable energy sources:

- (1) Pursuant to provisions of section 86(1)(e) of the Act, the Appropriate Commission shall fix a minimum percentage of the total consumption of electricity in the area of a distribution licensee for purchase of energy from renewable energy sources, taking into account availability of such resources

and its impact on retail tariffs. Cost of purchase of renewable energy shall be taken into account while determining tariff by SERCs. Long term growth trajectory of Renewable Purchase Obligations (RPOs) will be prescribed by the Ministry of Power in consultation with MNRE.”

.....”

The Commission also noted that, almost all the SERCs including Andhra Pradesh, Assam, Gujarat, Haryana, Himachal Pradesh, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Telengana are gradually moving towards the RPO target fixed by the Central Government with an intermediary target for RPO at 17% by the year 2021-22.

Duly considering these facts in detail, the Commission proposes to fix the RPO target for the FY 2021-22 at 17% with the split up of the non-solar and solar targets, as detailed in the Table above. The Commission may notify the RPO targets for the FY 2022-23 and 2023-24 of the control period separately, after pre-publication and other procedure formalities.

- (4) As per the draft Regulations, the RPO target proposed by the Commission has to be met by KSEB Ltd as well as the small licensees in the State purchasing power at the BST from KSEB Ltd, and other obligated entities including captive consumers and open access consumers. The quantum of the power purchase of all the small licensees together is around 2,5% of the total consumption of the State. As per the bidding guidelines notified by the Central Government, the minimum capacity limit for WEG for participating in competitive bidding guidelines is 25 MW at a location and the capacity limit for Solar Plant for participating in the competitive bid route is 5 MW.

Further, any amount incurred by the small licensees for meeting the RPO is pass through in ARR and thus reflected in the BST payable to KSEB Ltd. Considering the difficulty of the small licensees in meeting the RPO targets at competitive rates and taking into consideration the fact that this cost ultimately reflect in the BST payable to KSEB Ltd, the Commission is of the view that, 'if the Supply Licensee KSEB Ltd meet the RPO for the energy sold to the small licensees, the small licensees are relieved from meeting the RPO separately. (Regulation 4(7) of the Draft)

- (5) Chapter 3 of the Draft Regulations deals with the matters related to renewable energy systems having capacity of and below 1MW installed by the prosumer at his premises. The general conditions for availing net metering facility, connectivity related issues, interconnection with the grid, metering arrangement, billing related issues under net metering, banking facility etc of the renewable energy systems with a capacity of and below 1MW installed by a prosumer is detailed in this Chapter.

The Commission has allowed banking facilities to the prosumer to carry

forward the excess energy, if any, in a billing period after adjusting the RE generation against its consumption to the subsequent billing period of the settlement period, on payment of the 5% of the banked energy towards grid support charges.

- (6) Chapter 4 of the Draft Regulations deals with general conditions for connectivity, open access, metering related issues and the charges applicable for using distribution system of the distribution licensees by the 'prosumers having RE installed capacity more than 1 MW, Captive consumers, Independent Power Producers developing RE projects in the State.

Banking facility is allowed to the prosumers and captive consumers to use the excess energy if any in a billing period to be adjusted against the consumption in the subsequent billing periods during the settlement period on payment of 5% of the banked energy as banking charges.

- (7) Chapter 5 of the Draft Regulations deals with the determination of tariff, including the technical and financial parameters used for determination of tariff. In the draft Regulation, the Commission, in general has followed the norms and parameters specified in the Central Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations 2017.

- (8) The Commission noted that the CERC has dispensed with the determination of generic tariff for renewable energy systems since the year 2017-18. It is also brought to the attention of the Commission that in the meeting chaired by the Hon'ble Chief Minister on 01.07.2017, it was also decided that in future renewables that are developed by private IPPs within the State shall be procured only through annual bids. Section 63 of the Electricity Act 2003, specifies that, the State Commissions shall adopt the tariff, if such tariff has been determined through transparent process of bidding in accordance with the guidelines issued by the Central Government. However, as per the bidding guidelines issued by the Central Government on 8th December 2017, the minimum bid capacity for wind projects is specified at 25 MW. Similarly, as per the bidding guidelines notified by the Central Government on 3rd August 2017, the minimum bid capacity of the solar PV project is specified as 5 MW.

Considering these limitations, the Central Government vide the Office Memorandum dated 12th June, 2019, has communicated the need for creating an enabling frame work for procuring power from grid connected Solar having capacity less than 5MW and Wind project having capacity

less than 25MW. The Central Government suggested that the SERC may determine Feed-in Tariff (FiT) for such projects. The Central Government also suggested to notify the Feed-in Tariff considering the average of the competitively discovered Tariff in the previous years.

Considering the advice of the Central Government, the Commission proposes to specify the Generic Tariff for the following types of renewable energy project.

- (i) Wind projects having capacity of and below 25MW.
- (ii) Small hydro projects having capacity below 5MW.
- (iii) Solar PV projects having capacity of and below 5MW

The normative capital cost arrived by the Commission and the financial parameters adopted by the Commission for the determination of the generic tariff for (i) Wind projects having capacity of and below 25 MW, (ii) Small Hydro capacity having capacity below 5 MW and the Solar PV projects having capacity of and below 5 MW is detailed in the draft Regulation.

The Commission, specified in the draft Regulation that the Generic Tariff so determined is the upper ceiling and it does not prevent the generator and distribution licensee to agree for a lower tariff than the generic tariff determined by the Commission.

- (9) Chapter 6 of the Draft Regulations deals with various miscellaneous provisions, including 'deviation from norms', constitution of a 'Renewable Energy Advisory Committee by the Commission; 'mandatory constitution of a Renewable Energy Cell by the incumbent distribution licensee', in line with the model Regulations notified by the FoR in April 2019.

- 5. The Commission seeks comments and suggestions from all the stakeholders and interested parties on the proposed draft Regulations within 30 days from the date of notification. The Commission may conduct public hearing on the draft Regulations, the date and venue of the same will be intimated separately.

By the order of the Commission

Sd/-

Secretary