

**BEFORE THE KERALA STATE ELECTRICITY REGULATORY COMMISSION**  
**THIRUVANANTHAPURAM**

**Present** : Shri. T.M. Manoharan, Chairman  
Shri. Mathew George, Member

**O.P. No.08/14**

**In the matter of:** Enhancement of maximum Contract Demand from 100 kVA to 150 kVA for LT Industrial Consumers (415V, 3 $\phi$ ), installing own Transformer of 160 kVA, in line with clause 8, last proviso of Kerala Electricity Supply Code 2014.

Sri.K.P Ramachandran Nair,  
President, Kerala State Small Industries Association  
X/26A, HMT Ancillary Industrial Estate,  
HMT Colony P.O, Kalamassery-683503

- **Petitioner**

**Versus**

1. The Secretary  
Kerala State Electricity Board Limited,  
Vydyuthi Bhavanam, Pattom,  
Thiruvananthapuram, Pin No. 695 004,

- **Respondents**

2. The Chairman and Managing Director,  
Kerala State Electricity Board Limited,  
Vydyuthi Bhavanam, Pattom,  
Thiruvananthapuram, Pin: 695 004

**Order dated: 09.10.2014**

1. The petitioner herein, Sri.K.P. Ramachandran Nair, President, Kerala State Small Industries Association, Kalamaserry -683 503, has filed a petition before the Commission on 22-04-2014 praying for the enhancement of the limit of maximum contract demand for LT Industrial connection (415 Volt, 3 Phase) from 100 kVA to 150 kVA, in exercise of the powers of the Commission the second proviso under Regulation 8 of Kerala Electricity Supply Code 2014. In regulation 8 of the Kerala Electricity Supply Code 2014 (herein after referred to as Supply Code 2014) it has been specified that the supply voltage levels for different connected loads or contract demands for new connections or for gross connected load or contract

demand consequent to revision of connected load or contract demand shall be as stipulated in the table given therein. In the first proviso to the above regulation it has been specified that the limits of connected load or contract demand specified for different supply voltage levels may be exceeded up to a maximum of 20 percent if supply at the appropriate higher voltage level is not feasible due to non-availability of distribution line at such higher voltage level in the area of supply. In the second proviso it has been specified that the limits of connected load or contract demand specified for different supply voltage levels as specified in the table therein may be exceeded in exceptional cases with the approval of the Commission subject to the conditions stipulated in such approvals. The petitioner prayed for a general order in exercise of the second proviso mentioned above enhancing the limit of 100 kVA fixed for LT connections to 150 kVA.

2. The main relief sought for in the petition are the following;

(1) *Hon. Commission may amend the Supply Code in such a way that all LT Industrial Consumers paying for 160 kVA Transformer and installing meter directly to the Transformer LT Bus will be eligible for Contract Demand up to 150 kVA irrespective of the Connected Load.*

(2) *Hon. Commission may direct KSEB Ltd. to :-*

a. *Appoint a Deputy Chief Engineer with 'ability, integrity and standing, who have adequate knowledge of, and have shown capacity in dealing with problems of Electrical Engineering, Finance, Law, or Administration in Power Sector as Chairperson of CGRF.*

b. *Give instruction to CGRF to admit all the petitions with a proper serial number and to reject the same with reasons immediately if the subject matter of the petition is not admissible.*

c. *not to disconnect a supply till a decision is taken by CGRF against a numbered petition.*

(3) *Since KSEB Ltd. have not yet standardized their distribution system as per CEA Technical Regulations and REC Standards, KSEB Ltd. is not in a position to give Supply at Stabilised Voltage as per Rules and Regulations. Hon. Commission may direct KSEB Ltd. to abstain from coercive steps like disconnection, penalisation etc. in the pretext of exceeded kVA.*

(4) *Since implementation of TOD Tariff in LT is a cumbersome process it is only fair and just to give sufficient time to the consumers to understand the complexity of TOD Tariff and to have required and necessary technical corrections in the power system, for conversion from LT to HT, if they couldn't restrict their usage below 150 kVA. The Hon. Commission may direct KSEB Ltd. to allow a minimum period of 1 year as transition period to*

*the consumer, in line with the acceptance of Hon. Commission 'the postponement of the implementation of TOD Tariff as per the request of KSEB Ltd. for 9 months i.e. from January 2013 to September 2013'.*

3. The Commission admitted the petition and it was heard on 26.06.2014. Advocate Ziyad Rahman.A.A presented the case of the petitioner and Sri. B. Pradeep, Executive Engineer, KSEB Ltd presented the case of KSEB Ltd. Both the petitioner and the respondents were given 15 days time to submit argument notes. Accordingly the petitioner and KSEB Ltd submitted their argument notes on 26-06-2014 and 01-08-2014 respectively. The Commission has examined the petition, the response of KSEB Ltd and the argument notes of both the parties.

#### **Submissions of the Petitioner:**

4. The main submission and arguments submitted by the petitioner on various issues are quoted as follows:

(1) *"With the implementation of new Supply Code 2014 and ToD metering, almost during the same period, have created a lot of confusion and misunderstanding among employees of KSEB Ltd. and they started giving letters indiscriminately to the consumers compelling for HT conversion. More than that subsequent to the letter, an APTS inspection will be conducted and huge penal bills are given in the pretext of Sec.126 of the Indian Electricity Act. The KSEB Ltd. is using Sec.126 as a tool for harassing the consumers and extracting unlawful money under coercion, threatening the consumer of initiating criminal and quasi criminal procedures against them. The proceedings are as per Sec.126 of the Act preventing the consumer from approaching CGRF.*

(2) *Due to the improper planning and misutilization of the capital accounts along with inability to mobilize fund, the establishment works of KSEB Ltd. for infrastructure developments especially in the distribution network is very weak, contributing to heavy distribution losses and also voltage drops.*

*After collecting the minimum fixed charge towards providing uninterrupted power supply at stabilized voltage, KSEB Ltd. is unable to deliver the Supply at stabilized voltage violating all Norms, Act and Rules. Since ' $P=VI \cos\phi$ ' when voltage drops, to maintain power constant, current increases which will directly increase the loss ' $P = I^2R$ ' exponentially. This will cause heavy  $I^2R$  loss in distribution line and motor heating, leading to frequent burning of the motors. This heavy loss is causing the kVA increase even up to 30%, and also heavy kWh loss burdening the consumer which could have been avoided by maintaining HT to LT line length ratio as 1:1. Even in Plan fund for 2013-14 very less fund is allotted for enhancement of 11kV distribution line length and*

hence the 11kV line length is only 3430 km while the LT line length is 6900 km (thus HT is line length is almost half of the LT line length). It is not fair and just from the part of KSEB Ltd. to burden the consumer for KSEB Ltd's fault and non compliance of CEA Regulations and REC Standards. For highlighting this deficiency in common and for requesting at least 20% leverage in the permissible 150 kVA we don't have any other forum other than Hon. Commission to approach.

- (3) The CGRF, instead of considering the procedural improprieties of KSEB Ltd., drive away the consumers without even admitting the petition or numbering the same, behaving as an extended arm of KSEB Ltd. The KSEB Ltd is also very particular in changing the CGRF Chairperson very frequently. Specific direction may be given to KSEB Ltd., to have only person with 'ability, integrity and standing who have adequate knowledge of and have shown capacity in dealing in problems with Electrical Engineering, Finance, Law, or Administration' as Chairperson. They should be in the chair for a minimum period of three years. The Hon. Commission may also train the CGRF Chairperson and members and may give specific direction to 'admit all the petition with a proper serial number and to reject the same with reasons immediately if the subject matter of the petition is not admissible'. Hon. Commission may also confirm the attendance of 'Chairperson/Second Member' on all working days during working hours in CGRF Office. The Hon. Commission may also direct KSEB LTD. not to disconnect a supply till a decision by CGRF against a numbered petition is taken.
- (4) As per the new Supply Code 2014, KSEB Ltd. is providing power connection up to 100kVA without Transformer in 415V, restricting the starting current of the motors. A consumer requiring 70 kVA and above with heavy motors above 20kW will have to go for 160 kVA Transformer with LT metering adjacent to the Transformer. The cost of the Transformer will have to be borne by the consumer. Since this Transformer will have to exclusively cater the requirement of this particular consumer, if the usage is restricted to 100kVA the balance 60 kVA will remain unutilized. This will be an unnecessary waste for KSEB Ltd. as well as consumer. Hence utilizing the full capacity of a Transformer at least up to 150 kVA is beneficial to both consumer and KSEB Ltd. The restriction up to 100 kVA is not a requirement.
- (5) Complying with direction in the Order of Appellate Tribunal for Electricity (APTEL) Order No 179 of 2012 dated 31.05.2013, Hon. Commission have conducted a public hearing for deciding the cost of supply based on the proposal submitted by KSEB Ltd. as 'A model for estimation of Voltage wise Cost of Supply'. Though the proposal was in infancy stage, due to the lack of a 'valid methodology, non separation of technical loss and commercial loss, non consideration of the consumer providing their energy meter directly to the

*Transformer/Distribution bus, insufficiency of data, Inability of KSEB Ltd. to have the distribution work done with HT to LT line ratio as 1:1, Inability of KSEB Ltd. to maintain steady supply at declared voltage as per Rules and Regulations, and also the fact that the proposal is arbitrary and based on assumptions', the consumer cannot be burdened in any way for Distribution losses. More than that an industrial consumer availing Supply above 70 kVA will definitely have to go for own Transformer with LT meter very close to the Transformer. For such consumers the maximum LT distribution loss will only be 1%. By extending such connections the KSEB Ltd. will never be at a loss. Here for the Industrial consumers the loss in LT is fully metered and paid by the consumer. KSEB Ltd. does not have any loss and hence by allowing up to 150 kVA 'KSEB Ltd. and consumers,' both are benefitted.*

- (6) *The investment of a consumer for 160 kVA Transformer is huge and if he is not permitted to utilize its full capacity it will be a heavy loss for the consumer and because of this the industry will become sick. By insisting LT industrial consumers having 160 kVA Transformer for HT conversion he will be entering into a separate category of HT consumers attracting the CEA Regulations and intervention of Electrical Inspectorate. Since the basic Design Requirement of HT installation is decided for 500 kVA requirement, the consumer will be forced to spend minimum of Rs.15 Lakhs for an HT conversion. This can be prevented by allowing LT connections up to 150 kVA by Hon. Commission.*
- (7) *For small Transformers up to 150 kVA, primary protection other than drop out fuse is not a requirement. The 'overload, short circuit and earth fault protection' of the Transformer is addressed even by LT consumers by providing MCCB with CBCT. Hence KSEB Ltd. need not worry about the protection and safety of the Transformer. Hence to avoid with unnecessary requirements inviting heavy financial burden, Hon. Commission may permit LT Industrial Consumers to operate up to 150 kVA. The 11 kVA metering requirement is also not mandatory and LT metering with proper accuracy class which is very economical is sufficient. For HT metering itself the consumer have to spend more than Rs.3 lakh unnecessarily. The consumer is also burdened with additional space requirement and heavy maintenance cost, testing fee etc. of 11kV metering system which can be avoided with LT metering.*
- (8) *By going for HT, the consumer will be burdened with the requirement of unnecessary Safety Regulations including appointment of authorized persons (Diploma holders in Electrical Engineering) as per Regulation 3. Most of the consumers are running the industry by themselves taking care in person, 'the Electricity matters, maintenance of Plant and Machineries, ESI, PF, Local Body, Factories and Boilers, Pollution Control Board, Legal Metrology, etc'. Appointing an overqualified person without requirement will again constitute to the financial losses and unnecessary wastage of man power."*

- (9) *As per provisions existed in Conditions of Supply, 1990 which was enacted under section 79(j) of the Electricity Supply Act, 1948, the said aspect was covered under Regulation 37 II (i). As per the said provision, the connections under Low tension shall be provided for connected load not exceeding 150 KVA. This was introduced as per amendment in 1999. The said situation continued until the Kerala Electricity Supply Code, 2005 was enacted. As per clause 4 (5) (a), the same was restricted to 100KVA. However as per the Supply Code, fourth Amendment Regulation, a provision was added, by which, the consumers existing as on the date of implementation of the Supply Code were permitted up to 150 KVA. Now as per the Regulation 8 of the Supply Code 2014, for all the consumers, the maximum load was fixed as 100 KVA . However in Regulation 11 it is mentioned that, LT consumers who had sanctioned load exceeding the limit of 100 KVA, were permitted to operate with the sanctioned load subject to realisation of low voltage supply surcharge. This restriction is causing great prejudice to the consumers.*
- (10) *Such a restriction is unwanted and unjustifiable especially in respect of those consumers who have installed transformers having capacity of 160 KVA at their own cost. In the said case, despite having created necessary infrastructure by investing huge amounts, they are prohibited from utilizing the said infrastructure fully, which is not all reasonable or rational. Non utilization of the additional 60 KVA capacity is becoming national waste besides the huge financial burden that would cause to the individual consumers.*
- (11) *stipulation contained in Regulation 8 read with Regulation 11 are not legally sustainable as well, since it creates unreasonable classification. While 100 KVA was fixed as the ceiling from all consumers, as per Regulation 11 (3) multi stories buildings were granted exemption from the same.*
- (12) *relaxation granted to Multi-storeyed buildings, it is respectfully submitted that, the same is against the principles of right of equality as enshrined under Article 14 of the Constitution of India. It is pertinent to note that, multi-storied buildings are normally intended to accommodate commercial establishments and going by nature of the machineries installed in the industrial units, it may not be feasible or possible to run industrial units in multi storied buildings.*
- (13) *The present enactment is restricting the sanctioned load to 100 KVA even for consumers who have availed additional power on the strength of amended provisions in Supply Code, 2005. The said provision is liable to be withdrawn, as it is against the principles of promissory estoppels. The said principle is applicable in cases where, a person is acting upon the promise of a person and he had taken steps in pursuance thereof, the person who is making the said promise cannot retract from the same and thereby deny the benefits of the said promise. In this case, acting upon*

*specific stipulations contained in Regulation 4 (5) (b) of the Supply Code, 2005, large number of consumers who have obtained additional power by installing huge amounts for installing 160 KVA transformers and other incidental expenses, cannot be deprived of the benefits of the said power allocation. Here the stipulations contained in Regulation 4(5) (b) are amounting to promise from the part of this Honourable Commission and the consumers as well as the Board have acted upon the said promise. Therefore the doctrine of promissory estoppels clearly applies to this case.*

*(14) Now in the light of the new supply Code, the consumers are being harassed by the respondents. Several cases were reported to this petitioner from its members, in which, proceedings were initiated by the respondents under section 126 of the Electricity Act, for exceeding maximum demand, in excess of 100 KVA, by imposing penalty for the entire consumption at HT rates.*

*(15) Most of the members of the petitioner Association are running the units with no or low margin which would only enable them a just survival. Conversion to HT to most of them, may not be a possibility or feasible, for various reasons such as, lack of funds space, infrastructure etc. Further, the additional expenses, to provide the metering equipments, testing fees, regular inspection fees by Electrical Inspectorate etc would make the industry unviable.*

#### **Submissions of the Respondent:**

5. The summary of submissions made by the respondent in its written statement and argument is given below;

*(1) "It is humbly submitted that the new Supply Code Regulations, 2014 notified by the Hon'ble Commission after conducting the public hearing limits the maximum connected load and contract demand for LT supply as 100 kVA, eventhough the model Supply Code put forwarded by the Forum of Regulators suggested to provide LT supply up to a contracted demand of 50kW only. In most of the other States, the limit prescribed for providing LT supply is much lower than 100 kVA to ensure a lower distribution loss. Here, it may kindly be noted that the  $I^2R$  loss will be high at higher values of current (I). When the supply voltage is at LT, value of current flow in KSEB distribution lines will be high when compared to the operation of the same load at a higher level (i.e, HT). Moreover, delivering smaller value of current is better than delivering higher value as the conductor size increases with quantum of current to be handled which also leads to increase the  $I^2R$  loss in distribution lines. Hence, it is always better that higher load shall be operated*

*at higher voltage level for maintaining an efficient distribution system. Higher level of distribution losses will lead to increased purchase of costly energy and will unnecessarily increase the retail tariff for the entire consumers.*

- (2) *The limit prescribed for LT supply in the Kerala Electricity Supply Code, 2005 is also 100 kVA. On implementation of the erstwhile Electricity Supply Code, 2005, Hon'ble KSERC had allowed existing LT consumers having connected load up to 150kVA to continue with the load existed prior to the implementation of Supply Code through amendment in 2008. This was intended to alleviate difficulties to such consumers who were already having connected load up to 150 kVA and continuing in LT supply based on amendments earlier made by KSEB in Conditions of Supply in 1999. But this does not mean that all existing LT consumers as on 2005 can enhance their loads upto 150kVA and remain in LT. As and when there is a change in connected load, the same has to be proceeded in accordance with the law at that point of time. The Regulation 11 of Kerala Electricity Supply Code, 2014 unambiguously states this position.*
- (3) *While on implementation of ToD Billing & Metering for LT industrial consumers, clarification was issued by the Hon'ble Commission to alleviate the difficulties faced by the above group of consumers as under :*
- i. One time relaxation may be given to consumers genuinely requiring a contract demand exceeding 100kVA for continuing under LT connection, subject to the condition that the contract demand declared shall not exceed the present connected load, i.e., load based on which billing was done during November 2012 and that such consumer had connected load above 100kVA prior to implementation of the Supply Code, 2005.*
  - ii. For any subsequent upward revision, consumer may be required to convert connection as HT connection.*
- (4) *Thus there is no confusion or scope for misinterpretation of provisions in the regulation or direction of the Hon'ble Commission.*
- (5) *It is humbly submitted that KSEB Ltd. is not penalising the above permitted LT category of consumers who have authorised contract load between 100 kVA and 150 kVA as long as there is no violation of the provisions under the Act and the Regulations. Even though, the Petitioner averred that KSEB is compelling such consumers to convert from LT to HT and penalising such category in the pretext of Section 126 of the Electricity Act, 2003 through APTS inspection, no evidence has been submitted before the Hon'ble Commission, in this connection. KSEB strongly denies all such allegations and same shall be put to scrutiny based on evidence.*



- (6) *The technical justifications put forwarded by the Petitioner for enhancing the load of LT consumers to 150kVA are examined and the remarks of KSEB Ltd. are furnished below:*
- (7) *The Petitioner contents that all large machineries having a load above 20kW needs to be provided with 160kVA transformer by KSEB Ltd. and thus the contract demand can be enhanced to 150kVA to fully use the capacity. It may kindly be noted that, Regulation 16 (3) of Supply Code, 2014 stipulates that all 3-phase motors above 11 kW shall limit the starting current to 1.5 times the full load current and that too for a small fraction of time. Moreover, all the distribution transformers have an occasional overload capacity of 150%, with a continuous operational overload capacity of 110% of the rated capacity and hence the averment of the Petitioner is not correct. All distribution transformers will have sufficient overload capacity to meet the transient current of motors at the time of starting which is to be limited to 150% of the full load current as specified by the Supply Code Regulations. Moreover, the reasoning provided by the Petitioner cannot be a basis for enhancing the limit of LT Supply, since for higher loads much larger capacity transformer are to be provided, according to the argument of the Petitioner.*
- (8) *It is humbly submitted that the Tariff Order of the Commission issued from time to time permits the ToD consumers to exceed their Contract Demand by 30% during off-peak hours without any penalty. Here, if the limit of contract demand of LT industrial consumers are raised to 150kVA as suggested by the Petitioner, then the total demand may be 195 kVA which is beyond the maximum installed capacity of 160 kVA of the transformer. The Hon'ble Commission has scientifically fixed the upper ceiling of 100kVA in the case of LT consumers considering maximum utilization of the plants and machineries of an industrial consumer, even though the model Supply Code put forwarded by the Forum of Regulators suggested to provide LT supply up to a contracted demand of 50kW only.*
- (9) *In the Petition the Petitioner also posed the following arguments. The comments on the same are noted against each as under :*
- a. *Linkage of Voltage wise cost of supply to distribution losses. The Petitioner's understanding of the voltage wise cost of supply appears to be faulty. It may be noted that the Petitioner's proposal to enhance contract demand of LT consumers will result in increase of distribution losses and consequently the cost of supply at LT level.*
  - b. *An industrial consumer availing supply above 70 kVA will definitely have to go for own transformer with LT meter very close to the Transformer. For such consumers, the distribution loss will only be 1%. By extending such connections, the KSEB Ltd. will never be at a loss.*

*It may be noted that the distribution loss in this case will be the sum of losses due to core losses of the transformer, copper loss in the transformer primary and*

secondary and LT distribution line loss. These losses are not accounted, if metering equipments are on the LT side in consumer premises. If metering equipments are installed on the 11 kV side, all the losses due to the consumption of a particular industrial consumer will be accounted through the meter. On the other hand, if LT metering is provided to an industrial consumer, then the above losses will be accounted as distribution losses which will result in burdening the entire consumers of KSEB Ltd. leading to unnecessary tariff hike for the normal consumers.

Moreover, the  $I^2R$  loss will increase with the square of the value of current. This shows the necessity of keeping the quantity of current handled to a minimum. For keeping the current minimum, the only possibility is to keep the voltage to high voltage level, this in turn will provide quality of power to the industrial consumer as well as its neighbouring consumers. Thus the argument of the Petitioner is scientifically incorrect and may kindly be ignored.

- c. Low Voltage results in 30% higher kVA The contention of the petitioner does not have any scientific basis and may be ignored.
- d. Consumers availing HT supply have to invest more and thus the industry will become sick.

The only additional requirement of the consumer is to provide HT switching and allied equipments, in the case of consumers availing HT supply. The exorbitant amount indicated in the petition towards expenses is without any basis as pointed out under paragraph 11 below.

- e. Various protections like overload, short circuit and earth fault protection are addressed by using MCCB and CBCT.

This argument is irrelevant to the subject on which the Petitioner is prayed for in this petition and hence may kindly be ignored.

- f. Consumer burdened with space requirement and heavy maintenance cost, testing fee etc. due to 11 KV metering equipments.

The matter is addressed in paragraph 10 below.

- g. Consumer burdened with requirement of unnecessary safety regulations including appointment of authorized persons (diploma holders in Electrical Engineering) as per Safety Regulation 3.

Regulation 44 (2) (xiv) of Central Electricity Authority ( Measures relating to Safety and Electricity Supply) Regulations, 2010 stipulates that only persons designated under sub-regulation (1) of Regulation (3) shall carry out the work on live lines and apparatus, where electricity at voltage above 650V is supplied, converted, transformed or used.

*Regulation 3 of the Central Electricity Authority (Measures relating to Safety and Electricity Supply) Regulations, 2010 stipulates that*

*“No person to be designated unless he is having a certificate of competency or electrical work permit issued by the State Government. ”*

*Thus, CEA Regulations does not insist appointment of a diploma holders in Electrical Engineering at an HT installation.*

- (10) *For arriving at a technical solution to address the issue of land scarcity and commercial solution, two Standing Committees were formed by KSEB Ltd. with representation of KSSIA to prepare comprehensive position papers with respect to the identified technical & commercial aspects. This is to sort out matters in coordination with the Hon’ble Commission, Industries Department and Electrical Inspectorate. The Committees were formed based on discussions with representatives of the Petitioner.*

*The major functions of these committees are:*

- 1. To enumerate the issues related to rationalizing the tariff, supply voltage, billing etc. immediately affecting KSSIA and evolve proposals for addressing the same.*
- 2. To enlist the technical solutions available to minimize the space requirement for availing HT supply in accordance with technical standards acceptable to Electrical Inspectorate and preparing a scheme to meet the investment requirement with the help of industries department.*

*KSEB Ltd. has taken adequate and positive steps to address both technical and commercial aspects of the problem raised by KSSIA.*

- (11) *While converting the existing LT connection into a HT connection, in case where consumers require more contract demand, it has been submitted by KSSIA that the expenses in respect of HT metering, protective devices as per CEA regulations will be of Rs. 15 Lakhs. KSEB Ltd. has analysed this argument during the first sitting of the Committee and explained to therepresentatives of KSSIA that this estimate appears to be exorbitant and the same was convinced by the KSSIA representatives’ members of the Committee. The meeting decided to take up the issue for arriving a feasible solution.*

*It is humbly submitted that the Committees constituted by KSEB Ltd. are already in the process of addressing the issues raised by KSSIA in the petition.*

- (12) *Also, if the limit prescribed by the Hon’ble Commission in the Supply Code Regulations, 2014 is further enhanced, the distribution losses in Kerala system will increase due to metering and billing at LT level which in turn will*

*increase the average cost of supply of all consumers. Thus the request is against public interest and may be disallowed.*

*(13) KSEB has constituted the CGRF strictly as per the provisions in the regulations including the independent member as nominated by the Hon'ble KSERC. KSEB does not have any role in day to day functioning of the Forum, which shall be strictly in accordance with regulations notified by the Hon'ble Commission.*

*(14) The role & functioning of Consumer Grievance Redressal Forum is very well defined in Kerala State Electricity Regulatory Commission (Consumer Grievance Redressal Forum and Electricity Ombudsman) Regulations 2005. As per section (7) of the this Regulations, CGRF shall take up any kind of grievances/complaints as defined in Regulation 2(1) (f).*

*Whereas section 2(1) (f) (vii) says that CGRF shall hear grievance connected with the supply of electricity by the licensee except those related to the following.*

- 1) Unauthorized use of electricity as provided under Section 126 of the Act.*
- 2) Offences and penalties as provided under Section 135 to 139 of the Act.*
- 3) Accident in the distribution, supply or use of electricity under Section 161 of the Act.*

*As such, CGRF does not appear to have jurisdiction over complaints regarding misuse of electricity and theft under section 126 & 135 of the Act.*

*(15) The prayer of the Petitioner is to amend the Supply Code Regulation. It is humbly submitted that the regulation can only be amended following certain procedure prescribed as per rules notified by Gol as prescribed in Electricity Act, 2003 including pre-publication, conducting public hearings etc. Hence, the prayer of the Petitioner to modify Kerala Electricity Supply Code Regulations, 2014 through this petition cannot be entertained.*

*(16) The contention of the Petitioner that the transformer having capacity of 160kVA was installed at their own cost by the industrial consumers is incorrect. Prior to 28-10-2011, all industrial connections were given by KSEB under Minimum Guarantee (MG) scheme and other developmental work of KSEB. Hence the cost of transformer was not borne by the industrial consumer but shared by other consumers too and hence the argument of the Petitioner in this aspect is completely against facts. If there is any spare capacity available in any of such distribution transformers the same will be given by KSEB Ltd. to those consumers who require supply in respective areas.*

*(17) an applicant occupying a multi-storeyed building can be given low tension service connection, if his connected load or contract demand is more than 100kVA provided that the developer or builder installs and maintains at his cost the transformer station. Thus no cost advantage is given to consumers in a multi-storeyed building in comparison to HT or LT consumers. Here, the developer incurs the cost of the entire installation of the transformer, protecting devices, etc. including internal distribution system. This provision*

*for availing supply at LT level in high rise buildings is only to alleviate the technical difficulties in drawing 11 kV lines to the upper floors and installing transformers in different floors of the building. Hence the argument of the Petitioner is incorrect.*

- (18) Further, the situation in the multi-storeyed buildings is different (having comparatively low Diversity Factor / Load Factor between 0.3 to 0.7) from those in the industrial segment (having higher Diversity Factor / Load Factor between 0.5 to 0.9). A scope for high diversity factor persists in the case of multi-storeyed buildings where as the industrial loads are considered to be continuous in nature.*
- (19) The Hon'ble Commission has provided sufficient allowance in fixing the upper ceiling of giving LT supply to an applicant in the Supply Code, 2014 when compared to limits stipulated in Regulations notified by Regulatory Commissions of other States.*
- (20) On implementation of the erstwhile Electricity Supply Code, 2005, Hon'ble KSERC had allowed existing LT consumers having connected load up to 150kVA to continue with the load existed prior to the implementation of Code. Those consumers having 100kVA and above in 2005 are still allowed to continue in LT as per the new Supply Code, 2014.*
- (21) As per the amendment dated 24-10-2008, Board has permitted consumers existing as on the date of implementation of Supply Code 2005, to operate in LT up to a load of 150kVA. The details of such consumers who are having loads above 100kVA as on 02-03-2005 and permitted to continue in LT in the light of amendment dated 24-10-2008. It may kindly be noted that there are 184 consumers fall on this category. The new Supply Code, 2014 has not addressed these consumers. Hence, it is humbly requested that appropriate direction may kindly be issued in this regard.*
- (22) If the limit prescribed by the Hon'ble Commission in the Supply Code Regulations, 2014 is further enhanced, the distribution losses in Kerala system will increase due to metering and billing at LT level which in turn will increase the average cost of supply of all consumers. Thus the request is against public interest and may be disallowed.*
- (23) The prayer of the Petitioner is to amend the Supply Code Regulation. It is humbly submitted that the regulation can only be amended following certain procedure prescribed as per rules notified by Gol as prescribed in Electricity Act, 2003 including pre-publication, conducting public hearings etc. Hence, the prayer of the Petitioner to modify Kerala Electricity Supply Code Regulations, 2014 through this petition cannot be entertained.*
- (24) In the light of the above submissions, it is humbly prayed that the petition filed against KSEB Ltd. in this regard may be dismissed."*

## **Analysis and decision of the Commission:**

6. The Commission has carefully considered the prayers of the petitioner and the grounds submitted by him to substantiate his claims. The Commission has also considered the arguments and grounds submitted by KSEB Ltd in this regard. The main issues which come up for decision are :
- (i) Whether or not the limit of connected load / contract demand specified for LT consumers should be increased from 100 kVA to 150 kVA.
  - (ii) Whether or not the Commission has to issue directions to KSEB Ltd regarding the appointment of the Chairperson of CGRF.
  - (iii) Whether or not the Commission has to issue any instruction to CGRF relating to admission and disposal of petitions filed before it.
  - (iv) Whether or not KSEB Ltd has to be given any direction to abstain from steps like disconnection and penalization on the ground of exceeding the limit of connected load / contract demand for LT connection which has been fixed at 100 kVA.
  - (v) Whether or not a transmission period of one year should be allowed for the changeover to time of the day (ToD) tariff system.
7. As per note (ii) under Regulation 37 of the Conditions of Supply of Electrical Energy, 1990, which was issued under Section 79 (j) of the Electricity Supply Act, 1948, electric connections at low tension can be provided for connected load not exceeding 150 kVA. This was introduced as per Board order No. 1701/99 dated 31.7.1999. The limit prescribed for LT supply in the Kerala Electricity Supply Code, 2005 is 100 kVA as per clause (b) under sub regulation (5) of Regulation 4. On implementation of the erstwhile Electricity Supply Code, 2005, the existing LT consumers were permitted to operate in low tension up to a load of 150 kVA, through an amendment in 2008. KSEB Ltd in their written submission, as quoted in para 5 (21) above, has submitted that as per the amendment dated 24.10.2008, KSEB had permitted the consumers existing as on the date of implementation of Supply Code, 2005 to operate in LT up to a load of 150 kVA. The details of such consumers who were having loads above 100 kVA as on 02.03.2005 were permitted to continue in LT in the light of amendment dated 24.10.2008 to the Supply Code, 2005. It is submitted that there are 184 consumers in this group. The Kerala Electricity Supply Code, 2014 has not addressed the case of these consumers, who were granted enhancement of connected load in view of the fourth amendment of Kerala Electricity Supply Code, 2005, on 24.10.2008. KSEB Ltd has requested for appropriate direction in this regard.
8. The Commission has considered the pros and cons relating to enhancement of the limit of connected load for LT consumers from 100 kVA to 150 kVA. The model Supply Code circulated by the Forum of Regulators suggested to provide LT supply only up to contract demand of 50 kW. It is found that in most of the other States, the limit specified for providing LT supply is of and below 100 kVA, with a view to minimizing distribution loss.

9. The distribution loss is computed using formula,  $\text{loss} = I^2R$  where I is the current and R is the resistance of the conductor. When voltage is stepped up, the current reduces proportionately. Therefore the distribution loss will be high at higher values of current. When the supply voltage is at low tension (220 V), the value of current flow in the distribution lines will be proportionately high when compared to the operation of the same load at high tension (11000 V). In order to maintain an efficient distribution system, the distribution loss shall be minimized. Moreover, increase the distribution loss is in geometric progression and it will lead to increase in average cost of supply resulting increase in the retail tariff of all consumers in the State. Therefore in the interest of the consumers in general, availing electricity at higher voltages should be encouraged and enforced.
10. The attempt of the petitioner to draw comparison and equality with the consumers in multi storeyed buildings does not appear to be well founded. The consumers in multi storeyed normally belong to commercial and domestic categories where the diversity factor / load factor is often between 0.3 to 0.7. Whereas in the case of an industrial units, the loads are continuous in nature and have higher diversity factor / load factor i.e, between 0.5 to 0.9. In the case of consumers in a multi storeyed building the developer incurs the cost of the entire installation of the transformer, protecting devices and such other equipment including internal distribution system. Also, the provision for availing supply at LT level in high rise buildings is only to alleviate the technical difficulties in drawing 11 kV lines to the upper floors and installing transformers in different floors of the building.
11. Even if the LT metering system is placed adjacent to the transformer, the transformer loss (the sum of copper loss in the transformer primary and secondary) will be accounted under the distribution loss of the licensee, which will ultimately result in increase in average cost of supply and in burdening the entire consumers of the respondents, leading to avoidable tariff hike.
12. The tariff order of the Commission issued from time to time permits Time of Day billed consumer to exceed their contract demand by 30% during off-peak hours without any penalty. Hence an individual consumer having sanctioned contract demand of 100 kVA can raise their contract demand to 130 kVA during off peak hours without any penalty.
13. Any provisions of Supply Code can be amended based on the recommendations of the Electricity Supply Code Review Panel constituted as per Regulations contained in chapter X of the Kerala Electricity Supply Code, 2014. The procedure prescribed as per rules notified by Government of India as prescribed in the Electricity Act, 2003 is to be followed by the Commission including prior publications, conducting public hearings etc.

14. In view of the above facts and technical aspects the prayer of the petitioner to increase the limit for LT connection from 100 kVA to 150 kVA and to amend the Supply Code, 2014 accordingly cannot be granted. The Commission has already issued regulations relating to the functions of CGRF and Ombudsman. The CGRF has to function independently with a view to settling the grievances of the consumers within the parameters of Electricity Act, 2003, and the regulations issued thereunder. Therefore no further directions are warranted in this regard. Further the licensee has to disconnect supply and realise penal charges in accordance with the provisions of the Electricity Act, 2003 and the regulations made thereunder. No restrictions need be imposed on the functions of the licensee so long as they are in accordance with relevant statutory provisions and regulations. The petitioner has also not pressed for reliefs other than enhancing of contract demand of LT industrial consumers under demand based metering system.

15. Regarding the regulations issued by the Central Electricity Authority to ensure safety of electrical installations, the petitioner has stated as follows in his petition:

*By going for HT, the consumer will be burdened with the requirement of unnecessary Safety Regulations including appointment of authorized persons (Diploma holders in Electrical Engineering) as per Regulation 3. Most of the consumers are running the industry by themselves taking care in person, 'the Electricity matters, maintenance of Plant and Machineries, ESI, PF, Local Body, Factories and Boilers, Pollution Control Board, Legal Metrology, etc'. Appointing an overqualified person without requirement will again constitute to the financial losses and unnecessary wastage of man power."*

The Central Electricity Authority is the highest statutory technical body in the country which has been empowered by the Electricity Act, 2003, to issue regulations relating to safety of electrical installations and supply of electricity. Such regulations are issued by the CEA only to safeguard the life and property of the consumers, their workers and of the public at large. The Commission can view such statements only as scant respect for law as well as imprudence and impudence on the part of the petitioner.

#### **Order of the Commission:**

16. The maximum connected load or contract demand permissible for low tension consumer who avails power under low tension shall be 100 kVA as already specified in the Kerala Electricity Supply Code, 2014.

17. However, the existing consumers on the date of implementation of Kerala Electricity Supply Code 2005, who were permitted to operate at low tension up to a connected load of 150 kVA in accordance with clause (b) of Regulation 3 of



Kerala Electricity Supply Code (Fourth Amendment) Regulations, 2008 shall be allowed to operate at the same voltage level and connected load or contract demand subject to realisation of low voltage surcharge, until an upward revision of connected load or contract demand is granted on application by the consumer or otherwise. Necessary orders in this regard are being issued by the Commission, exercising its powers conferred by Regulation 179 of the Kerala Electricity Supply Code 2014.

The petition is disposed off. Ordered accordingly.

Sd/-  
**Mathew George**  
**Member (F)**

Sd/-  
**T.M. Manoharan**  
**Chairman**

**Approved for issue**

**SECRETARY**