

# KERALA STATE ELECTRICITY BOARD

## Abstract

Guidelines for drawing Cable TV Communication Network along LT electric posts -Orders issued -

### CORPORATE PLANNING SECTION

B.ONo.(FB)1421/2002(CP/R&P/Plg.V/CableTV/2002). Thiruvananthapuram. dtd:18/10/02

- Read:-
- (1) B.O No.3250/98 LA-II/10645/97 dated. 22.10.98
  - (2) Proceedings of the Board Meeting on 27/9/2002 vide Agenda item No.236/2002.
  - (3) B.O No.(FB)1389/2002 (CP/R&P/Plg V/Cable TV/2002) dated 16.10.2002.

### O R D E R

The Board had earlier issued orders in the Board Order read as first paper regarding the guidelines pertaining to drawal of Cable TV Communication Network along LT electric poles.

2.The Board had reviewed the issue in detail in its meeting held on 27/9/2002 and the procedure to be followed in such cases was issued in the Board Order read as third paper. It was also mentioned therein that the guidelines will be issued separately.

3.Accordingly the Board is pleased to issue the guidelines for drawing cables for TV network along the LT poles of KSEB which is appended to this order.

4.This order supercedes all previous Board Orders on the subject.

**By order of the Board,  
Sd/-  
T.S MOHAN KUMAR  
SECRETARY**

To  
The Chief Engineer (Distribution South/Central/North)

Copy To:

1. All Chief Engineers
2. The Financial Advisor
3. The Chief Internal Auditor
4. The Inspector General of Police ( Vigilance & Security)
5. The Deputy Chief Engineer, Electrical circle.
6. The Director, MIS / The D.P. R
7. The Deputy Chief Engineer( APTS)
8. The Deputy Secretary, Law
9. The T.A. to Chairman
10. The T.A. to Member (Transmission)
11. The T.A. to Member (Distribution)
12. The T.A. Chief of Generation
13. The P.A. to Member ( Finance)
14. The P.A. to Secretary
15. The Fair Copy Superintendent
16. Stock file.

Forwarded /By Order

Supriya Jasmine G

Asst. Executive Engineer

**GUIDE LINES FOR CABLE TV COMMUNICATION  
NETWORKS ALONG LT ELECTRIC POLES**

**General conditions, Technical Standards and Safety Guide Lines**

Competitive tenders in sealed covers super scribed "Tender for permission to draw Radio Frequency / Fibre Optic Cables along LT Electric Poles" are invited from registered cable TV operators for getting permission to draw their lines (here in after called Cables) through electric poles owned by the Kerala State Electricity Board, in accordance with the safety standards followed internationally, the Indian Electricity Act-1910, Electricity Rules - 1956, Electricity (Supply) Act - 1948, PTCC codes and relevant Indian and international standard specifications.

**General Conditions**

- a) The basic principle of selection for granting permission to use KSE Board electric posts for Cables will be on tender-cum-auction basis.
- b) Rates shall be quoted per pole per year. Auction will be held before opening the tenders. After opening the tenders, the highest tendered rate shall be compared with the highest auctioned rate. The higher of the two rates shall be accepted subject to approval of the concerned Chief Engineer(Distribution). Rates not below the floor rates fixed by the Board per pole shall be quoted. Those who have submitted valid tenders alone will be allowed to participate in the auction.
- c) Poles that are not in use by cable TV operators shall only be offered for tender. Tenders will have to be submitted for all poles offered in a particular Electrical Division. The Executive Engineer of the concerned Electrical Division shall have right to determine the minimum number of poles for which a tender can be submitted. The particular date for inviting tenders in a particular Division shall be fixed by the concerned Executive Engineer.
- d) The selected tenderer/ bidder shall execute an agreement with KSEB and should furnish a security deposit of 10 % of the total annual rent quoted. The period of contract shall be fixed in such a way that it may extend up to ten years with the condition that the rates shall be

increased by 12.5% every year. The EMD collected earlier will be adjusted in the security deposit. The Security Deposit and EMD will bear no interest. The Security Deposit will be forfeited in case of breach of any of the agreement conditions. Security Deposit will be returned only after dismantling the cable.

e) Rent for poles for each year for the period covered under the agreement will have to be paid in advance. The advance for the first year shall be remitted on the date of execution of agreement in cash/DD payment and for the succeeding years should be made on or before the 10<sup>th</sup> of the month in which the one year period expires.

f) In case of failure to remit each years rent in advance, interest @ 24% will be charged for the same. If the dues with interest are not remitted within three months, the agreement will be terminated, security forfeited and other suitable actions as decided by the Board will be taken against the defaulted cable operator including dismantling of the cables.

g) EMD @ 2.5 % of the total annual rent in the form of cash/D.D shall be remitted by the tenderers along with the application.

h) Any financial loss caused to the Board while installing the cable, either by damage to Boards property or power failure have to be borne by the selected cable TV operator.

i) In case of any difference or dispute relating to or arising out of the above agreement, the same shall be referred to the concerned Chief Engineer (Distribution) for decision and the decision thereon will be final and binding on the parties.

j) The cable TV operator will indemnify and keep harmless the Board against any expenses that may be incurred in connection with any suit or other proceedings filed in any court or before any authority in respect of any matter related to and/or arising out of the distribution of TV cable of such operator using the poles of KSEB.

k) The Board will not have any liability in respect of claims under Workmen's Compensation Act or otherwise made by the employees under cable TV operators consequent on any accident during their course of employment under him.

- i) *The cable TV operator alone shall be responsible for payment of compensation for the death/injury, if any, caused to any person including employees of KSEB and for the loss caused to properties of any other person due to any accident that may occur by the malfunctioning/ improper maintenance/ nonstandard construction of the cable TV network.*
- ii) *The cable TV operator has no right to transfer/sell/assign his right under the license/sanction issued by the Board to draw cable TV to any person under any circumstances without prior permission / sanction from the Board. In case the cable TV operator transfers his right under the license / sanction without the permission of the Board , the Board has the right to revoke/cancel the license / sanctions issued to the cable TV operator.*

(l) (i) Whenever maintenance works of electric lines by KSEB are necessary, the Board has the right to direct the cable TV operators to remove cable TV lines temporarily so as to carry out the maintenance work within the time limits specified by KSEB. After completion of the work the cable TV operators are at liberty to reconnect the same at their cost. In case the cable TV operator fail to remove the lines within the specified time limit, the Board shall be free to remove the same through suitable persons and to realise its cost from the cable TV operators. The cable TV operators who fail to remove the cable TV lines, in spite of the directions of the Board officials are not entitled for reconnection of the line without permission of the Board.

( ii.) In case the cables in any pole is required to be removed permanently for any bonafide use of the Board , the Board has the right to direct the cable TV operators to remove the cable TV lines permanently within a specified time limit. If the cable TV operators fail to remove the lines inspite of the directions of the Board officials ,they are not entitled for reconnection of the lines without permission of the Board.

m) The Board will not be responsible for any interruption and/or interference caused to the quality of either video/audio signals, due to the proximity of 11 KV, or 66 KV or other High Tension lines to the Cables or other reasons.

n) Written permission should be obtained from the concerned Electrical Section/Electrical Sub Division before commencement of the work of drawing of Cables through utility poles. At the time of execution



of such works the permit to work issued by Asst. Engineer/Asst. Executive Engineer concerned should be made available at the work site and should be produced on demand by the competent Board staff or Board's officers. No maintenance of such cables shall be allowed on electric poles from 6 PM to 8 AM except on emergency situations. The directions given by the AE/AEE in this regard shall be complied with.

o) The cables and other equipment used in the cable network should be of approved quality/ISI marked. The relevant ISI standards applicable being IS:13420:1994 Part I, IS:14264:1995, ISS:14131 (part):1994 and IS 14131 part (2) : 1995. The list of equipments, methods of drawing of Cables and steps taken for maintenance of such Cables should be got approved by the Electrical Inspector of the respective District.

p) The network shall be subject to periodical inspection by the Electrical Inspector under intimation to Boards officials and its fee or other charges for such inspection shall be borne by the cable TV operators.

q) Statement giving details of number of customers, length of cable Network, number of power connections availed for amplifiers, area of jurisdiction of the supplier (Electrical section/Sub Division) shall be furnished to the Chief Electrical Inspector when called for.

r) Details of the Cable TV subscribers including name, address etc. shall be maintained at the administrative office and made available when called for.

s) The Asst. Engineer/Asst. Exe. Engineer concerned should certify that the work has been done as per the technical standards and guidelines specified and that the cable TV operators has adhered to the directions stipulated .

t). Any false declaration in the application will make the application liable for rejection.

u). Any deviation or breach of the guideline will annul the agreement.

## Technical Standards and Safety Guide lines

1. A minimum ground clearance of 3050 mm shall be maintained for Cables taken along the street.
2. When Cables are drawn across the road a minimum ground clearance of 5800 mm shall be maintained.
3. A minimum vertical clearance of 1200 mm shall be maintained for cables from the lowest Power conductor.
4. Keeping in view of the above referred ground and line clearances, the specifications regarding Network isolation and distortions caused by unwanted signals as per IS: 13420 part (1): 1994 and IEC: 728-1: 1986 for "Cabled Distribution Systems" and to prevent co-channel and cross channel interference and RF ingress, only one cable/network per electric pole shall be permitted. This would also greatly limit the problems relating to electric line maintenance work for the KSEB personnel and cable maintenance for the TV network.
5. High Tensile, stranded bare hot dip galvanized steel wire having minimum breaking strength of 350 kg shall be used as bearer wire. Alternatively PVC insulated GI wire or messengered RF cable of the same breaking strength shall be used.
6. Porcelain tension and pin insulators suitable for medium voltage installation shall be used for supporting and stringing the bearer wire.
7. The bearer wire shall be sectionalized and shall not exceed four spans. Each section of the bearer wire shall be provided with duplicate earthing, by earthing the beginning and end of each section. Sectionalizing shall also be done at all places where interlinking are given for power lines.
8. NO. 8 SWG GI wires shall be used for earthing. Earthing shall be done using proper contacts at both ends of the GI wire. Earth electrodes shall be of 38 mm dia and 2500 mm long. Class-B GI pipe. The earth wire shall be connected to the pipe using GI bolts, nuts and washers for proper contact. The connection to the bearer wire for earthing shall be made by Britannia joint.

9. The pole clamp assembly shall be fixed to the utility pole, such that, a minimum horizontal clearance of 130 mm is maintained between the bearer wire and pole. The clamps shall be hot dip galvanized to resist corrosion.

10. The Cable shall be bound or lashed to the bearer wire using PVC coated GI wire or spiral band at intervals of 1250 mm.

11. The Cables should conform to Indian Standard IS: 1431 (Part 1): 1994 for "Radio Frequency Cables" and IS 14131 (part 2):1995 "Particular Requirements for single unit coaxial cables for use in cabled distribution systems" or, its equivalent International Spn. Of IEC or ASTM or DIN or BSS.

12. The Cables shall, be mechanically sturdy, lightweight, electrically insulated and of low resistance and low attenuation at higher frequencies. The electrical insulation shall be rated for 650 V. The cables shall maintain a minimum clearance of 130 mm from the utility pole, support bracket etc. A minimum clearance of 1200 mm shall be maintained from 11 KV distribution transformer switchgear etc. Expansion loops shall be provided at supports to prevent unrestrained movement of cables.

13. As per Electrical Inspectorate guidelines usage of a higher voltage above 110 Volt line Amplifiers is hazardous and dangerous for the network TV subscribers. Therefore, the booster amplifier used in the Network shall be powered by independent KSEB power connections. The operating voltage of the amplifier, shall not exceed 110 Volts and powered by low voltage double wound isolation transformers of 240 Volts single phase and controlled by a MCB. The power cubicle with separate KSEB meter shall be effectively earthed using standard earth electrodes.

14. Customer drop Cables shall be taken only through standard tap-off box installed at the support poles, and the drop cable shall be supported on separate bearer wire tied to the poles. The bearer wire carrying the drop cable shall be strung to suitable non-metallic point at the consumer's premises. The bearer wire carrying the drop cable shall be connected to the main bearer using Britannia Joint. Under no circumstances shall the drop cable be taken along the trunk sub distribution RF cable and teed without isolation tap-off.

15. The connectors used shall be tropicalised and weather proof and made of material with lowest co-efficient of expansion to avoid loose



contacts. Connectors at the customer premises shall be fully insulated and shock proof.

16. AC Power block shall be provided to the drop cable brought to the customers premises to make the connection shock proof. The capacitors used for AC blocking shall be 2KVAR rating and the capacitance value shall be 220 pf to 470 pf

17. Erection of cables and subsequent maintenance of the Network shall be carried out under the supervision of the authorized person of the utility adopting all safety precautions.

18. When crossing public private property, necessary sanction from appropriate agency shall be obtained.

19. Safety provision under the Indian Electricity Act 1910 Indian Electricity Rules 1956 Electricity (Supply) Act 1948 shall be strictly adhered to.