

ANNEXURE 'D'

PROFORMA FOR OVER HEAD L. T. LINES

| | Reference to inspection fee paid |
|--|----------------------------------|
| | Rs _____ |
| 1 Department | : |
| 2 Name of the owner | : |
| 3 Name of work | : |
| i) Location | : |
| ii) Tehsil | : |
| iii) District | : |
| 4 A drawing indicating the route alignment, location where tapped and important features such as road, Telephone, Canal Railway or power line crossing etc, to be furnished. | |
| 5 Particulars of over head line | : |
| i) System of voltage | : |
| ii) Approximate length of line | : |
| iii) No. of circuits | : |

GENERAL CONDITION OF THE SYSTEM:

| Rule of the J & K Electricity Rule 1978. | Requirements | Report |
|---|--|--------|
| 3 | (i) Is the list of authorised persons properly made and kept upto date and attested ? ii) Whether the authorised persons are competent for the work assigned to them ? | |
| 29 | i) State, if all electric lines are constructed, installed, protected, operated and maintained in accordance with the Indian construction standard so as to prevent danger. | |
| 33 | State if provision has been made in the L. T. line for providing earthed terminal to the consumer's premises, If so. state the type i.e. TNS or TNC/TNC-S. | |
| 75,85 | State the following : i) Minimum size of conductor ii) Type of conductor ? iii) Breaking strength of conductor (< 317.51 kg) iv) Maximum & Min. span (Max. span > 67.056 meters) v) Configuration of conductors. | |

vi) Spacing between conductors.

75 Maximum number of joints & type of joint in a wire per span.

(No. of joints should not be more than 2 per wire per span provided those are compression type or bolted type and ultimate strength should not be less than 95% of the conductor strength).

76 A — Specification of the supports and stay wires.

- i) Type and length of supports.
- ii) Safe working land.
- iii) Minimum factor of safety (≤ 2.5 for P. C. C. pole & ≤ 2 for metal supports)
- iv) Specification of stay wire (i. e. size, ultimate breaking strength factor of safety etc.)
- v) Specification of Galvanised wire (minimum required size of G. I wire shall be 4 mm hard quality or 5 mm soft quality).

B — Over head line with bare conductor :

State the following :

- i) Minimum factor of safety of conductor (≤ 2.0 based on UTS).
- ii) In addition state the following. conductor tensions at 32. oc with out external load ;
 - a) Initial unloaded tension ($\geq 35\%$ of UTS).
 - b) Final unloaded tension ($\geq 25\%$ of UTS)

77 Minimum ground clearance of the lowest conductor :

- i) Across the street/at, the public places/ in the factory or in the private permises.
 - a) No. of such crossings ?
 - b) Minimum ground clearance at each crossing. (minimum required ≤ 5.791 meters)
- ii) Along the street :
 - a) Minimum ground clearance of the lowest conductor. (minimum required : ≤ 5.486 meters).
- iii) Elsewhere :
 - a) Minimum ground clearance of the lowest conductor :

MINIMUM REQUIREMENT :

(For LV, MV & lines if bare \leq 4. 572 mtrs).

(For LV, MV & lines (if insulated) \leq 3.962 mtrs).

B) River/Canal crossings,

a) No. of crossing

b) Has all the crossings been guarded and efficiently earthed at both the ends ?

Minimum clearance at each crossing.

(for nonnavigable rivers \leq 3. 0. mtrs above the HFL).

79&80 Clearance of the over head conductor from the building :

i) Vertical clearance of the lowest conductor at maximum sag (\leq 2.50 mtrs)

ii) Horizontal clearance on the basis of minimum deflection at the max. sag of the line from vertical due to wind pressure.

(minimum requirement : \leq 1. 20 metres).

81 Where conductors forming parts of system at different voltages are erected on the same supports, has the provision been made to guard against danger to lineman and others from lower voltage system being charged above its normal working voltage by leakage from or contact with higher voltage system ?

Following measures are recommended in addition to crossing clearances ;

i) Guardnetting effectively earthed be placed in between the two OH Lines

ii) The supports forming the part of such OH. lines & metallic fittings attached thereto be permanently and effectively earthed.

iii) Higher voltage rating insulators be provided for lower voltage conductors on such supports.

84 Have the lines erected in vicinity of aerodromes been authorised by the aerocrome authorities ?

86 Where overhead telecommunication line & power lines are carried on the same supports, state the following :

i) Breaking strength of conductors of telecommunication line (\leq 272.16kg.)

ii) Minimum vertical clearance between power and communication lines (\leq 1380 mm)

iii) Minimum clearance between communication wire and ground wire on the power line (\leq 1070 mm)

iv) Whether guarding provided.

c) Where overhead power lines or Telephone lines cross each other :

State the following :

A- TELEPHONE LINE CROSSING :

- a) No. of crossings :
- b) Has all these crossings been made as per PTCC code at as nearly at right angles duly guarded at efficiently earthed at both ends.

c) Minimum clearance at each crossing
MINIMUM REQUIREMENT

- i) If guarding provided on power line for vertical configuration of LT. Power lines (bare) with cage guarding (not less than 915 mm). For triangle configuration of phase conductors (bare)..... 20 mm. In no case clearance should be less than 760 mm.
- ii) If guarding provided on telecommunication line supports. If insulated weather proof wires carried an efficiently earthed Steel barrier wires i.e Service line (not less than 915 mm).

d) Breaking strength of conductor of telecommunication line (not less than 272.16 kg)

B. POWER LINE CROSSINGS

- i) State the no. of crossings between line under test and the following over head lines
 - a) LV & MV lines
 - b) HV lines upto 33KV
 - c) 66 KV lines
 - d) 133 KV lines
 - e) 220 KV lines

MINIMUM REQUIREMENT

System voltage under test

- a) Has the crossings been made as nearly right angles (angle of crossing should in case be less than 60 degrees)
- b) Has they been suitable protected to guard against the possibility of coming in contact with each other.

GUARDING :

- i) Has guarding been connected with earth at each point at which its electrical continuity is broken ?
- ii) Is guarding wire of adequate breaking strength and sufficient current carrying capacity to ensure the rendering dead without risk of fusing provided ?

REQUIREMENT :

The size of wire used should not be less than the following :

- i) AAC 7/3.10 mm or ACSR 7/2.59 mm
 - ii) 4 mm G. I. wire of min. strength 55 kg f/mm² hard quality
or
5 mm G. I. wire of min. strength 33kg f/mm² soft quality.
- 90 i) Have all metal supports and all reinforced and prestressed cement concrete supports of O. H. lines and metallic fittings attached thereto permanently and efficiently earthed ?
- ii) Have stay wires been provided with proper rated insulators. If so, has each stay wire without insulators been efficiently earthed,
- iii) a. The maximum individual electrode earth resistance in the case of individual structure earthing.
b. Earthing resistance in the case of continuous earth wire system.
- 92 i) Has the owner of O. H line adopted efficient means for diverting to earth any electrical surges due to lightning on every O.H. line which is so exposed as to be liable to injury from lightning ?
- ii) Has earthing lead from lightning arrestors been connected to a separate electrode ?
- 93 Are un-used O. H. lines being maintained in safe mechanical condition ?

SERVICE LINES :

Are the following practices being observed;

- 31. 50. 58. i) Cut-outs of requisite capacity being provided at the commencement of supply ?
- 89 ii) The service line tapping being taken off at a point of support only ?

- iii) The service lines being taken through suitable P. G. Clamps ?
- iv) The service lines of sufficient weather proof and weather resisting properties being provided. (P. V. C. wire with single insulation are not permitted).
- v) The service lines being supported with bearer wire duly earthed. (size of GI wire should not be less than 4.00 mm (55-95 kg).
- vi) The maximum span of service line is being restricted to 35 meters.

Signature of the owner

Name & Address-----

Certified that I have inspected and verified and found the installation fit for energisation/
not fit for energisation as the clause Nos. -----of Rules is not complied with.

Inspection Officer

Name & Designation-----
