

**ANNEXURE 'F' - 1  
PROFORMA FOR INSPECTION OF 11.0/0.433 KV DISTRIBUTION OUT DOOR  
SUB STATIONS:**

Ref. DT No. Feeder Loc		Reference to inspection fee Paid Rs. G.R. No. & date
1	Department	
2	Name of the owner	
3	Name of the S/Stn.	
4	i) Location	
	ii) District	JAMMU
4	Capacity of the sub station	_____ kva
5	System voltage	11/0.433 kV
6	General conditions of the system	Ok

Rule of the J & K Electricity Rule 1978	Requirements	Report
3	i) Is the list of authorised persons properly kept upto date duly attested?	
	ii) Whether the authorised persons competant for the work assigned to them?	
9	State, if the sub station is constructed, installed, protected worked & maintained in a accordance with the standards of the ISI so as to prevent danger. If so, state the following?	
	I Has layout of earthing arrangement indicating position of poles, earth electrodes and fencing been enclosed. If so state the following?	
	i) Has earth conductor & spikes electrodes ( in case used ) been placed 0.6 meter below the ground?	
	ii) In case pipe electrode earthing, has the pipe terminated below the ground level and proper inspection chambers provided conforming to IS	
	iii) What is the arrangement for measuring the earth resistance of individual electrode indenendentlv?	
II	A) POLE MOUNTED SUB STATION UPTO 250 KVA	
I	Whether independent structure other than tension structure has been provided for the sub station?	

2

## STATE THE FOLLOWING:

## A) SPECIFICATION OF SUPPORTS

- a) Type & length of supports.  
Minimum requirement 9 mtr. length.
- b) Safe working load.  
(minimum requirement 300 kg)
- c) Spacing between poles.  
(minimum 2.44 mtr.)
- d) Phase to phase spacing at sub station structure  
(minimum requirement 760 mm.)
- e) Phase to structure spacing  
(minimum requirement 460 mm)
- f) No. & cross-section of x-arms used for following.
  - i) For top cross arm
  - ii) For GO Set
  - iii) For DO set
  - iv) For transformer plate form
  - v) For transformer belting
- g) Height of transformer channel plate form above ground. (minimum requirement 2.44 mtr.)
- h) Height of GO set above ground.  
(minimum requirement 6.99 mtr.)
- i) Height of DO set above ground.  
(minimum requirement 5.49 mtr.)
- j) Spacing between GO & DO (minimum requirement 1.5 meter)

3

Whether minimum ground clearance of live parts

3

of the transformer maintained at 2.75 mtr.  
Whether post Insulators used for supporting connectors at the sub station.

4

Whether over current protection device provided? If so. state the type.

5

Whether isolation device provided?  
If so. state the type.

6

Whether anticlimbing devices provided?

7

Whether danger plates provided?

## B) PLINTH MOUNTED TRANSFORMERS ABOVE

250 KVA

- 1 Height of plinth for transformer
- 2 Size of cement concrete plinth plat form
- 3 Whether the cement plinth plate form is adequate  
for movement of onerating staff?
- 4 Whether minimum ground clearance of live parts  
of the transformer maintained at 2.75 mtr.
- 5 Has sub station been fenced properly with mesh  
fencing? (height of fencing should not be less than 2.44 mtr.)
- 6 Has proper entry gate been provided?
- 7 Has the fencing and gate been effectively earthed  
with independent electrode? State the value of earthing

- 1 Has the routine tests, prescribed as per relevant IS, been carried out on the equipment installed. If so, enclose the copies of test results
- 2 Has all the site tests, prescribed as per relevant IS, been carried out on the equipment installed. If so, enclose the copies of test results
- 3 Has the apparatus been energised for testing purpose. If so, what was the performance
  - A) LAS
    - a) Whether Las are used at the sub station? If so, whether they are provided with independent earth electrode.  
Give the values
  - B) G. O set:
    - a) Whether Go set been provided at the sub station. If so, state the following:
      - i) condition of the equipment
      - ii) spacing between phases.
      - iii) spacing between extreme phase & support
    - b) Whether G. O set alongwith its handle been effectively earthed wth two separate earth connections? If so, give the value.
  - C) D. O SET
    - a) Whether D. O. set provided at the sub station? If so, state the following?
      - i) condition of the equipment
      - ii) spacing between phases.
      - iii) spacing between extreme phase & support
    - b) Has D. O set been effectively earthed with two separate earth connections? If so, give its value.
  - D) TRANSFORMER:
    - a) Specification of transformer.
    - b) Condition of the transformer.
    - c) State the minimum ground clearance of the live parts of the transformer of the terminals bushes (It should not be less than 2.75 mtr.)
  - d) INSULATION RESISTANCE:
 

IR value of transformer at prevailing temperature of 40 degree C & test voltage applied 5 kV	After one minute application of test voltage	After 10 minute application of test voltage
(1)	(2)	(3)

    - i) HV/LV
    - ii) HV/E
    - iii) LV/E

- e) Has the transformer terminals been provided with crimped lugs/thimbles?
- f) Has the connections of transformer HV & LV bushings been made through bimetallic connectors (in case the material of bushing & thimbles is different)
- g) Has the transformer jumpers and terminations at bushings been insulated?
- h) Has the transformer body & neutral been earthed with two independent electrodes? Give the values.  
(For transformers above 100 KVA it is recommended to have 2 Nos. earth connections of GI strip of section 200 mm<sup>2</sup> as per practice in the Govt.

E CABLES & CABLE DUCTS:

I CABLES:

a) 11 kV CABLES:

- i) Size of 11 kV cables used for incoming to transformer. 1  
2
- ii) Condition of cables 1  
2

b) L. T. CABLES

- i) Size of L. T. cables used for transformer LV side to L. T. panel. 1  
2
- ii) Condition of cables 1  
2
- iii) Size of L. T. cables used for switch to L. T. Pole. 1  
2  
3  
4
- iv) Condition of cables 1  
2  
3  
4

c) INSULATION RESISTANCE:

Insulation resistance of each cable with megger at kV  
C

- |      |   |   |
|------|---|---|
| i)   | 11 KV CABLES:   | 1 |
|      |   | 2 |
| ii)  | L. T. CABLES  |   |
|      | From transformer LV side to   | 1 |
|      | L. T. panel   |   |
|      |   | 2 |
| iii) | From L. T. panel to L. T. pole  | 1 |
|      |   | 2 |
|      |   | 3 |
|      |   | 4 |
| d)   | Has the armour and metal sheath of cable terminals been bonded and provided with separate earthing connections? Give the values |   |
| e)   | Has 11 kV cables/L. T. cables been laid properly.   |   |
| 2    | CABLE DUCTS:  |   |
| a)   | Has separate cable duct been provided for power and L. T. cable?  |   |
| b)   | Has cable ducts covered with fire resistance covers or filled with sand?  |   |
| c)   | i) Has proper slope been provided for drainage of rain water?   |   |
|      | ii) If it is not possible to drain out rain water naturally, what alternative arrangement has been made for the same?           |   |
| F)   | L. T. PANEL/L. T. SWITCHES:   |   |
| a)   | Has L. T. switches been placed at height 1.5 mtr. above the ground and properly earthed with two separate earth connections?    |   |
| b)   | If switches/panel is placed out door whether they are protected against rain.   |   |
| c)   | Has the L. T. switch frame been earthed with two earth connections?   |   |
| d)   | Condition of the equipment  |   |
| G)   | L. T. POLE FOR CIRCUITS:  |   |
|      | Has independent pole been provided for L T supply to overhead circuit?  |   |
| IV)  | ILLUMINATION:   |   |
| a)   | Has illumination fixture been provided at the sub station.  |   |
| b)   | Has P. C. C. pole/metallic pole used for illuminations been effectively earthed? Give the values.                               |   |

V. GENERAL REQUIREMENTS.

- a) Has following safety tools been provided at the sub station.
  - i) 11 kV operating rod.
  - ii) Safety handgloves suitable for 11 KV.
- b) Has caution notice been placed at conspicuous places indicating system voltage?
- c) State the quality of workmanship with regard to making of termination connections, earthing, jointing, fabrication etc.

Signature of the owner.....

Date: .....

Certified that I have inspected, verified and found the installation fit for energisation / not fit for energisation as per rules Nos. \_\_\_\_\_ of J&K Electricity Rules 1978 are not complied with.

ELECTRICAL INSPECTOR  
Name and .....

Designation .....