



Rules and Regulations on sharing of electrical Poles by the Commercial Cable Operators

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**Bhutan InfoComm and Media Authority
Royal Government of Bhutan**

First edition 2012
Second edition 2019

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Chapter 1: Preliminary

1.1 Legal Basis

These Rules and Regulations are issued as per Section 51(4) of the Information, Communications and Media Act of Bhutan 2018 (“the Act”) by the Bhutan InfoComm and Media Authority (“the Authority”) in collaboration with the Bhutan Electricity Authority (“BEA”) to facilitate sharing of electrical poles of Bhutan Power Corporation by the Commercial cable Television operators for maximizing the optimum utilization of existing infrastructure.

1.2 Title and Commencement

These Rules and Regulations shall be called as the Rules and Regulations on sharing of electrical poles by commercial cable television operators and shall come into force on 1st day of July,2019 corresponding to the 29th day of fourth month of the Bhutanese Earth Female Pig Year

1.3 Scope of Application

These Rules and Regulations shall apply to all the Cable television operators for stringing of All-dielectric Self Supporting Optical Cable (ADSS) fibre on the electricity poles of Bhutan Power Corporation and shall be read in conjunction with all other existing rules and regulations established by the relevant Government agencies.

1.4 Amendments

Amendment to these Rules and Regulations shall be made according to the needs and changes in national priorities, policies and industry trends. The amendment of these Rules and Regulations, by way of addition, variation or repeal may be effected by the Authority as and when required.

1.5 Repeal

With the commencement of these Rules and Regulations, the Rules on Infrastructure sharing: Electricity poles by the commercial cable television operators 2012 are repealed

1.6 Interpretation

The power to interpret these Rules and Regulations shall be vested with the Authority who may issue such instruction as may be necessary to give effect to and carry out the provisions of these Rules and Regulations.

1.7 Rules of Construction

In these Rules and Regulations, unless the context indicates otherwise, the masculine gender shall include the feminine gender and the singular shall include the plural.

1.8 Definitions

Unless the context otherwise requires, the following words, terms, phrases and their derivations in these Rules and Regulations shall have the following meanings assigned to them.

ADDS means All-dielectric Self Supporting Cable is a type of optical **fiber** cable that is strong enough to support itself between structures without using conductive metal elements

Cable Television Operator means any person who provides cable services through a cable television system or otherwise controls or is responsible for management and operation of a cable television system licensed by the Authority.

Operations and Maintenance means the operation, maintenance and repair of infrastructure due to the degradation or damage.

Rental Agreement means the agreement signed between the BPC and the CTOs.

Splicing means joining of two optic fibers end to end.

Scintillation means phenomenon in which when the voltage is induced from a phase conductor to ADSS cable fiber when the resistance of the cable sheath to the grounding location is very low.

Chapter 2: Sharing of electrical poles

2.1 Procedure

- a) A Cable Television Operator (CTO) shall submit an application to BPC in the form of proposal with detail design (Project) plan for the use of infrastructure.
- b) The parties shall draw up rental agreement containing detailed terms and conditions including payment schedules and liabilities for sharing of electrical poles.
- c) The rental agreement shall specify the responsibilities and accountability of the concerned parties.

2.2 Cost

The cost for sharing of electrical pole shall not exceed Nu.10 per pole per month which shall be paid annually on lump sum basis.

2.3 Installation of ADSS on electric poles

2.3.1 Requirements

Installation of ADSS on electricity poles shall meet the following requirements:

- a) CTO shall seek the approval from BPC for installation of ADSS's licensed area for either online or offline mode of installation. BPC shall furnish the rate to the CTO for selection of the mode.
- b) The CTO shall share the technical specification, drawing and manufacturer's type test and routing test reports with BPC for information.
- c) ADSS shall be installed only by the competent employees of CTO upon strict supervision by BPC supervisors for compliance on safety, quality and technical standards.

2.3.2 Method

Following methods shall be adopted for the installation of ADSS on the infrastructure:

- a) Methods adopted and the equipment used shall be determined by considering the degree of exposure to electrical hazards and the soil conditions at the site.
- b) All metallic equipments including hardware anchors and structures within such work sites shall be common bonded together and then grounded to ensure safety.
- c) ADSS shall be grounded between the work area and spans when splicing ADSS during wet or rainy conditions near active high voltage phase conductors to prevent the dangerous leakage currents and transients from flowing through the person.

- d) All precaution outlined for placing phase conductors shall be observed when aerial left equipment is used for placing ADSS.
- e) The international standards and good industry practices shall be observed during pulling up and tensioning of ADSS.
- f) No installation of ADSS on live electricity distribution pole shall be permitted during wet environmental conditions.
- g) The safe approach distance should be maintained between phase conductor and ADSS as per the regulations and requirements of Bhutan Electricity Authority (BEA) for safety.
- h) Multi-ADSS fibre installation on the same pole shall not be carried out due to technical constraints and electrical safety concern.
- i) No conductive materials/cables including coaxial/RF cables and hanging/dangling of wire shall be strung or placed near the power lines.

2.4 Operations and Maintenance

All safety measures observed during installations shall also be followed during the operations and maintenance.

2.4.1 During dry weather conditions

The metal grips shall be grounded before touching to avoid electrical dangerous shock.

2.4.2 During wet weather conditions

The ADSS shall be grounded within 3 to 5 feet on both sides of the areas to be touched to avoid dangerous electrical hazards.

2.5 Safety and standards

- a) The ADSS specification shall confirm to the latest editions of the relevant ITU-I, International Electro technical commission (IEC), IEEE and BIS as adopted in Bhutan.
- b) Elements consisting of ADSS shall be non-metallic and shall possess anti-electromagnetic, strong endurance of electrical effect and in worst case scenario no electricity should be conducted from the surface of the ADSS when charged electrical conductor touched the surface of ADSS cable.
- c) ADSS shall possess good performance characteristics such as anti-impact, anti-vibration, anti- bending, prevention of thermal aging, flame retardant and UV protected.

- d) The spacing between overhead electrical conductor and ADSS fiber shall be minimum of 1.6 metres and the clearance from ground shall be minimum of 2.7 metres.
- e) The ground clearance shall be minimum of 6.1 metres in case of road crossing areas.
- f) The safety requirements shall include all the important safety procedures mentioned in installations, operations and maintenance of BEA.

2.6 Installation, testing and commissioning report

The parties shall compile and maintain the installation, testing and commissioning report which shall provide the following information:

- a) Quality and dimension of ADSS.
- b) Number of poles and length of the ADSS fiber strung.
- c) Pole identification number.
- d) Quality and dimension of the hardware fitting and accessories.
- e) Link from the distribution (head-end) centre to serving node.
- f) Lowest ADSS clearance from the power-line and the ground for each link.

2.7 Risk management

- a) For ensuring the safety of infrastructure, both the parties shall come out with their own risk management plans and systems.
- b) The risk Mitigation Plan shall prioritize risk reducing controls and focus on electrical safety.
- c) The risk Mitigation Plan shall be implemented by both parties

2.8 Dispute Resolution Mechanism

Any disputes between the parties shall be mutually resolved as per the provisions of the rental agreement. In the event of disagreement, the parties shall resolve the dispute as per the existing laws of Kingdom of Bhutan.

2.9 Damages and Claim by third parties

If the ADSS installed on the BPC infrastructure is damaged due to:

- a) Force majeure conditions such as wind, storm, landslide, snow, flood etc. or by an unknown third party, the cost of replacement of ADSS shall be borne by the respective CTOs.
- b) Negligence by the BPC personnel while carrying out their normal electrical maintenance work, then the cost of replacement of ADSS shall be borne by BPC.

2.10 Investigation during accidents

- a) In case of accidents (loss of lives of people, properties) due to ADSS facilities installed on the infrastructure of BPC, joint verification shall be carried out to ascertain the cause of accidents.
- b) The investigation team shall comprise of representatives from the Authority and BEA.

Glossary

ITU-T (Telecommunication Standardization Bureau of International Telecommunication Union)

IEC (International Electrotechnical Commission)

IEEE (Institute of Electrical and Electronics Engineers)

BIS (Bureau of Indian Standards)

ICT (Information and Communications Technology)

Tx (Transmission)

Rx (Receiver)

UV (Ultra Violet Rays)