

COMMUNICATIONS (ELECTRONIC COMMUNICATIONS FACILITIES
INSTALLATION)) RULES, 2022

In EXERCISE of the powers conferred by section 201 of the Communications Act, the Malawi Communications Regulatory Authority makes the following Rules:

**PART I –
PRELIMINARIES**

1. Citation

These Rules may be cited as the Communications (Electronic Communications Infrastructure Installation) Rules 2021.

2. Interpretation

In these Rules unless the context otherwise requires-

“**Authority**” means the Malawi Communications Regulatory Authority established under section 4 of the Act.

“**directly-buried optical fibre cable**” means optical fibre cable laid underground without any kind of extra covering or piping to protect it;

“**Electronic Communications Infrastructure** ” means equipment and systems used for electronic communication services including masts, towers, equipment housing, optical fibre, structured cabling and wireless based systems such as systems for broadcasting, microwaves links, Wi-Fi hotspots and base stations;

“**Horizontal Directional Drilling (HDD)**” means a method of installing underground pipelines, cables and service conduits through trenchless methods;

“Installation” means to place, set, upgrade or maintain electronic communications infrastructure;

“Local Government Authority” means a City Council, Municipal Council, Town Council or District Council established under Local Government Act;

“licensee” means a person holding an electronic communications licence or a content service licence issued by the Authority under the Act.

3. Objective

The objective of these Rules is to set the minimum standards and requirements for installation and upgrade of electronic communications infrastructure in order to achieve the following:-

- (a) to protect the environment;
- (b) to protect human health;
- (c) to ensure the integrity (proper end to end functioning) of electronic communication networks is maintained;
- (d) to protect electronic communications infrastructure from avoidable damages; and
- (e) to avoid clutter and visual obstruction.

4. Application

These Rules shall apply-

- (a) to the installation and disposal of electronic communications infrastructure;
- (b) to any person including any Government agency or department-

- (c) to any person undertaking electronic communications infrastructure works; and
- (d) to any person who owns or operates electronic communications infrastructure.

**PART II - PRINCIPLES FOR THE DESIGN, SITING, CONSTRUCTION
AND OPERATION OF ELECTRONIC COMMUNICATIONS
INFRASTRUCTURE SITE**

5. Minimization of visual impact

- (1) A licensee shall minimize the visual impact of its electronic communications infrastructure site.
- (2) Where an electronic communications infrastructure site is placed on or within the vicinity of a heritage place, a licensee shall design such site with external colours, finishes and scale that do not overshadow the heritage place.
- (3) A licensee shall ensure that electronic communications infrastructure mounted on a building is integrated with the design and appearance of the building.

6. Compliance with Electromagnetic Field Rules.

A licensee shall ensure that the radio frequency emission levels of its electronic communications infrastructure comply with electromagnetic field Rules issued by the Authority.

7. Adherence to Environmental Management Policies and Laws.

- (1) A licensee shall comply with applicable environmental protection and management laws, policies and standards when identifying and constructing a site for electronic communications infrastructure

- (2) A licensee shall comply with the Occupational Safety, Health and Welfare Act at all its electronic communications infrastructure sites.
- (3) A licensee shall, where practical, carry out construction works on a site during times that cause minimum disruption to adjoining properties and public access.
- (4) A licensee shall have procedures for handling e-waste.
- (5) A licensee shall comply with Physical Planning Act.

PART III –

APPROVALS FOR INSTALLATION OF ELECTRONIC COMMUNICATIONS FACILITIES

8. Power of the Authority and a Local Government Authority to Approve Installation of Electronic Communications Infrastructure

- (1) A licensee shall not-
 - (a) install an optical fibre cable network;
 - (b) set up a content broadcast transmission site, either for test purposes or for full transmission operations; or
 - (c) install a radio base station without the prior written approval of the Authority and a Local Government Authority.
- (2) A Licensee shall obtain the approval in subrule (1) first from the Authority before applying for the approval from a Local Government Authority.

9. Approvals for installation of an optical fibre cable network

- (1) A licensee shall make an application to the Authority for approval to install an optical fibre cable network using the form prescribed in Schedule 1.

- (2) In deciding whether to give an approval for installation of an optical fibre cable network, the Authority shall take the following into account-
 - (a) whether the optical fibre cable network will be installed by persons duly qualified to perform such work;
 - (b) whether the proposed optical fibre cable network complies with the following ITU Recommendations-
 - (i) L.35 installation of optical fibre cables in the access networks.
 - (ii) L.43 Optical fibre cables for buried application.
 - (iii) L.26 Optical fibre cables for aerial application.
 - (iv) L.108 Optical fibre cable elements for micro-duct blowing installation application
- (3) A licensee shall, in the application made under subrule (1), demonstrate to the Authority that it has investigated all sharing options along the route proposed for the optical fibre cable network.
- (4) The Authority may refuse an application for approval to install an optical fibre network, if the licensee does not provide supporting evidence why all sharing options along the route proposed for the optical fibre cable network are not available.

10. Approvals for construction of towers

- (1) A licensee shall, prior to constructing a tower in an area, demonstrate to the Authority's and a Local Government Authority's satisfaction that it is not economically and/or technically feasible to co-locate the electronic communication equipment which it intends to install on the tower.

- (2) In considering a request to approve construction of a new tower, the Authority and Local Government Authority shall consider the following factors
- (i) the proximity of the proposed tower to any existing towers;
 - (ii) tower saturation in the area;
 - (iii) the impact that sharing on any existing tower would have on the desired coverage area of the electronic communication equipment to be placed on the proposed tower and the overall coverage of the Licensee's network;
 - (iv) the technical feasibility of sharing on any nearby existing towers;
 - (v) the cost of any necessary modifications to existing towers that would be required to enable sharing;
 - (vi) health and safety considerations;
 - (vii) any likely adverse impact of the new tower upon the environment in the area surrounding the proposed new tower; and
 - (viii) the design of the proposed new tower.
- (3) The Authority and a Local Government Authority shall not grant approval for construction of a new tower unless the tower will be constructed at least-
- (a) fifteen (15) metres away from a road reserve;
 - (b) fifteen (15) metres away from a high voltage power line (11Kv or above);
and
 - (c) seven (7) metres away from a dwelling house.
- (4) A licensee shall ensure that any tower whose height is thirty (30) meters or more:

- (a) is fitted with aviation lights; and
 - (b) the tower pieces are painted in alternates of red and white.
- (5) A licensee shall ensure that all towers and masts shall have a lightning spike or rod for purposes of protection against direct lightning strikes. the spike or rod shall extend for at least a meter above the mast.
- (6) A licensee shall submit to the Authority and Local Government Authority a certificate from a certified buildings structural engineer confirming that a building with rooftop tower installations can accommodate additional weight of the tower and its associate electronic communication equipment.

PART IV-

REQUIREMENTS FOR INSTALLATION OF OPTICAL FIBRE CABLE NETWORKS

11. Installation of aerial fibre

- (1) A licensee shall, for aerial installation of optical fibre cable, comply with applicable guidelines and bylaws of a Local Government Authority.
- (2) A licensee may, subject to approval from a Local Government Authority, use smart poles for optical fibre cable installation for the central business districts and major trunk roads.
- (3) The smart poles referred to in sub-rule (2) may be used as facilities for street lights, CCTV, Street signage, Wi-Fi, and base station.
- (4) A licensee shall, for aerial installation of optical fibre cable, utilize existing facilities such as power poles or street lights poles unless such utilization is not possible on the following grounds-

- (a) there is no space available on the existing facility;
- (b) it is not technically possible to utilize the existing facility; or
- (c) any other ground approved by the Authority or a Local Government Authority.

12. Installation of directly buried Optical fibre Cable

- (1) A licensee shall ensure that any optical fibre cable that is directly-buried has armouring, pipe systems or special plastic sheaths.
- (2) A licensee shall ensure that, whenever the optical fibre cable is directly-buried, the splicing cases are protected by a prefabricated box.
- (3) A licensee shall ensure that directly buried optical fibre cable laid adjacent to a high voltage power line has a semi conductive outer jacket or a track resistant jacket compound.
- (4) Where directly buried optical fibre cable crosses a sub-surface utility, a licensee shall ensure that the optical fibre cable runs below the sub-surface utility and that the optical fibre cable and the sub-surface utility cable are separated by a distance of not less than 0.3 metres.
- (5) A licensee may use Horizontal Directional Drilling (HDD) or Micro Trenching method to lay an optical fibre cable underground.

13. Standards for installation of duct fibre

- (1) A licensee shall ensure that the ducts used for installation of optic fibre cable have additional space for co-deployment with other licensees.
- (2) A licensee shall ensure that, in cases where ducts are used for installation of optical fibre cable, the network splices and flexibility points are in the manhole

boxes.

- (3) A licensee shall bury duct fibre according to ITU recommendations on duct fibre installation.

14. Installation of Fibre Cable in Central Business District

Unless otherwise permitted by a Local Government Authority, a licensee shall install optical fibre cable in a central business district underground.

15. Safety, Damages to Roads and Property

- (1) A licensee shall put in place security and safety measures to ensure that the installation optical fibre cable, whether underground or aerial, does not cause damage to any person or property.
- (2) A licence shall repair all damage caused to any road during the installation of optical fibre cable and restore the said road, in so far as is possible, to its original condition.
- (3) A licensee shall refill any trenches and pits dug during installation of optical fibre cable. In refilling any trench or pit, the licensee shall use granular material only which shall be compacted as per specifications issued by a Local Government Authority.
- (4) A license shall repair the damage caused to any road and refill holes and pits using a contractor registered with the National Construction Industry Council.
- (5) A licensee shall repair any damaged road or refill any trench or pit within 48 hours, after the optical fibre installation works at a particular location are over.
- (6) A licensee shall ensure that no damage is caused to any underground utilities while laying underground optical fibre cable using the Horizontal Directional

Drilling method. Where damage is caused to an underground utility, the licensee shall repair the utility at its own cost.

- (7) A licensee shall lay fibre ducts at least one (1) metre below the road crust. Notwithstanding the foregoing, in cases where there is hard rock strata and Horizontals Directional Drilling method is not possible, a licensee may lay a fibre duct at least four hundred (400) metres below the road crust and the duct shall be installed inside a G.I. Pipe covered with PCC 71.
- (8) A Local Government Authority may direct a licensee to move any of its installed optical fibre cable and such directive shall be complied with by the licensee within the time frame set by the Local Government Authority and at the licensee own cost.
- (9) A Local Government Authority shall not be liable for any damage caused to installed optical fibre cable due to an act of an employee of the Local Government Authority while reasonably performing his official duties.
- (10) A licensee shall put in place adequate administrative measures for access and control of ducts and optical fibre cables to prevent improper or illegal of such facilities.
- (11) A licensee shall, prior to commencing any optical fibre cable installation works and during the execution of such works, put in place measures for public safety and for mitigating public inconvenience.

16. Inspection of Optical Fibre Installation Works

- (1) A Local Government Authority shall have the power to inspect the execution of fibre installation works to ascertain if the conditions imposed under these Rules are being adhered to by the licensee.

- (2) A Local Government Authority may, after conducting an inspection under subrule (1), impose on a licensee such other reasonable conditions it may deem fit.
- (3) Where a Local Government Authority determines that a licensee has violated any of the conditions of an approval given to the licensee to install optical fibre cable, it may withdraw the approval provided that no action shall be taken under this clause unless the licensee has been given a reasonable opportunity to be heard.
- (4) A Local Government Authority shall ensure that only pits of a size not more than 1 metre are excavated along the roads where optical fiber cables are to be laid.
- (5) A licensee shall ensure provision of positional intelligence, through appropriate technology, of all underground optical fibre cable to enable the Authority and a Local Government Authority obtain real time information of its location.
- (6) A licensee shall carry out ground penetrating radar (GPR) surveys wherever necessary along the route where it intends to optical fibre cable for purposes of detecting existing utilities. The data of utilities collected by the licensee through the GPR survey shall be shared by licensee with a Local Government Authority, at no cost.

PART IV - REQUIREMENTS FOR INSTALLATION OF CONTENT

BROADCASTING SITES

17. Designated broadcasting sites

- (1) A licensee shall not broadcast from any site not designated by the Authority and a Local Government Authority for broadcasting transmission except with written approval of Authority and a Local Government Authority.

- (2) A licensee shall not change the location of a transmitter within a broadcasting transmission site without the written approval from the Authority and a Local Government Authority.

18. Conformance to Radio Regulations and Rules

A licensee shall ensure that its operations at a broadcasting transmission site complies with applicable radio regulations and electromagnetic field rules.

PART V –

REQUIREMENTS FOR INSTALLATION OF RADIO BASE STATIONS AND CONSTRUCTION OF TOWERS AND MASTS

19. Minimum Co-location requirements

A network facilities licensee shall ensure that the site space for a tower, power facilities, tower heights, weight and wind loading are enough to support co-location of at least three (3) mobile network service licensees.

20. Responsibilities of the Network Facilities licensees

- (1) A network facilities licensee shall ensure that any person leasing tower service facilities from it, conform to the installation guidelines issued by the Authority.
- (2) Where the tower of the network facilities licensee is on leased land, the network facilities licensee shall ensure that the lease agreement does not contain any provision which restricts the licensee from entering into sub-lease agreements on the site with mobile network services licensees for purposes of co-location.
- (3) A network facilities licensee shall submit to the Authority every three months, a return containing the following information:-
 - (i) an updated list of all licensees co-siting at each of the network facilities

licensee's towers.

- (ii) Geo-location of the site
- (iii) site specification (size of site in square feet, characteristics such as fencing, and/or gates, shelters, equipment room, etc.);
- (iv) specification of electricity access (grid access, generator rating, etc.); and
- (v) current usage (tower load, number of antennas, square meters occupied by equipment, current electricity rating).

21. Decommissioning of electronic communications infrastructure

- (1) A network facilities licensee shall give the Authority and Local Government Authority at least one month written notice of its intention to decommission a tower.
- (2) Unless otherwise agreed, a network facilities licensee shall give other licensees co-siting on its tower at least three (3) months written notice of its intention to decommission a tower.
- (3) A licensee shall remove from the site any antenna, electronic communications equipment and their associated accessories that have ceased to function and shall dispose them in accordance with applicable environmental management laws.
- (4) A network facilities licensee shall dismantle the tower within 120 days from the date of decommissioning the tower.

PART VI –

GENERAL REQUIREMENTS FOR INSTALLATIONS

20. General Site Installation Requirements;

- (1) A licensee shall ensure that -
 - (a) all circuitry of high voltage or current at an electronic communication facilities and equipment site bears a warning to that effect;
 - (b) signages at the site are placed at a visibly noticeable location and before the intended audience is exposed to the hazard;
 - (c) all electronic communication installations have a system for protection against lightning and surge protection or suppression.
- (2) A licensee shall ensure that electronic communication facilities and equipment set up does not in any way pose a danger to the general public due to but not limited to the following-
 - (a) collapsing of the electronic communication facilities and equipment;
 - (b) electrocution due to poor electrical installations;
 - (c) risk of lightening due to ungrounded installations;
 - (d) tripping or injury due to carelessly laid out cables.
- (3) A licensee shall ensure that all feeders and signal lines running on a mast, pole or support structure are securely fastened.
- (4) A licensee shall ensure that all electronic communication facilities and equipment are protected from fire by use of fire detection, prevention and fire stopping measures which may include-

- (a) smoke detectors;
 - (b) fire extinguishers;
 - (c) fire retardant materials.
- (5) A licensee shall ensure that there is standby power or redundant power system at its electronic communication facilities and equipment site.
- (6) A licensee shall ensure that the colours of the power cables used at the site are in conformity with applicable standards.
- (7) Except for armoured cables and feeders, a licensee shall ensure all other cables are routed via a conduit, tray or trunking case.
- (8) A licensee shall ensure that signal cables that do not have shielding against interference or mutual inductions and do not have proven immunity, are run in a separate trunking from the power supply cables.
- (9) A licensee shall ensure that equipment installed at any site is clearly labelled for purposes of easy identification of the equipment and owner of the equipment.
- (10) A licensee shall put in place measures to protect against unauthorized access to a site.
- (11) Where a feeder tray is used between the tower and an equipment shelter, a licensee shall ensure that the feeder tray is electrically continuous and is bonded to the tower and earthing bar on the shelter for the entire length between the tower and the shelter.
- (12) A licensee shall ensure that all equipment rooms are equipped with an air conditioning system.
- (13) A licensee shall ensure that electronic communications infrastructure facilities

and equipment are maintained in accordance with ITU-T M.3040 Recommendations

21. General Requirements for Electronic Communications Network Hubs

- (1) A licensee shall implement adequate security measures for an Electronic Communication Network Hub which shall include -
 - (a) erecting a security fence around the Hub;
 - (b) installing surveillance cameras;
 - (c) a visitors log-book;
 - (d) adequate security personnel.
- (2) A licensee shall ensure that -
 - (a) the access road to an Electronic Communication Network Hub is kept in good condition at all times;
 - (b) the Hub is clean and tidy; and
 - (c) the Hub has piped water and electricity.
- (3) A licensee shall, at its Electronic Communication Network Hub, put in place fire prevention, protection and fire stopping measures which shall include -
 - (a) installing fire detection and alarm systems;
 - (b) installing automatic fire suppression system;
 - (c) having dry chemical fire extinguishers.
- (4) A licensee shall have a Business Continuity Plan which shall include disaster recovery plan (DRP) for an Electronic Communication Network Hub, setting out

the emergency crisis management team and priorities and procedures it will apply for recovery of the Hub in the event of a disaster or national emergency.

- (5) Where an Electronic Communication Network Hub is considered to be of national and social importance, the owner of the Hub shall be required to demonstrate the Hub's ability to survive from failures.

PART VII —

MISCELLANEOUS PROVISIONS

22. Enforcement

- (1) The Authority may, for contravention of any provision of these Rules, impose any enforcement order or sanction as provided for under section 195 of the Act.
- (2) In imposing an enforcement order or sanction under subrule (1), the Authority shall consider any aggravating factors, including but not limited to —
 - (a) the gravity of the contravention;
 - (b) the duration of the contravention;
 - (c) whether the contravention resulted in injury to a person or property;
 - (d) whether the licensee acted knowingly, recklessly, or in a negligent manner; or
 - (e) whether the provider has a previous history of contraventions.

23. Directions

- (1) The Authority may issue directions or guidelines any aspect of these Rules.
- (2) The directions or guidelines issued under subrule (1) may be either of general

application or specific to a licensee.

24. Transition

- (1) A licensee shall, within six (6) months of coming into force of these Rules, put in place measures to comply with these Rules.
- (2) A licensee shall, within 60 days of these Rules coming into operation, submit to the Authority for approval, the Business Continuity Plan referred to in Rule 21(4).

DRAFT

DRAFT

Made thisday of, 2022.

STANLEY KHAILA PhD

Chairperson

DRAFT