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THE TANZANIA COMMUNICATION REGULATORY AUTHORITY ACT,
(CAP. 172)

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RULES

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THE TANZANIA COMMUNICATIONS REGULATORY AUTHORITY (DEPLOYMENT OF FIBRE OPTIC CABLES) RULES, 2026

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THE TANZANIA COMMUNICATION REGULATORY AUTHORITY ACT,
(CAP. 172)

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RULES

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THE TANZANIA COMMUNICATIONS REGULATORY AUTHORITY (DEPLOYMENT OF FIBRE OPTIC CABLES) RULES, 2026

PART I
PRELIMINARY PROVISIONS

Citation

1. These Rules may be cited as the Tanzania Communications Regulatory Authority (Deployment of Fibre Optic Cable) Rules, 2026.

Application

2. These Rules shall apply to network facilities licensees.

Interpretation

3. In these Rules, unless the context otherwise requires-

Cap. 172

"Act" means the Tanzania Communications Regulatory Authority Act.

"attenuation" means a gradual loss in intensity of light through the fibre optic medium specified in decibels for light at a specific wavelength;

"Authority" means the Tanzania Communications Regulatory Authority stablished under the Tanzania Communications Regulatory Authority Act;

"duct" means a medium in which underground cabling is housed to protect the fibre optic cable from any damage or interference;

"environmental monitoring system" means a system that monitors temperature, airflow, humidity and other related parameters in the station housing communication equipment;

"fibre span" means a contiguous fibre between two repeater stations or between a repeater station and a link endpoint; and

"handhole" means a subsurface enclosure that is too small for personnel to enter and is used for the purpose of installing and maintaining optic fibre cables;

"length of the backbone" means the segment of the backbone between two backbone signal amplification stations or between a backbone signal amplification station and the end point of the backbone;

"licensee" means a holder of a network facilities licence issued by the Authority;

"manhole" means an enclosure below ground level entered through a hole on the surface covered with a cast iron or concrete cover which personnel may enter and use for the purpose of installing and maintaining optical fibre cables;

"repeater" means a facility for amplification or regeneration of communication signals;

"right of way" means a permit or authorisation granted by the land owner that gives rights to deploy fibre optic infrastructure;

"scheduled maintenance" means planned maintenance aimed at optimising fibre optic network infrastructure;

PART II
FIBRE OPTIC CABLE DEPLOYMENT REQUIREMENTS

Deployment permits

4.-(1) A licensee shall deploy a fibre optic cable after obtaining a permit issued by the Authority.

(2) The Authority shall evaluate, process and issue a relevant permit for the deployment of fibre optic networks in accordance with the scope of the licence.

Deployment of fibre optic cable

5. A licensee shall-

(a) deploy fibre optic cable networks in accordance with the provisions of these Rules;

(b) meet the terms of the Service Level Agreements established with their customers;
(c) design and deploy a fibre optic cable with adequate resilience mechanisms to enhance reliability;
(d) distinguish each fibre optic cable from other cables in the same duct, utilising colour coding ink or a non-removable label visible throughout the cable's lifetime;
(e) submit to the Authority the documented topology of fibre optic cable networks, rollout plans and other relevant deployment documents;
(f) provide to the Authority quarterly performance reports on their fibre optic cable networks;
(g) submit updated fibre optic cable network designs and drawings to the Authority indicating the location, maps and actual distance covered;
(h) ensure that the deployed fibre optic network complies with the Electronic and Postal Communications (Quality of Service) Regulations; and

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(i) inform and educate the surrounding population how to protect the infrastructure.

General fibre optic cable deployment requirements

6. A licensee, when deploying a fibre optic cable, shall ensure-

(a) compliance with the technical requirements specified for operational wavelengths, including attenuation, chromatic dispersion and polarisation mode dispersion;
(b) fibre optic cables bear the following labels at every one meter interval:
    (i) name and, or logo of the owner;
    (ii) year of manufacture; and
    (iii) number of cores.
(c) each fibre optic cable is traceable back to the original fibre manufacturer's serialised fibre number and measured fibre optic cable parameters;

(d) the fibre optic cable exhibits a high level of splice compatibility with cables from other manufacturers;
(e) the fibre optic cable has a circular cross-section and is free from pinholes, joints, repairs and other defects;
(f) the fibre optic cable is capable of withstanding temperatures ranging from -40°C to 70°C to support storage, transportation, installation, and operation.
(g) fibre optic cable network anticipates future requirements and sharing of established network with other service providers to minimise deployment costs;
(h) the existing infrastructure of fibre optic cables are utilized prior to the deployment of new fibre optic cable, whenever feasible;
(i) the fibre optic cable backbone network is capable of supporting higher speeds, depending on the traffic growth;
(j) eighty percent of the fibre optic cable backbone network is dedicated for sharing with other service providers;
(k) each manhole, entry and end points of the fibre optic cable are marked and labelled properly;
(l) each fibre optic cable is distinguishable from other cables in the same duct, by using colour-coding ink or a non removable label visible throughout the cable's lifetime; and
(m) splices are minimised to prevent unnecessary attenuation.

Sharing of poles or ducts

7.-(1) A licensee shall ensure the installation of fibre optic cable poles or ducts-

(a) is done in consultation with other licensees to facilitate the sharing of poles or ducts in the initial stages of implementation; and
(b) is not done in areas where there are other poles or ducts installed, unless the existing poles or ducts are fully utilised and cannot accommodate more sharing.

Splicing

8. A licensee shall ensure that the splice losses do not exceed allowable losses as per the standards specified by the Tanzania Bureau of Standards.

Connector standards

9.-(1) A licensee shall ensure that applicable standards for single mode connectors furnished on optical patch cords or pigtails shall be SC/APC connectors (IEC 61754-4), LC/APC connectors (IEC6175420) or any other standard connectors authorised by the Authority.

(2) An optical connector shall-

(a) be factory installed on patch cords or pigtails;

(b) not permit field installation; and

(c) have losses of 0.1-0.2 decibel for the factory made single mode connectors.

Pigtails

10.-(1) An optical pigtail shall consist of-

(a) a section of single mode fibre;

(b) a jacketed cable of sufficient length;

(c) factory installed connector at one end; and

(d) an end which can be stripped and prepared for fusion splicing.

(2) A pigtail shall-

(a) be fusion spliced to the main cable or in clicked system mode; and

(b) have an appropriate splice protector applied and installed in splice tray to the manufacturer's specifications.

Splices enclosures

11.-(1) A splice shall be contained within a suitable splice enclosure as per the standards specified by the Tanzania Bureau of Standards.

(2) A splice shall be enclosed, watertight weatherproof and cater for the full number of fibre cores in a fibre that is spliced.

Repeater or regenerator station

12.-(1) A licensee shall ensure that long distance fibre optic cable links are equipped with optical repeaters or regenerators installed at appropriate intervals along the route, based on design factors such as link capacity and transmission power.

(2) A licensee shall ensure a repeater or regenerator-

(a) is kept in a proper container with controlled access;
(b) has availability of at least 99.98%; and
(c) is equipped with an environmental monitoring system.

Termination panel

13.-(1) A licensee shall ensure a fibre optic cable is terminated into a fibre optic termination panel at the endpoint including the regeneration or repeater sites.

(2) A licensee shall ensure provisions are made to allow specific fibre optic cable cores to be spliced all the way to the terminal equipment if needed.

(3) A licensee shall ensure the following in terminating fibre optic cables:

(a) a terminated fibre spans is clearly and accurately labelled;
(b) sufficient fibre optic cable slack is provided at all points where the fibre connects to a patch panel;
(c) a slack is neatly coiled and secured in a manner that does not exceed the minimum bend radius of the pigtail; and
(d) an unused port on the panel is covered with a suitable plug or protective cover.

Permits and approvals

14.-(1) A licensee, before the installation of fibre optic cable, shall ensure-

(a) where he engages a third party, such third party holds an Installation and Maintenance Class A Licence issued by the Authority;
(b) he acquires a right of way from the relevant authorities;
(c) he obtains approval from the relevant authorities before the change of the approved route of the fibre optic cable;
(d) utility agencies responsible for electricity, gas and water are informed of the planned installation works to prevent damage to existing infrastructures; and

(e) the submission of all network plan and design documents to the Authority and other relevant authorities.

PART III
INSTALLATION REQUIREMENTS

Underground cables

15. A licensee shall ensure an underground cable is installed by properly burying it directly in the ground or by placing the fibre optic cable inside a duct buried underground.

Pre-construction route survey

16.-(1) A licensee shall-

(a) survey the fibre optic cable route for installations before the commencement of excavation works; and

(b) ensure the route is clear of any obstacles and marked as per the standards specified by the Tanzania Bureau of Standards.

Excavation of trenches

17. A licensee shall ensure that trench excavation for laying fibre optic cables is carried out in accordance with the following requirements:

(a) digging and trenching works within road reserves are in accordance with the requirements provided by the respective authorities;

(b) dimensions for trenches are in accordance with the standards specified by the Tanzania Bureau of Standards.

(c) where the fibre optic cable crosses the road, ducting material shall be in accordance with the standards specified by the Tanzania Bureau of Standards;

(d) at least a horizontal distance of one meter between the existing utilities and the new cable shall be reserved, and if not possible, there shall be appropriate protection, and the existing utility provider shall be informed before the commencement of the work;

(e) pits and trenches shall be guarded by barricades, warning tapes and covers; and

(f) backfilling and reinstatement of the surface shall be performed in compliance with all regulations, standards, guidelines and provisions established by the relevant authorities.

Trenchless techniques requirements

18. A licensee shall observe the following when applying trenchless techniques to cross roads, highways, railway lines and rivers:

(a) the depth of any hole drilled for the installation of a new cable is at least 1.5 m below the surface;

(b) the depth of cover is not less than three times the diameter of the drilled hole and at a minimum of 1.5m; and

(c) at river crossings, the distance between the bottom of the water and the drilled hole is ten times the diameter of the pipe and not less than 3 m.

Ducting

19. A licensee shall consider the following during ducting:

(a) conventional ducts or corrugated optical ducts are made from material comprising high density polyethene;

(b) different colours are used to identify each sub-duct installed in a primary duct;

(c) the cables and ducts are marked and labelled at each manhole entry and endpoints;

(d) manholes or boxes are used as network splices and flexibility points;

(e) consideration is given to the storage of excess cable in boxes or manholes;

(f) a small amount of slack cable of 20-30 feet can be useful in the event that cable repair or relocation is needed;

(g) installation of fibre cable in ducting considers the use of air compressor cooler as recommended by the blower equipment

manufacturer when the ambient air temperature exceeds 80˚F; and

(h) cable duct lubricants are used as recommended by the blowing equipment manufacturer for fibre optic cable during cable blowing through the duct.

Direct buried fibre optic cable installation

20. A licensee shall consider the following in the installation of direct buried fibre optic cable:

(a) armoured cable are deployed to cater for both crush and rodent protection as per the specification provided by the manufacturer;

(b) the splice cases are directly buried or protected by an optical closure or a prefabricated box; and

(c) fibre optic cables lie flat in a trench, free of any large stones or boulders that may deform the cable.

Manhole or handhole requirement

21. A licensee shall consider the following during the deployment of manholes or handholes:

(a) manholes or handholes are positioned outside sidewalks and roadways;

(b) each manhole caters for extra fibre optic cable slack which is neatly stored on a slack management tray;

(c) each hand hole caters for at least 5m of total fibre slack;

(d) the splice enclosures is firmly mounted to the manhole;

(e) all manholes and handholes have a drainage hole plug;

(f) access to manholes and handholes are controlled using either a mechanical lock or a smart lock;

(g) a location marker and name of the licensee are required at each hand hole and manhole;

(h) manholes or handholes are not located in the ditch line;

(i) manhole or handhole covers are watertight; and

(j) all duct entries and exits at the handholes are sealed properly to prevent water ingress.

Fibre optic cable markers

22. A licensee shall consider the following in deploying fibre optic cable markers:

(a) underground routes are marked with identifiable markers;

(b) marker dimensions conform to the standards specified by the Tanzania Bureau of Standards;

(c) the markings are placed in accordance with the standards specified by the Tanzania Bureau of Standards; and

(d) a coloured plastic tape measuring a minimum of 0.1 mm thickness and a minimum width of 300mm is laid along the geometric centre of the cable route above each duct structure at a depth of 300mm below ground level.

Overhead fibre optic cable installation

23. A licensee who intends to install an overhead fibre optic cable shall ensure-

(a) poles used are made of treated wood, concrete or galvanised steel;

(b) poles are at least 8m high;

(c) poles are buried to a depth of 1/6 of the pole length;

(d) poles spacing conforms to the standards specified by the Tanzania Bureau of Standards;

(e) poles are designed and deployed for sharing by at least three licensees;

(f) uniform pole spacing is maintained except at river crossings and sharp bends;

(g) consideration is given to continual tension from the cable weight and wind loads;

(h) the cables are lashed to or twisted around a support cable, wire, or otherwise, and a self-supporting cable is used;

(i) cables are suspended on all poles except at special positions, including splice poles, route ends, river or road crossings, where the cables are fixed to the pole to transfer the main load from the cable onto the pole;

(j) splices are done in manholes on the ground or in suitable optical enclosures supported on the pole;

(k) where splicing is done on the ground, galvanised-steel pipes are employed on a pole to a height of at least three meters above ground level for the protection of the fibre optical cable; and

(l) a length of cable for cable splicing purposes is stored at splicing positions.

PART IV
FIBRE OPTIC CABLE TESTING

Pre installation testing

24. A licensee shall test fibre optic cables before installation to ensure that losses due to laying or blowing the fibre are within acceptable tolerances.

Post installation testing

25. A licensee shall-

(a) perform bi-directional tests for all installed fibre optic cables between points of presence;

(b) conduct tests for attenuation, chromatic dispersion and polarisation mode dispersion;

(c) document each specific test performed, including details of the test equipment used and submit to the Authority when required; and

(d) create as-built data logs for all fibre optic cables and make the data available to persons responsible for troubleshooting and maintenance.

As built document

26.-(1) A licensee shall, upon completion of the installation works, submit to the Authority as-built documents, including fibre optic cable test results and as-built drawings.

(2) In case of any modification to the as-built, the licensee shall notify and submit the modified documents to the Authority.

PART V
QUALITY SERVICE AND MAINTENANCE

Quality service

27.-(1) A licensee shall be required to establish service quality management procedures and ensure that

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installation, materials used, workmanship and service provisions comply with the requirements of the Electronic and Postal Communication (Quality of Service) Regulations.

Preventive maintenance requirement

28.-(1) A licensee shall-

(a) monitor the fibre optic cable networks continuously, to detect faults and take appropriate actions; and

(b) perform preventive maintenance without interfering with the normal operation of the fibre optic cable network.

(2) For the purpose of subrule (1), preventative maintenance shall refer to all regular and routine maintenance of equipment and related systems in order to prevent unplanned downtime from unexpected failure.

Corrective maintenance requirement GN. No. 21 of 2018

29.-(1) A licensee in carrying out corrective maintenance shall-

(a) adhere to the restoration times specified in the Service Level Agreement or Electronic and Electronic and Postal Communication (Quality of Service) Regulations;

(b) enable the rerouting of affected routes to alternate paths where feasible;

(c) conduct all repairs in compliance with established standards and relevant regulatory frameworks;

(d) perform tests to verify the integrity of the repairs; and

(e) document all details related to fault resolution, including root cause, impact and remedial actions and incorporate this information into quarterly performance reports submitted to the Authority.

(2) For purposes of subrule (1), corrective maintenance shall refer to maintenance tasks that are undertaken to identify, isolate and repair faults to restore service.

Critical outages handling

30.-(1) A licensee shall handle critical outages resulting from scheduled maintenance as follows:

(a) issue an advance notice to their customers at least 72 hours before carrying out the activity;

(b) notify the Authority at least 96 hours before executing the planned service affecting maintenance; and

(c) issue clear notices specifying affected services, service areas, impact and expected restoration times.

(2) A licensee shall handle critical outages resulting from unplanned maintenance as follows:

(a) notify the Authority and affected customers within one hour of the outage, specifying the affected services, area, impact and expected time for restoration;

(b) continuously update the Authority and customers every hour, providing details of progress in resolving the faults; and

(c) submit a formal report to the Authority within twenty four hours detailing the service interruption, the impact caused, and the actions taken to restore the services.

(3) For the purpose of this rule, "critical outage" means a fault causing severe service interruption, which may result in the following:

(a) substantial degradation or complete loss of service;

(b) affects a large number of users or a significant geographical area; or

(c) extends to a duration of more than fifteen minutes.

PART VI
GENERAL PROVISIONS

Fair competition

31. A licensee shall not-

(a) engage in any activities, whether by act or omission, which have, or are intended to or likely to have, the effect of unfairly preventing, restricting or distorting competition in Tanzania or a part of it, in relation to any business activity relating to the provision of fibre optic cables and associated infrastructures; and

(b) engage in any activities, whether in respect of the rates or other terms and conditions applied or otherwise show undue preference to, or exercise undue discrimination against, particular persons or persons of any class or description in respect to the provision of the fibre optic cables and associated infrastructures.

Penalty

33. A licensee who contravenes any provision of these Rules shall be liable to a penalty provided under the Act.

Dar es Salaam,
20 April.2026

JABIRI K. BAKARI
Director General