



**ESWATINI
COMMUNICATIONS
COMMISSION**

**ESWATINI COMMUNICATIONS COMMISSION
(ESCCOM) DECISION NO. 02/2023**

**DECISION IN TERMS OF SECTION 38 OF THE
ESWATINI COMMUNICATIONS COMMISSION ACT,
2013:**

**GUIDELINES FOR ESTABLISHMENT AND
MAINTENANCE OF COMMUNICATIONS TOWERS, 2023**

Effective from 1 January 2023

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Definitions

Mast	A ground-based or rooftop structure that supports antennas at a height where they can satisfactorily send or receive radio frequency waves.
ESWACAA	Eswatini Civil Aviation Authority, the administrative body mandated to provide, in an economically viable manner, air transport services and regulation of civil aviation activities in Eswatini; in accordance with international standards.
EEA	Eswatini Environmental Authority, the institution that lawfully exercises jurisdiction under any environmental law in Eswatini.
Inkhundla	A group of more than one umphakatsi recognized by the Ministry of Tinkhundla. In these guidelines this refers to Swazi Nation Land.
ICNIRP	International Commission on Non-Immunizing Radiation Protection, an international commission specialized in non-ionizing radiation protection. The organization's activities include determining exposure limits for electromagnetic fields used by devices such as cellular phones.
WHO	World Health Organization, an international organization responsible to direct international health within the United Nation's system and to lead partners in global health responses.
EMF	Electromagnetic Field, a force of field that consists of both electric and magnetic components, resulting from the motion of an electric charge and containing a definite amount of electromagnetic energy.
Local Authority	(a) in an area having a town management board or town council such management board or council; (b) elsewhere, the Regional Administrator or other person(s) or board or Government Departments, appointed by the minister, by notice in the gazette, to be responsible for the administration of this Act in a particular controlled area;
Act	Eswatini Communications Commission Act, 2013

1. INTRODUCTION AND BACKGROUND

Wireless radiocommunications is the most utilized mode of data transmission through the use of radio waves. This requires that communications masts are erected to facilitate such communications. Microwave networks as well as the International Mobile Telecommunications (IMT) extensively utilize such infrastructure in provision of communications services in Eswatini. As the networks grow in line with the coverage obligations of the service or network providers, there is a corresponding increase in the number of towers that are erected. This potentially has a negative impact on the environment as well as other factors.

The Commission has issued infrastructure sharing legislation which allows for sharing of tower and site equipment among the network and service providers in an effort to among other things control the erection of new towers in areas where service providers can coexist. It is worth mentioning however that the Commission is currently not involved in the process of authorizing the sitting of towers and as a result cannot fully realize the benefits of the infrastructure sharing guidelines. In addition, the process of tower siting is not properly coordinated such that there are cases that have been brought to the Commission's attention, raising concerns on towers erected in inappropriate areas. The Commission further recognizes that there is a legal requirement to ensure that all communications towers are erected in line with other regulatory entities such the one responsible for civil aviation as well as the environmental authority and to ensure that all communications towers are in acceptable condition of operation.

Therefore, in accordance with the Eswatini Communication Commission Act as well as sections 40, 41 and 42 of the Electronic Communications Act, 2013, the Commission is issuing the guidelines for establishment and maintenance of Communications towers which will provide guidance on the authorization process to be followed when establishing communications towers as well as the requirement for maintenance of tower infrastructure.

2. POWER TO ISSUE GUIDELINES

- (1) These guidelines are issued in accordance with section 38(b) of the Eswatini Communications Commission Act, 2013 read together with sections 40, 41 and 42 of the Electronic Communications Act, 2013.

3. APPLICATION

- (1) These guidelines shall apply to:
 - a. all operators and service providers holding a valid network / service license issued by the Commission or their agents to install, operate and supply broadcasting and / or telecommunications network services.
 - b. radio frequency spectrum users including applicants, licensees and participants in a spectrum auction.
 - c. All ground mounted or rooftop mounted base stations with electronic communications equipment installed.
 - d. All operators seeking to modify their communications tower.
- (2) The effective date of the guidelines shall be the **1st January 2023** and shall be applicable until such time that the Commission indicates.

4. GENERAL REQUIREMENTS

- (1) All operators and electronic communications service providers who require to establish communications mast infrastructure shall apply for authorization to establish such infrastructure to the Commission, subject to approval by relevant institutions such as –
 - a. Civil aviation authority
 - b. Local Authority
 - c. Environmental Authority
- (2) Owners of communications towers shall ensure that the infrastructure is in good working condition.

5. PURPOSE OF THE GUIDELINES

(1) The purpose of these guidelines is to –

- a. provide guidance to operators on how to establish communications mast infrastructure, with the view of encouraging Facilities and Infrastructure sharing.
- b. ensure that Licensees comply with civil aviation legislation, Part V of the Civil Aviation (Aerodromes) Regulations, 2011 and the directives of the ESWACAA with regards to tower placement.
- c. ensure that Licensees comply with the Environment Management Act, 2002 and Environmental Audit Assessment and Review Regulations of 2000 and the directives of the EEA with regards to tower placement.
- d. ensure that Licensees comply with the Building Act, 1968, Town Planning Schemes as well as Crown Lands Disposal Act, 1912 and directives of the local authority with regards to tower placement.
- e. ensure that licensees keep their towers in good and safe working order by, among other things, painting and illuminating the tower, performing routine inspections and maintenance on the tower and on any other associated control equipment.
- f. ensure that all transmissions from tower equipment is in line with the limits set out in the applicable International Commission on Non-Immunizing Radiation Protection (ICNIRP) guidelines and other instructions given by the Commission from time to time.

6. MANDATE OF THE COMMISSION ON TOWER INFRASTRUCTURE

(1) The mandate of the Commission is enshrined in the following regulatory frameworks:

a. Electronic Communications Act, 2013

Part IV of the Act on rights and obligations of licensee, provides for obligations pertaining to license, as follows

15.A licensee shall –

- (h) comply with radiation emission standards adopted and published by the International Commission for Non-Ionising Radiation Protect (ICNIRP) or such other appropriate standards as may be specified by law or by the Commission;*
- (i) comply with decision issued by the Commission in relation to electromagnetic radiation and harmful interference and ensure that the network and all services at all times comply with the technical and performance standards generally accepted by the industry or as may be prescribed by the Commission or accepted by the Commission as being adequate to ensure the limitation of exposure of the general public to electromagnetic fields;*

b. Electronic Communications (Radio Communications and Frequency Spectrum) Regulations, 2016 –

Clause 19 of the Regulations on Inspection, sitting and maintenance of illuminated towers and control equipment;

- (1) A licensee of a radio station that has an antenna structure shall paint and illuminate the tower, perform routine inspections and maintenance of the tower and on any other associated control equipment, required to ensure that it is properly marked and illuminated.*
- (2) A licensee shall comply with directions given by the Commission in consultation with the government agency responsible for Civil Aviation, in matters relating to antenna towers.*

(3) *A licensee shall ensure that the sitting of antennas and towers complies with all applicable laws to which they are subject.*

(4) *A licensee shall ensure that the sitting and installation of transmitters, antennas and towers comply with the laws and guidelines relating to radiation limits that may be in force from time to time.*

c. Electronic Communications (Facilities Sharing) Regulations, 2016.

d. Mobile Network Operator Active Infrastructure Sharing And National Roaming Guidelines 2021

e. Towers and Mast Facilities sharing Cost Guidelines 2019.

7. RESPONSIBILITIES OF THE COMMISSION

(1) The Commission, as guided by the Eswatini Communications Commission Act 2013, the Electronic Communications Act 2013, the Electronic Communications (Radio Communications and Frequency Spectrum) Regulations 2016 and these guidelines, is enjoined to carry out the following functions:

- a. In consultation with government agencies responsible for civil aviation and other relevant agencies, give direction in matters relating to antenna towers.
- b. In consultation with the Minister responsible for land, the Commission shall establish procedures regarding the terms and conditions necessary for approval to use public and private property

8. APPLICATION FOR TOWER SITING

- (1) Any person erecting a telecommunications mast or tower whose height exceeds 10 meters or any height when on top of a building, shall apply to the Commission for authorization before such mast or tower is erected.
- (2) Applications for the authorisation shall be accompanied by the following documents:

- a. A site plan showing the location of the proposed structure in relation to adjoining structures as well as a detailed design of the proposed tower.
- b. Evidence of authorisation from relevant local authority of the property on which the structure is to be installed or a written consent of the owner.
- c. A letter of approval by ESWACAA for the erection of the structure in the proposed location.
- d. A letter of approval issued by the EEA confirming that the erection of the tower will not have detrimental effects on the environment.

9. REQUIREMENTS OF PERMITTING AGENCIES

Eswatini Civil Aviation Authority (ESWACAA)

- (1) A person proposing to construct or alter a structure, power line, telephone line or other overheads, that will result in an elevation of 45m above the aerodrome elevation and within a distance of 15km radius measured from the aerodrome reference point of the nearest aerodrome, must submit an application to the authority.
- (2) A person proposing to construct or alter a structure, power line, telephone line or other overheads, that will result in an elevation of 150m above the aerodrome elevation and outside a distance of 15km radius measured from the aerodrome reference point of the nearest aerodrome, must submit an application to the authority.
- (3) The application shall include all relevant documentation as determined in the legislative framework for Civil Aviation in Eswatini.
- (4) ESWACAA shall issue an approval letter to a licensee or applicant after consideration of all relevant issues regarding an application for tower placement.

Eswatini Environment Authority (EEA)

- (1) A person proposing to construct or alter a structure, power line, telephone line or other overheads must also submit an application to EEA.
- (2) The applicant shall submit a project brief which shall include all relevant documentation as determined in the legislative framework for Environmental issues in Eswatini.
- (3) EEA shall issue an approval letter to a licensee or applicant after consideration of all relevant issues regarding an application for tower placement.

Local Authority

- (1) The Local Authority shall first grant the licensee the authority to use the required land after consideration of all relevant issues regarding an application for tower placement.
- (2) The licensee shall then submit a building application as per the provisions of the Building and Housing Act, 1968, to the Municipality in case of an urban area, and to the Ministry of Housing and Urban Development in case of land outside the jurisdiction of the Municipality.

10. General Provisions

Sitting of towers

- (1) The sitting of masts and towers shall take cognisance of provisions of the Act and be guided by provisions of the Collocation and Infrastructure Sharing Guidelines of the Commission in such a way as to minimise their number, protect and promote public safety, and mitigate adverse visual impacts on the community. To reduce the visual impact of towers and antennas structure, stealth and/or camouflage design of towers and antennas are encouraged.
- (2) All masts and towers sited in cities shall conform to the guidelines and standards of the Commission concerning all matters on radio frequency.

- (3) The sitting of towers within residential areas should mitigate the effect of heat, smoke and noise pollution arising from generating effects.
- (4) Telecommunications towers above 25 metres in height would not be permitted within districts delineated as residential.
- (5) Where towers in excess of 25 metres in height are permitted, they should be placed at a minimum setback of 5 meters distance to the nearest demised property, excluding the fence.

Construction of towers

- (1) A person who intends to construct a tower must demonstrate that all reasonable steps have been taken to explore tower infrastructure sharing options before applying for permission to construct a new tower within a specified radius of 400m of the proposed site.
- (2) Where tower heights are shorter, a smaller search radius can be used as follows:
 - (a) Two towers above 46m, a radius of 400m shall apply; and
 - (b) Two towers below 46m, a radius of 300m shall apply.
- (3) The owner(s) of a tower shall provide information to the Commission to maintain a database of towers that are available for tower sharing.

Requirements for tower sharing

- (1) The Operators shall, and in consultation with the Commission, where necessary:
 - a. Ensure the use of approved existing sites for the development of new installations.
 - b. Collaborate in negotiating tower sharing agreement issues relating to site access, security access, damage insurance and compensation, and fair rate in line with the applicable infrastructure sharing guidelines.

- (2) Where either of the above is not technically feasible, a written document which state the reasons why tower sharing was not possible, shall be furnished by the applicant to the Commission and relevant agencies on application for a new site.

Proximity to power lines

- (1) No tower shall be constructed in close proximity to electrical power lines. The nearest distance of a tower to a High Voltage electrical power transmission line shall be the equivalent of 120% of the height of the tower.
- (2) The owner of a tower installed in contravention of the above requirements shall bear the cost of relocation.

Inspection of tower structures

- (1) The owner of a tower shall ensure that a structural engineer's certificate confirming the integrity of the structure is available on request by the Commission or any of the permitting agencies. The certificate shall confirm that the equipment installed is within the loading capacity of the tower.
- (2) Structural integrity assessment shall be conducted, at least once every five years (10 years for new structures) unless natural disaster occurs, on each tower by a certified engineer and a report on the assessment shall be submitted to the Commission and or any relevant permitting agency.
- (3) The owner of a tower shall ensure that the aviation lights are always operational and in case of malfunction shall report to the Commission.
- (4) The tower owner shall ensure that all safety features of the tower are in place and periodically inspected to ensure that they are up to the required standards. Safety features include the following:
- a. fall arrest systems
 - b. guard rails
 - c. work / test platforms

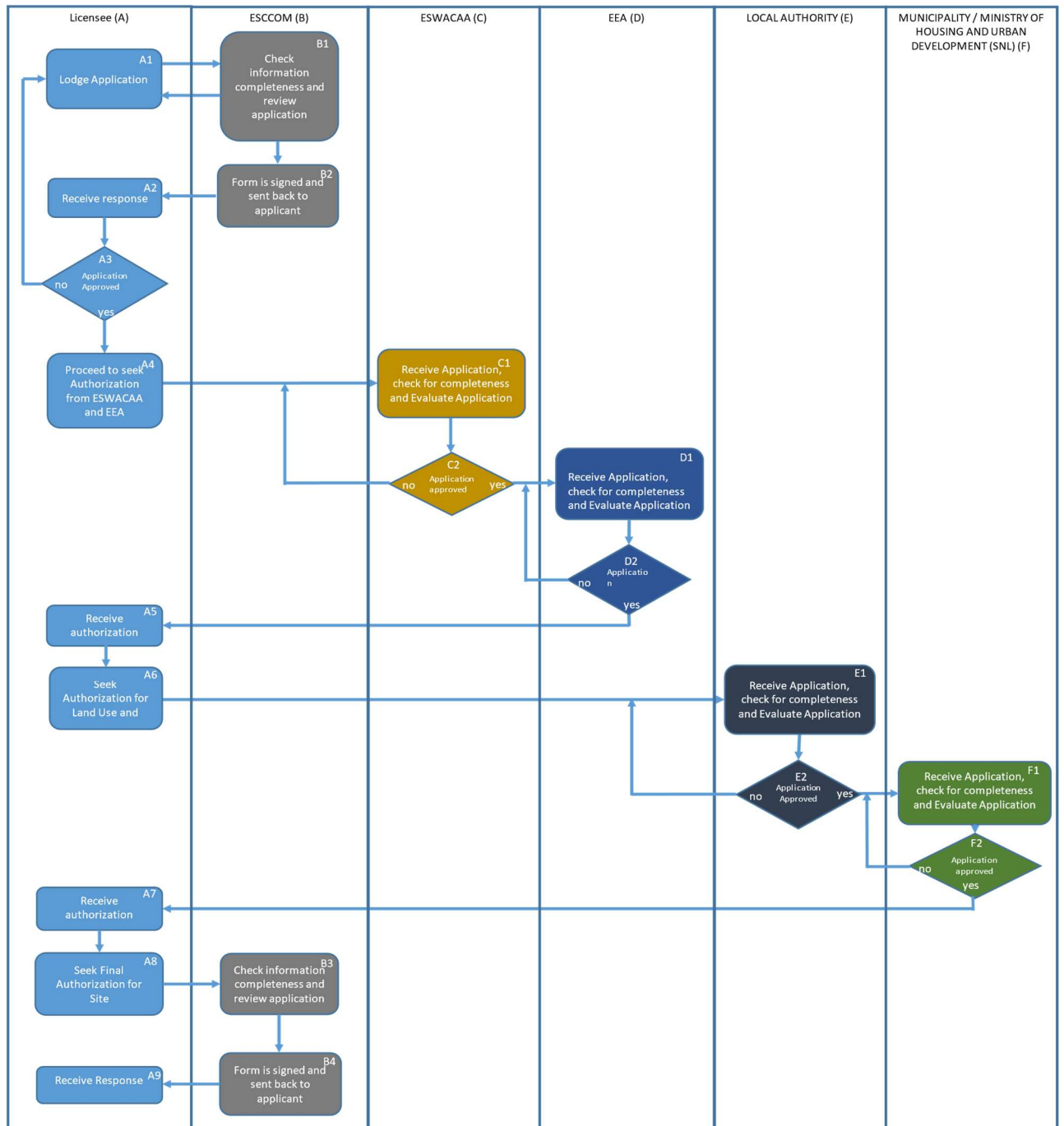
- d. rest platforms
- e. anti-climb systems
- f. fire equipment

- (5) The tower owner shall ensure that the tower is painted in accordance with the approved design and shall ensure that the paint is kept up to the required standard.
- (6) All records of the above inspections shall be kept and presented upon request to the Commission or any of the permitting agencies.

Requirements on radiation emission

- (1) Authorisation holders must ensure that specific exposure limits are in conformity with those of the International Commission on Non-Ionizing Radiation Protection (ICNIRP), which are recommended by the World Health Organization (WHO), to protect workers and the general public against excessive exposure to RF fields.
- (2) On commissioning of the site, tower owners are to measure the levels of Electromagnetic Field Radiation around the site to ensure that the EMF radiation is within the limits stipulated by the ICNIRP guidelines.

Appendix 1. Application Process



1.1. Licensee

(a) Block A1

The Licensee submits an application for establishment of telecommunications towers to the ESCCOM to initiate the application process. An application can be for a new tower or modification of an existing tower.

There is continuous interaction in this process as there may be requirements for additional information from the applicant to ensure that the application information is received fully.

(b) Block A2

Receive response from the ESCCOM.

(c) Block A3

If the application was not approved the Licensee restarts the process considering the reasons given by the ESCCOM. If approved proceed to the next step of the application process.

(d) Block A4

The Licensee seeks authorization from the ESWACAA and EEA by applying to the ESWACAA.

(e) Block A5

The Licensee receives the authorisation from the EEA.

(f) Block A6

The Licensee proceeds to apply for land use of the proposed site with the applicable local authority.

(g) Block A7

The Licensee received the authorization from Municipality/Ministry of Housing & Urban Development.

(h) Block A8

The licensee applies for final authorization with the ESCCOM.

(i) Block A9

The licensee receives response.

1.2. ESCCOM

(a) Block B1

Receives application and ensures that all needed documents are submitted and check for information completeness. This is a continuous process if some information is missing, the applicant will be required to submit the missing information. When complete information is received the application is reviewed.

(b) Block B2

Form is signed and sent back to the licensee.

(c) Block B3

Receives application and checks for completeness then evaluates the application.

(d) Block B4

Form is signed and sent back to the licensee.

1.3. ESWACAA

(a) Block C1

Receives application and checks for completeness then evaluates the application.

(b) Block C2

If the application is denied, it will be sent back to the licensee. If approved the ESWACAA will then proceed to send the application to the EEA.

1.4. EEA

(a) Block D1

Receives application from ESWACAA, checks for completeness and then evaluates the application.

(b) Block D2

If the application is denied, it will be sent back to the ESWACAA. If approved the authorization will be sent to the licensee to continue with the application process.

1.5. LOCAL AUTHORITY

(a) Block E1

Receives application from licensee, checks for completeness and then evaluates the application.

(b) Block E2

If the application is denied, it will be sent back to the licensee. If approved the authorization will be sent to the applicable Municipality/Ministry of Housing & Urban Development.

1.6. MUNICIPALITY/MINISTRY OF HOUSING AND URBAN DEVELOPMENT

(a) Block F1

Receives application, checks for completeness and then evaluates the application.

(b) Block F2

If the application is denied it will be returned to the local authority when approved, it will be sent to the applicant for continuation of the application process.