

NATIONAL COMMUNICATIONS AUTHORITY



PUBLIC CONSULTATION ON GUIDELINES FOR THE DEPLOYMENT OF COMMUNICATIONS TOWERS (REVISED) 2020

September 2020

INVITATION FOR COMMENTS ON ON GUIDELINES FOR THE DEPLOYMENT OF COMMUNICATIONS TOWERS (REVISED) 2020

1. The National Communications Authority (NCA) is in the process of reviewing the Guidelines for the Deployment of Communications Towers. The purpose of the review is to include emerging industry standards and procedures for the installation of communication towers, facilitate the development of infrastructure to enhance the delivery of quality service and address the issue of environmental sanity.
2. Pursuant to Sections 4.1 of the National Telecommunications Policy (2005) and Section 5(h) of the National Communications Authority Act, 2008, Act 769 the Authority hereby invites views and comments from Licensed Service Providers, consumers of communications services and the general public on the Guidelines which can be accessed on the Authority's website, www.nca.org.gh.
3. The public consultation begins on **22nd September, 2020** and ends on **23rd October, 2020**.
4. All responses/comments should be electronically transmitted as e-mail attachments, in Microsoft Word format to info@nca.org.gh.
5. All respondents are requested to complete a response cover sheet (see Page 3).
6. It would be helpful if your response could include comments on the sections of the document you agree/disagree with.

Confidentiality

7. In furtherance of transparency and openness, the Authority shall consider all responses as non-confidential; accordingly, all submissions shall be published on our website, www.nca.org.gh, on receipt.
8. Please note that copyright and all other intellectual property in responses shall be assumed to be licensed to NCA to be used to meet its legal requirements.

Issued by the Director General,

September 2020

**COVER SHEET FOR RESPONSE TO NCA PUBLIC CONSULTATION ON
GUIDELINES FOR THE DEPLOYMENT OF COMMUNICATIONS TOWERS
(REVISED) 2020**

BASIC DETAILS

Name of respondent:

Representing (self or organisation/s):

Address:

DECLARATION

I confirm that the correspondence supplied with this cover sheet is a formal consultation response. It can be published in full on NCA's website, and I authorise NCA to make use of the information in this response to meet its legal requirements. If I have sent my response by email, NCA can disregard any standard e-mail text about not disclosing email contents and attachments.

Name :

Signed (if hard copy)

GOVERNMENT OF GHANA



GUIDELINES FOR THE DEPLOYMENT OF COMMUNICATIONS TOWERS (REVISED) 2020



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CHAPTER ONE

1.0 GENERAL PROVISIONS

1.1 CONSTRUCTION OF TOWERS

- 1.1.1 A person who intends to construct a tower must demonstrate that all reasonable steps have been taken to investigate tower sharing before applying to the permitting agencies to construct a new tower within a specified radius of 300m if the proposed site is in the built up area and 200m if it is in a non-built up area (as indicated in Appendix 6).
- 1.1.2 Where tower heights are shorter, a smaller search radius can be used as follows:
 - 1.1.2.1 Two towers above 46m, a radius of 300m shall apply; and
 - 1.1.2.2 Two towers below 46m towers, a radius of 200m shall apply.
- 1.1.3 Where either of the above is not technically feasible, a written documentation in a form of a co-location statement, which indicates the reason why co-location was not possible, shall be supplied by the site owner within five (5) working days to the applicant. The applicant shall submit the co-location statement to the permitting agencies on application for a new site.

1.2 REQUIREMENTS FOR CO-LOCATION

- 1.2.1 The Operators shall, and in consultation with the EPA and NCA, where necessary:
 - 1.2.1.1 Ensure the use of approved existing sites for the development of new installations;
 - 1.2.1.2 Collaborate in negotiating on co-location agreement issues relating to site access, security access, rates and compensation;
 - 1.2.1.3 Co-operate with each other to construct a new tower as per these Guidelines for joint usage.
- 1.2.2 Notwithstanding the above, the following factors may inhibit co-location:
 - 1.2.2.1 Lack of structural capacity to support weights, orientation, heights and wind loads from additional equipment;
 - 1.2.2.2 Lack of ground space to accommodate shelter for base stations and other equipment.
- 1.2.3 The owner(s) of a tower shall provide information to the EPA, NCA and MMDAs on an annual basis to maintain a database of towers that are available for collocation.
- 1.2.4 Where an existing tower is incapable of supporting co-location, the option of decommissioning the old tower and the erection of a new one capable of accommodating other antennas should be considered.

1.3 PRE-APPLICATION REQUIREMENTS FOR A NEW SITE

Pre-application requirements for a new site shall include the following:

1.3.1 Location

The location of the tower shall conform to the requirements stipulated under Appendix 6 of these Guidelines.

1.3.2 Proximity to Power Lines

The tower shall not be constructed in close proximity to High Voltage (11Kv and above) electrical power transmission 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.

Once all requirements as prescribed by these Guidelines in siting a tower have been complied with, no sanction shall be applied if electricity providers subsequently compromise the requirements.

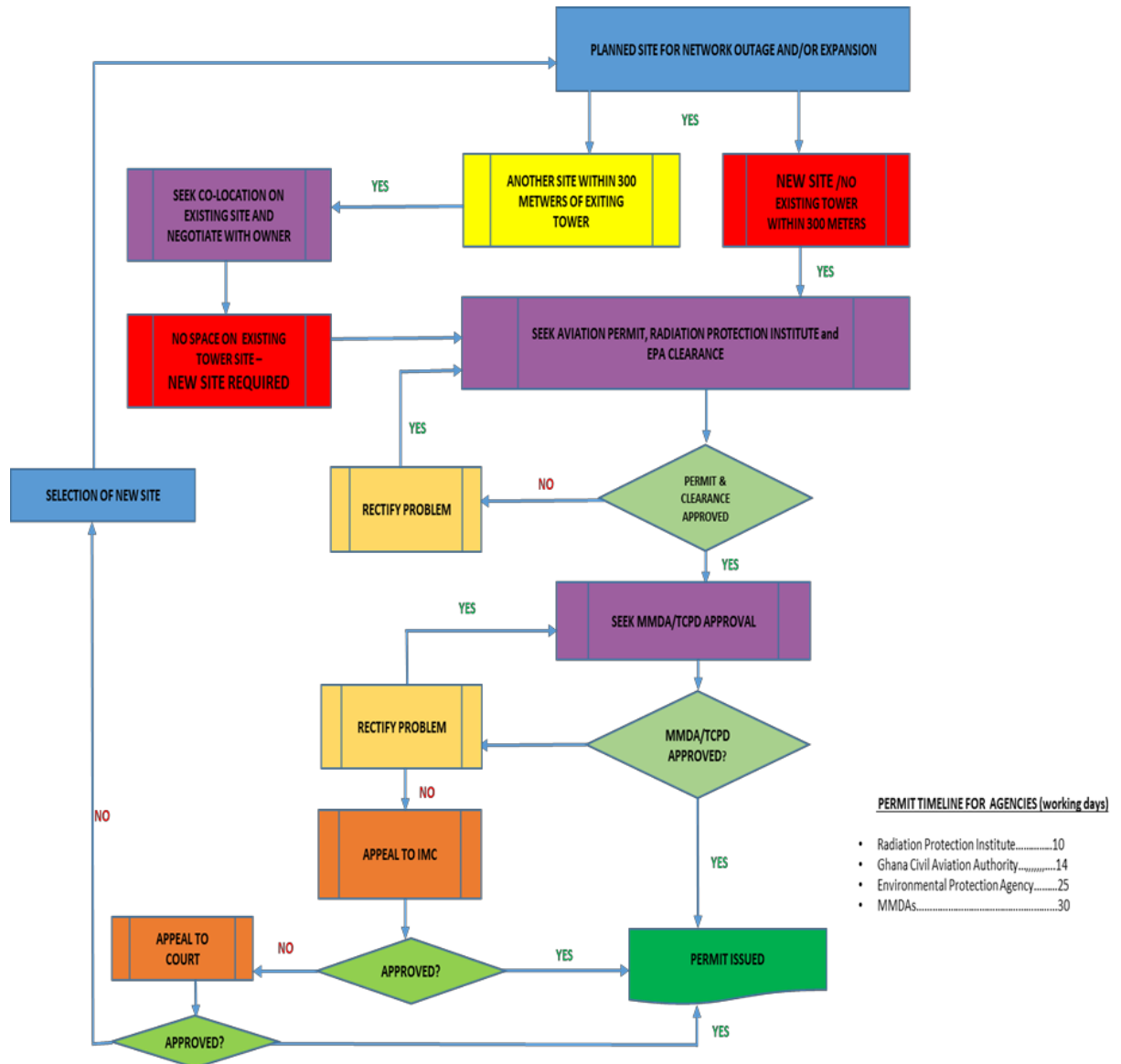
1.3.3 The owner of a tower installed in contravention of the above requirements shall bear the cost of removal.

1.4 APPLICATION PROCESS

1.4.1 An applicant shall be required to obtain all necessary approvals, permits and Licences from relevant Government Agencies and Local Authorities before commencement of construction work.

1.4.2 An application for the requisite approvals, permits and licences shall be submitted simultaneously to each of the relevant government Agencies namely RPI, GCAA, EPA and the MMDAs. However, the MMDAs shall only issue final permits upon receipt of all other relevant permits.

1.42.1



1.4.3 The period for obtaining a permit shall not exceed the timelines provided in 1.4.4 from the date of submission of all relevant documents to the **Permitting Agencies**. The relevant documents shall include the following:

1.4.3.1 Ghana Civil Aviation Authority (GCAA) approval;

1.4.3.2 Radiation Protection Institute (RPI) approval;

1.4.3.3 Specific requirements of the permitting agencies such as the MMDAs, Environmental Protection Agency (EPA) and Town and Country Planning Department (TCPD);

1.4.3.4 Co-location statement, where applicable; and

1.4.3.5 The processing fees specified by law

1.4.4 The timelines for obtaining a permit shall be as follows from the date of submission of all relevant documents to the underlisted Agencies:

1.4.4.1 RPI – Ten (10) working days;

1.4.4.2 GCAA – Fourteen (14) working days;

1.4.4.3 EPA – Twenty (25) working days;

1.4.4.4 MMDAs – Forty-five (45) working days.

1.4.5 In the event that a permit is not issued to an operator or tower owner by a permitting agency within the periods indicated in 1.4.4, the permitting agency shall confirm in writing the reason for the inability to issue the permit within five (5) working days of the expiration of the timelines.

1.4.6 An applicant who provides false information in an application for permits shall be sanctioned in accordance with the relevant laws.

1.4.7 Where an application is refused by any permitting agency, the applicant may appeal the decision in accordance with the applicable appeal process provided in the relevant legislation/regulation.

1.4.7.1 The applicant has a further right of appeal to the Inter-Ministerial Committee if dissatisfied with the decision of the permitting agency. Such appeal shall be made within fourteen (14) days of receipt of the decision of the permitting agency. The Inter-Ministerial Committee, shall comprise the following Ministries:

- Ministry of Communications;
- Ministry of Environment, Science, Technology and Innovation;
- Ministry of Local Government and Rural Development.

1.4.8 An applicant dissatisfied with the decision of the Inter-Ministerial Committee may within thirty (30) days of being informed of that decision, appeal to the High Court for judicial review of the decision.

CHAPTER TWO

2.0 REQUIREMENTS OF THE VARIOUS PERMITTING AGENCIES

2.1 GHANA CIVIL AVIATION AUTHORITY (GCAA)

2.1.1 Application for the Construction of Towers

A person who intends to construct a communication tower shall obtain a permit from the Ghana Civil Aviation Authority certifying that the proposed construction will not constitute a hazard to air navigation.

2.1.2 Aviation Permit Requirements

An application for any kind of construction or alteration of a structure shall be made to the GCAA for obstruction evaluation and grant of airspace safety permits where:

- 2.1.2.1 The overall height of the proposed structure above the ground is more than 10metres and is within 5000m radius of an existing or proposed aerodrome;
- 2.1.2.2 The proposed structure is within 18,520metres radius of an existing or proposed aerodrome;
- 2.1.2.3 The proposed structure is beyond 18,520metres radius of an existing or proposed aerodrome and is 46metres or higher above ground level;
- 2.1.2.4 The proposed structure is within low level flying routes or close to major highways;
- 2.1.2.5 The proposed structure is of greater height than an obstacle limitation surface in accordance with the criteria specified in Ghana Civil Aviation Regulations;
- 2.1.2.6 The proposed structure is within an instrument approach area;
- 2.1.2.7 The proposed structure is within the distances above an existing airport, an airport under construction or planned airport.

2.1.3 Aviation Permit Application Procedure

The procedure for obtaining Aviation permit approval shall be as follows:

- 2.1.3.1 The applicant shall submit a written application to the GCAA;
- 2.1.3.2 The applicant shall complete GCAA Form /SRD/ASAS-01;
- 2.1.3.3 The permit for tower structure with a height of 60 meters or more shall be renewable annually for towers within 5000 meters of an existing airport, an airport under construction or a proposed airport or aerodrome. For towers with a height of less than 60 meters and beyond 5000 meters, the permits shall be renewed every two (2) years;

2.1.3.4 Subject to 2.1.3.3 and in accordance with GCAA Directive, Part 27 (Aerodrome Safeguarding and Maintenance) following the issuance of airspace safety, owners of any new or existing telecommunication mast/tower shall submit a report annually on or before January 31 of each year on new or existing towers with GCAA permits;

2.1.3.5 The applicant shall pay the required fees on submission of the application;

2.1.3.6 Where inspection of the proposed site is deemed necessary, the applicant shall provide transportation to and from the site;

2.1.3.7 The GCAA shall communicate the results of its evaluation to the applicant within ten (10) working days.

2.2 RADIATION PROTECTION INSTITUTE (RPI) OF GHANA ATOMIC ENERGY COMMISSION (GAEC)

2.2.1 The procedure for obtaining a GAEC-RPI permit shall be as follows:

2.2.1.1 A person who intends to construct a communication tower shall obtain a compliance certificate from the GAEC-RPI to ensure that the public, workers and the environment are protected from any harmful effect of radiation;

2.2.1.2 An applicant shall notify the GAEC-RPI of its intention to install an antenna by submitting a completed RPI form for non-ionising radiation;

2.2.1.3 The applicant shall provide the relevant technical information to enable GAEC-RPI carry out a safety assessment of the antenna;

2.2.1.4 The GAEC-RPI shall issue assessment report to the applicant within ten (10) days.

2.3 ENVIRONMENTAL PROTECTION AGENCY (EPA)

2.3.1 Application for EPA Permit

A person who intends to construct a communication tower shall obtain a permit from the EPA to ensure that such an activity may not have a detrimental effect on the environment and as such an environmental impact assessment shall be conducted by the EPA.

2.3.2 A person who intends to construct and/or operate a communication tower shall be required to:

2.3.2.1 Obtain environmental permits before construction;

2.3.2.2 Pay the requisite fees and charges stipulated in the Environmental Assessment (as amended from time to time) Regulations 2002, L.I. 1703 or Legislative Instruments issued under the Fees and Charges (Amendment) Act, 2018. (Act 983).

2.3.3 Assessment Requirement

A copy of the application shall be submitted with the under-listed attachments to the appropriate EPA office for evaluation:

- (a) Site plan;
- (b) Block plan;
- (c) Lease/licence/right of entry;
- (d) GPS Coordinates of all tower locations in decimal units on all proposed towers;
- (e) Site photographs;
- (g) Evidence of Consultation with neighbours; and
- (h) Design of the Structure as provided in 2.4.1.3 below

2.3.4 Validity of EPA Permit and Process for EPA Permit Renewal

2.3.4.1 All EPA permits shall be valid for eighteen (18) or twenty-four (24) months, as applicable.

2.3.4.2 An EPA permit shall be renewed in accordance with the provision set out in the permit conditions/schedule.

2.3.4.3 The renewal process shall be commenced not later than thirty (30) days prior to the expiry of the current permit.

2.3.4.4 An application for renewal of an EPA permit shall be submitted with copies of the following documents:

- (a) Completed Annual Environment Report
- (b) Expired permit
- (c) Noise and air quality monitoring report;
- (d) Radiation certificate;
- (e) Insurance certificate;
- (f) Structural integrity report.

2.3.4.5 The EPA shall renew an EPA permit within 15 working days of submission of the necessary documents provided that all the relevant conditions have been met.

2.4 METROPOLITAN, MUNICIPAL AND DISTRICT ASSEMBLIES (MMDAs) REQUIREMENTS

2.4.1 APPLICATION TO THE MMDAs FOR PERMITS

A person who intends to construct a communication tower shall submit an application accompanied by the following documents:

- 24.11 A site plan to the scale of 1:2500 showing the location of the proposed structure in relation to adjoining structures. The geographical coordinates and dimension of plot should be clearly stated. These should be submitted in four (4) copies and a soft copy to an email address provided by the MLGRD and/or Local Government Service;
- 24.12 A Block Plan to a scale of 1:50 showing the position of the tower and ancillary facilities with the mandatory setbacks or dimensions indicated. The Block Plan shall also show all existing or proposed structures within the plot. These should be submitted in four (4) copies and a soft copy to an email addresses provided by the MLGRD and/or Local Government Service;
- 24.13 The design of the structure showing its effective height, foundation, guys used, members, ladders, rest and work platforms, earthing, lighting protection and aviation lighting etc. (generator, switch unit). Four (4) copies of each prototype should be submitted for group applications together with a soft copy to an email addresses provided by the MLGRD and/or Local Government Service;
- 24.14 Evidence of ownership of the property and/or the property on which the structure is to be installed in the form of an executed lease or license agreement between the tower owner and the land owner or a right of entry letter from landowner;
- 24.15 Confirmation of accident insurance policy in the form attached hereto as Appendix 9;
- 24.16 Evidence of neighbourhood (adjoining structures) consultation conducted in the immediate area where the tower is to be mounted, as per the Standard Consultation Form in Appendix 8 (E). The evidence may be certified by the Assembly Member in charge of the area;
- 24.17 Structural integrity report certified by an engineer accredited by the Engineers Council in cases where the tower is to be mounted on an existing structure;
- 24.18 Geo-technical investigation report duly certified by an engineer accredited by the Engineers Council where the proposed tower is ground-based;
- 24.19 A completed Building Permit Application Form
- 24.110 Appropriate fee Development and Building Permits as specified in the Local Government Act 2016, Act 936 and the fee Fixing Guidelines as amended from time to time.

CHAPTER THREE

3.0 OPERATIONAL REQUIREMENTS

3.1 Inspection of Tower Sites and Structures

3.1.1 The NCA after receiving notification from EPA of approval for the installation of Tower will inspect sites based on permit details before and after installation. Post installation inspection will be based on the check list on Appendix 8, Form D.

3.1.2 Any relevant and authorised Agency may inspect the site during the construction of a tower and the installation of the antennae before its operation begin(s).

3.1.3 The owner of a tower shall notify the GCAA on completion of its construction.

3.1.4 Structural integrity assessment shall be conducted, at least once every five (5) years, on each tower by a certified structural or civil engineer in good standing with the Ghana Institution of Engineering and a report certified by the structural or civil engineer on the assessment shall be submitted to the EPA, NCA and MMDAs.

3.1.5 The owner of a tower, who fails to meet the required standards upon inspection, will be notified and required to remedy the breach as follows:

3.1.5.1 For structural integrity matters, within a minimum period of ninety (90) days of the tower owner being notified failing which the owner shall pay to the EPA, the charges prescribed in the relevant legislation;

3.1.5.2 For all other matters, within sixty (60) days of the tower owner being notified, failing which the owner shall pay to the EPA, the charges prescribed in the relevant legislation;

3.1.5.3 In respect of defects that may cause threats (i.e. which may yield to a collapse) to the tower such as major foundation defects/cracks, loss of structural members i.e. leg sections etc, notwithstanding 3.1.5.1, the tower owner shall correct the defects as soon as possible but not more than thirty (30) days or such reasonable time as agreed with the Permitting Agency to avert danger to the environment.

3.1.6 The GCAA shall also carry out periodic inspections of towers to ensure compliance with lighting and marking requirements.

3.2. Markings

An approved aerial tower shall be painted as prescribed in Part 14 of the Ghana Civil Aviation Regulations, 2004, L.I 1818 and the related Guidance Material (ASAS TP-02 Guidance on Lighting and Marking Obstacles).

3.3. Lighting of Aerial Towers

3.3.1 The lighting system of an aerial Tower shall conform to the following requirements:

- 3.3.1.1 Installation of a lamp as per GCAA requirement, enclosed in aviation red obstruction light globe, at the top of the tower;
- 3.3.1.2 The light shall be so positioned as to ensure unobstructed visibility from aircraft at any normal angle of approach and shall be on from sunset to sunrise;
- 3.3.1.3 An intermediate light or lights shall be provided for each additional 46 meters or fraction of the 46 metres, where the tower is more than 46 meters above the level of the ground, and these shall be spaced as equally as practicable between the top light and ground level.

3.4 Inspection of Tower Lights

3.4.1 The owner of a tower, equipped with obstruction lights, shall:

3.4.1.1 Inspect the tower lights at least once every twenty-four (24) hours to ensure that the lights function properly as required under Regulation 85 of the Electronic Communications Regulations, 2011 (L.I. 1991).

3.4.1.2 Inspect at intervals of not more than ninety (90) days all automatic or manual control devices, indicators and the alarm system connected with the tower lighting system.

3.4.1.3 Report immediately to the GCAA or to the nearest flight service station:

3.4.1.3.1 Any observed improper functioning of the lighting system which cannot be corrected within twenty-four hours;

3.4.1.3.2 When the fault referred to in subparagraph 3.4.1.3.1 is corrected, maintain sufficient quantity of lamps for immediate replacement.

3.5 Requirements on Radiation Emission

3.5.1 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.

3.5.2 The following Technical Standards and Specifications must be complied with to mitigate against any harmful effects of human exposure to Radiofrequency Electromagnetic Fields:

3.5.2.1 Basic Restrictions for public and occupational exposures as set out in Appendix 2; and

3.5.2.2 Where the Basic Restrictions are exceeded, the Reference Levels for public and occupational exposure as set out in Appendix 3 shall apply.

3.5.3 Measurement/modelling may be carried out in accordance with the measurement standards recommended by any of the following organisations:

- International Electrotechnical Commission (IEC);
- International Telecommunication Union (ITU);
- Institute of Electrical and Electronics Engineers (IEEE);
- European Committee for Electrotechnical Standardization (CENELEC); and
- World Health Organisation (WHO).

3.5.4 All measurements/modelling or evaluations to establish compliance with these emission limits shall be made or authorized by the RPI.

3.5.5 The RPI shall determine the appropriate measures to be undertaken in areas where emission levels are exceeded. Such measures may include:

3.5.5.1 Extending the boundaries of the areas;

3.5.5.2 Using appropriate signs, warnings and public notices;

3.5.5.3 Using Engineering or Administrative controls; and

3.5.5.4 Conducting routine monitoring of radiation emissions of antennae **once a year in urban areas (built-up areas) and once every two years in rural areas** to ensure continuous compliance with emission levels.

3.5.5.5 Training of “potentially exposed” RF workers (i.e. All workers likely to be exposed to RF radiation or occupationally exposed workers)

3.5.6 The monitoring will be conducted in collaboration with the NCA and EPA every second quarter of the year.

3.6. Waste Management

Used batteries and other hazardous and electronic waste shall be disposed of in accordance with the Hazardous and Electronic Waste Control and Management Act, 2016 (Act 917) and the Hazardous Electronic and Other Wastes (Classification), Control and Management Regulations 2016 (L.I. 2250) as amended from time to time.

CHAPTER FOUR

4.0 STRUCTURAL REQUIREMENT

- 4.1** The structural specifications for construction of towers are as stipulated in Appendix 5 of these Guidelines.
- 4.2** The design of structures for towers shall be determined by the Landscape and for this purpose; landscape is classified into three broad geographical zones. These are:
 - 4.2.1** The Exposed smooth terrain with virtually no obstructions and in which the height of any obstructions is less than 1.5m. This category includes open sea coasts, lake shores and flat, treeless plains with little vegetation other than short grass;
 - 4.2.2** The open terrain with widely spaced obstructions (100m apart) having heights and plan dimensions generally between 1.5m and 10m. This category includes large airfields, open parkland or farmlands and undeveloped outskirts of towns and suburbs with few trees;
 - 4.2.3** The terrain having numerous closely spaced obstructions generally the size of domestic and high rise buildings. This category includes wooded areas and suburbs, towns and industrial areas, fully or substantially developed.
- 4.3** In designing towers, wind loading shall be the predominant dynamic loading to be considered outside dead weights since severe environmental conditions that lead to additional seasonally variable loads are non-existent.
- 4.4** Wind load rating shall be based on the height of the tower and where it is located.
- 4.5** The design of towers shall provide for specific conditions that might exceed the given standard values specified in these Guidelines.
- 4.6** The design philosophy shall be based on two limiting factors: strength limit, which considers the loading of a tower under extreme conditions and serviceability limit, which ensures that the tower will provide the proper service under normal conditions.
- 4.7** The loading on a tower shall be analysed under wind, soil and seismic conditions.
- 4.8** The wind effect on a tower shall take cognisance of a number of external conditions that may change the dynamics of the wind, such as terrain, gusts, the method of wind-speed determination and the value of safety factors needed for a specific tower type.
- 4.9** A proportionate amount of over design must be applied to take care of the safety issue which defines the impact a failure would have on the operational integrity of a tower, human life and property.
- 4.10** A tower should be designed to resist various pressures including wind load: the predominant factor in Ghana.
 - 4.10.1** Every such design shall take cognisance of the fact that:

- 4.10.1.1 Wind velocities constitute the measured data generally available and a conversion has to be made from wind velocity to wind pressure;
- 4.10.1.2 Various existing standards define and measure wind velocity in different ways;
- 4.10.1.3 The formula used to convert these velocities to pressure produce results that can vary as much as 25%, which may translate into a 25% difference in design loads that will produce different foundation sizes;
- 4.10.1.4 The use of basic wind speeds shall be encouraged. The Basic wind speed approach assumes given wind speeds, from meteorological measurement to be at 10m above ground level, and Basic wind speed design escalates the wind load from 10 metres above ground level to the top of the structure.
- 4.10.2 A structure shall be designed to withstand forceful wind speeds that occur on the average of once every thirty (30) to fifty (50) years, considering that wind speed escalates with height.
- 4.10.3 The design of the structure shall incorporate the gust factor to account for the varying nature of wind.
- 4.10.4 The calculation of wind speed shall be based upon information provided in the Wind Flow Map of Ghana from the Ghana Meteorological Service and/or Survey Department.
- 4.11 The expected service life of a tower shall be a minimum of fifteen (15) years.
- 4.12 The design, fabrication materials and methods, installation accessories, safety factor and tower loadings shall conform to standards and last for the expected service life of a tower.
- 4.13 Owners of communication towers shall maintain the following insurance policies:
 - 4.13.1 Workmen Compensation Policy; and
 - 4.13.2 All Risk Insurance Policy
- 4.14 A base station, in built up areas, may have a solar power and/or a generator, as a secondary source of power. Where a generator is used, it must be:
 - 4.14.1 sited ten (10) meters away from all demised properties excluding the fence;
 - 4.14.2 sound proof and comply with all permissible sound levels prescribed by EPA. The EPA shall carry out periodic (annual) noise monitoring;
 - 4.14.3 installed on good shock absorbers to minimize vibrations to the barest minimum;
 - 4.14.4 installed with its exhaust directed away from any demised property;
 - 4.14.5 installed with the appropriate mufflers and silencers as in indicated in Appendix 7.

4.15. Noise requirement for construction activities

Any entity responsible for a construction site shall:

- 4.15.1 Erect an acoustic barrier around the construction site;
- 4.15.2 Ensure that the maximum noise level near the construction site does not exceed:
 - 75 dB (A) Leq (5min.) in an industrial area; and
 - 66 dB (A) Leq (5 min) in other areas.
- 4.16 An existing tower which is replaced with no increase in height, as a modification to enhance safety and foster co-location shall receive administrative approval within five (5) working days.
- 4.17 Existing towers and facilities that are damaged or destroyed may be rebuilt through administrative review and approval within five (5) working days, provided the replacement tower is the same as the original in type, location, intensity.
- 4.18 In the event that the use of a tower is discontinued by the owner, he/she shall file a written notice of his/her intent to discontinue the use of the tower and the date of the said discontinuance to the District Assembly.
- 4.19 The decommissioned tower shall be removed by the owner within sixty (60) days after the date of discontinuance of use, failing which it shall attract a penalty of GHS2,000 per day; and the EPA and MMDAs, in consultation with NCA, shall remove such facility and place a lien upon the property for the costs of removal.
- 4.20 In the event that a communications structure is not compliant with these Guidelines, the following actions shall be taken:
 - 4.20.1 The respective permitting Agency shall provide notice to the Operator to rectify such noncompliance within 30 days or such reasonable time as agreed with the Permitting Agency if the rectification work does not involve tower decommissioning.
 - 4.20.2 In the event that the noncompliance is not rectified within the stipulated period, it shall attract a penalty of GHS10,000 per day of default.
 - 4.20.3 Where the rectification work involved tower decommissioning, the respective permitting Agency shall provide notice to the Operator to remove the communications tower within the specified period.
 - 4.20.4 In the event that such communications tower is not removed within the stipulated period, it shall attract a penalty of GHS10,000 per day of default.
 - 4.20.5 If the Operator should have a reason for the noncompliance, then the Operator should show cause to the Permitting Agencies in consultation with NCA why the communication tower should not be removed.
- 4.21 With respect to the five-year moratorium given to all existing towers which do not meet laid down requirements to be decommissioned, the following actions shall be taken:
 - For towers and tower sites that have been identified as not compliant with these Guidelines, the tower owner or operator shall submit structural integrity and noise reports once every year (on or before 31st January of the following year) for all such towers and tower sites in order

to continue operating such towers and tower sites.

- 4.21.1 The structural integrity and noise reports shall be prepared by a certified structural engineer from the Ghana Institution of Engineers.
- 4.21.2 The structural integrity and noise reports shall be audited every two (2) years by an independent certified structural engineer with a minimum of ten (10) years standing with the Ghana Institution of Engineering and the report from such audit shall be submitted to the EPA and the NCA.
- 4.21.3 Failure to comply with 4.21.1 or 4.21.2 shall attract a penalty of GHS10,000.00 for every day of default; and the permitting Agencies in consultation with NCA, shall remove such facility and place a lien upon the property for the costs of removal.

CHAPTER FIVE

5.0 DISPUTE RESOLUTION ON CO-LOCATION

- 5.1** Operators shall collaborate in negotiating co-location agreement issues relating to site access, security access, fair rates, damage insurance and compensation.
- 5.2** Where there are disputes arising out of co-location on towers, the areas of contention shall be identified and referred to the NCA for resolution.
- 5.3** The NCA shall establish within five (5) working days, a dispute resolution process in accordance with provisions for dispute resolutions under Section 84 of the Electronic Communications Act, 2008, Act 775 and Regulation 120 of the Electronic Communications Regulations, 2011 (L.I. 1991).

CHAPTER SIX

6.0 REPEAL

These Guidelines supersedes any other guidelines or specifications made by the NCA for the regulation of the deployment of communications towers.

CHAPTER SEVEN

7.0 INTERPRETATIONS

“site”	means the area consisting of electronic infrastructure (active and passive);
“Infrastructure”	includes base tower station, microwave radio equipment, switches, antennas, transceivers for signal processing and transmission;
“Non-electronic infrastructure” diesel	includes tower, shelter, air-conditioning equipment, electric generator, battery, electricity supply, technical premises and easements and pylons.

APPENDIX 1

Relationship between Frequency Range, Established Adverse RF Health Effects and Applicable Basic Restrictions

Frequency Range	Adverse health effect	Relevant basic restriction
100kHz to 10GHz	Whole body heating	WBA SAR: Specific Absorption Rate averaged over the entire body
100kHz to 10GHz	Localized tissue heating	Localized SAR: Specific Absorption Rate averaged over a localized mass of tissue
300MHz to 10GHz	Microwave hearing effect	SA: Specific Absorption of RF energy per pulse in a defined mass of tissue
3kHz to 10 MHz	Electro stimulation and electric shock	J : internal current density averaged over a specified area
10GHz to 300GHz	Surface heating	S_{inc} : incident power flux density averaged over a specified area

The following is a summary of each of the basic restrictions and the health effects:

- (a) Limits on current density (J) induced in the head and torso of the body from RF exposure to protect against electro stimulatory effects, such as nerve and muscle stimulation caused by electric currents induced in the body by RF fields.
- (b) Limits on whole body average specific absorption rate (WBA SAR) to protect against whole body heating effects that can begin to appear when the whole body temperature increases by more than 1°C.
- (c) Limits on localised SAR to protect against localised tissue heating effects. The basic restrictions for the torso and head (except the ear lobe) are lower than those for the limbs to provide greater protection for the eyes, brain and other vital organs.
- (d) Limits on specific absorption (SA) in the head are specifically for pulsed RF exposures. These limits protect against the buzzing and clicking sounds that can occur when experiencing microwave hearing.
- (e) Limits on power flux density incident at the surface of the body (S_{inc}) at RF frequencies exceeding 10 GHz to protect against excessive surface heating of the body.

APPENDIX 2

Basic Limits for Public and Occupational Exposure

Explanations

The exposure limits for the general public are five (5) times lower than for occupational workers. This is because such workers are normally persons who may have been trained to be aware of RF hazards and have been medically assessed to be fit for work in RF fields.

Type of exposure	Frequency range	Current density for head and trunk (mA/m ²)rms	Whole body average SAR (W/kg)	Localized SAR (head and trunk) (W/kg)	Localized SAR (limbs) (W/kg)
Occupational Workers	Up to 1 Hz	40			
	1-4 Hz	40/f			
	4Hz- 1KHz	10			
	1-100KHz	f/100			
	100KHz- 10 MHz	f/100	0.4	10	20
	10MHz- 10 GHz		0.4	10	20
General public	Up to 1Hz	8			
	1-4 Hz	8/f			
	4Hz- 1KHz	2			
	1-100KHz	f/500			
	100KHz- 10 MHz	f/500	0.08	2	4
	10MHz- 10 GHz		0.08	2	4

NOTE:

f is the frequency in Hertz.

Due to electrical inhomogeneity of the body, current densities should be averaged over a cross section of 1cm^2 perpendicular to the current direction.

All SAR values are to be measured in a period of 6-minutes.

For a localized SAR averaging mass in any 10g of contiguous tissue, the maximum SAR obtained should be the value used for the estimation of exposure.

APPENDIX 3

ICNIRP Reference Levels for Public and Occupational Exposure (ICNIRP / ITU-T K.52)

Exposure Scenario	Frequency Range	Incident E-field strength E_{inc} (Vm^{-1})	Incident H-field strength H_{inc} (Am^{-1})	Incident power density S_{inc} (Wm^{-2})
Occupational	0.1 – 30 MHz	$600f_M^{0.7}$	$4.9f_M$	NA
	>30 – 400 MHz	61	0.16	10
	>400 – 2000 MHz	$3f_M^{0.5}$	$0.008f_M^{0.5}$	$f_M/40$
	>2 – 300 GHz	NA	NA	50
Public	0.1 – 30 MHz	$300/f_M^{0.7}$	$2.2/f_M$	NA
	>30 – 400 MHz	27.7	0.073	2
	>400 – 2000 MHz	$1.375f_M^{0.5}$	$0.0037f_M^{0.5}$	$f_M/200$
	>2 – 300 GHz	NA	NA	10

Note:

- 1) “NA” signifies “not applicable” and does not need to be taken into account when determining compliance.
- 2) f_M is frequency in MHz.
- 3) S_{inc} , E_{inc} , H_{inc} are to be averaged over 30 min, over the whole-body space. Temporal and spatial averaging of each of E_{inc} and H_{inc} must be conducted by averaging over the relevant square values.
- 4) For frequencies of 100 kHz to 30 MHz, regardless of the far-field / near-field zone distinctions, compliance is demonstrated if neither E_{inc} or H_{inc} exceeds the above reference level values.
- 5) For frequencies of >30 MHz to 2 GHz:
 - a. within the far-field zone: compliance is demonstrated if either S_{inc} , E_{inc} , or H_{inc} does not exceed the above reference level values (only one is required); S_{eq} may be substituted for S_{inc} ;
 - b. within the radiative near-field zone, compliance is demonstrated if either S_{inc} , or both E_{inc} and H_{inc} , does not exceed the above reference level values; and

- c. within the reactive near-field zone: compliance is demonstrated if both E_{inc} and H_{inc} do not exceed the above reference level values; S_{inc} cannot be used to demonstrate compliance, and so basic restrictions must be assessed.
- 6) For frequencies of >2 GHz to 300 GHz:
- a. within the far-field zone: compliance is demonstrated if S_{inc} does not exceed the above reference level values; S_{eq} may be substituted for S_{inc} ;
 - b. within the radiative near-field zone, compliance is demonstrated if S_{inc} does not exceed the above reference level values;
 - c. and (c) within the reactive near-field zone, reference levels cannot be used to determine compliance, and so basic restrictions must be assessed.

Simultaneous Exposures to Different RF Frequencies

In situations where simultaneous exposures occur from different RF frequency sources, the possibility that these exposures will be additive in their effects has been assumed to occur by these Guidelines. Thus, a cumulative evaluation of the basic restrictions and reference levels for simultaneous exposure to multiple frequencies has to be performed separately for both electro stimulatory and thermal effects on the body. The equations for performing these calculations are as provided below:

Simultaneous exposure to multiple sources

For simultaneous exposure to fields at different frequencies, the compliance with the exposure limits is evaluated using the equations below. All conditions for the appropriate frequency ranges are to be satisfied.

$$\sum_{i=1 \text{ kHz}}^{1 \text{ MHz}} \frac{E_i}{E_{l,i}} + \sum_{i>1 \text{ MHz}}^{10 \text{ MHz}} \frac{E_i}{a} \leq 1$$

$$\sum_{j=1 \text{ kHz}}^{1 \text{ MHz}} \frac{H_j}{H_{l,j}} + \sum_{j>1 \text{ MHz}}^{10 \text{ MHz}} \frac{H_j}{b} \leq 1$$

Where E_i is the electric field strength at frequency i

E_{li} is the reference limit at frequency i

H_j is the magnetic field strength at frequency j

H_{lj} is the reference limit at frequency j

a=610V/m for occupational exposure and 87 V/m for general public exposure

b= 24.4 A/m for occupational exposure and 5A/m for general public exposure

$$\sum_{i=100 \text{ kHz}}^{1 \text{ MHz}} \left(\frac{E_i}{c} \right)^2 + \sum_{i>1 \text{ MHz}}^{300 \text{ GHz}} \left(\frac{E_i}{E_{l,i}} \right)^2 \leq 1$$
$$\sum_{j=100 \text{ kHz}}^{1 \text{ MHz}} \left(\frac{H_j}{d} \right)^2 + \sum_{j>1 \text{ MHz}}^{300 \text{ GHz}} \left(\frac{H_j}{H_{l,j}} \right)^2 \leq 1$$

Where E_i is the electric field strength at frequency i

E_{li} is the reference limit at frequency i

H_j is the magnetic field strength at frequency j

H_{lj} is the reference limit at frequency j

c=610/f V/m (f in MHz) for occupational exposure and 87/f^{1/2} V/m for general public exposure

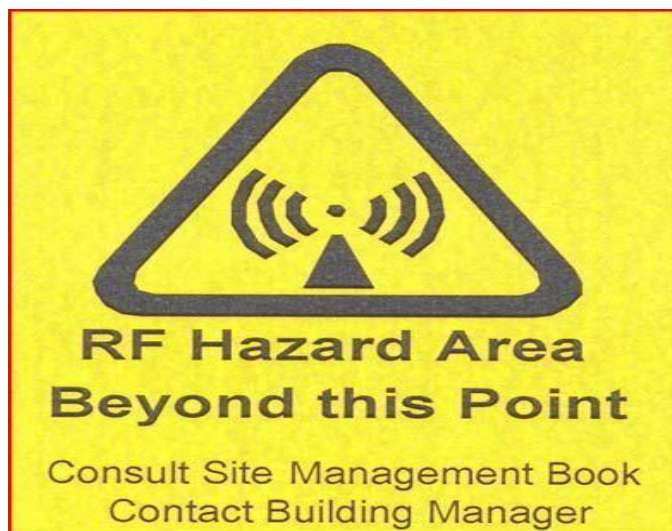
d= 1.6/f A/m (f in MHz) for occupational exposure and 0.73/f for general public exposure

APPENDIX 4

RF Awareness Signs

Below are typical examples of signs used to caution RF radiation hazards at transmitter sites. RF warning signs are used to identify areas which may exceed the general public exposure limits.

RF Signage





RF HAZARD SIGN



APPENDIX 5

TYPES OF TOWERS

Communication tower and mounts includes the following:

(1) Monopole Towers or Post Masts:

- (a) Monopole tower consists of tapered steel tubes with slipped joint or flanged joint that fit over each other or bolted together to form a stable pole.
- (b) A monopole tower should be guyed or self-supported and are fitted with climbing rungs where necessary. It should have the following features:
 - (i) Section of the tower should be made from hallow, heavy duty, thick steel tubes, flanged steel tubes or low-alloy, high-strength steel.
 - (ii) Each shaft section should be a constant-tapered hallow steel section.
 - (iii) Slip joints should be designed with a minimum of 1.5 times the pole diameter at the splice
 - (iv) Pipe diameter should decrease from bottom to top
 - (v) Monopole are to be made from galvanised hollow steel pipes or high strength steel and designed for a variety of multi-user configurations and finishes to meet local aesthetic requirements.
 - (vi) For a slip jointed tower, the pipes shall be tapered to ensure that one pipe base fits into the top of another until the desired height is achieved. A joint in the arrangement should have an overlay between the two adjacent pipes. For a flange jointed tower, the pipes shall be tapered to ensure that one pipe base flange is bolted onto the top flange of another until the desired height is achieved.
 - (vii) The depth of the overlay, the base width and the number of pipes in a particular monopole shall be determined by expected height of a tower, the thickness of the pipe walls, the base diameter and whether the tower shall be guyed or not.

(2) Guyed Towers:

- (a) These are towers that are stabilized by tethered wires.
- (b) Guyed towers shall be designed and installed in the manner illustrated by the Ghana Civil Aviation guidelines and shall take cognizance of the following specifications and recommended practices:
 - (i) Guyed towers may be in lattice, triangular or square, tapered or straight, as well as monopole structural forms.
 - (ii) Guyed towers shall be supported and held in position by guy wires or ropes.
 - (iii) Mast Guy Ropes shall be made from pre-stretched steel only. For every tower, the specified minimum strength of the guy wire shall be the maximum tension likely to occur in the worst loading condition.
 - (iv) All sections must be straight square or triangular sections to eliminate potential problems associated with twisting or the need to shim the legs.

- (v) Typical tower section are to have brace configuration with horizontals (z, x or k) and pivot base sections. These tower- structures should be wholly of steel, modular and hot-dip galvanized.
- (vi) Guyed towers should have tube or solid legs with solid bracing which increases the tower rigidity to allow for the twist and sway.
- (vii) Guyed wires must not be over tightened in the installation of guy towers in order to avoid excessive tension which may cause alignment problems, cable rupture and permanent wrapping of tower structural parts.
- (viii) As a general rule, **guyed wires should be planted in three directions at 120 degrees apart from each other for 3-sided towers. For 4-sided towers, guy wires should be planted in four directions at 90 degrees apart from each other.**
- (ix) The choice of each guy earth screw anchor would be dependent on its holding power in the soil, which is a function of its diameter and length to be used to compute the minimum number of guys required.
- (x) The design, based on the load calculations would determine working load and the break strength required of the guyed wire and ultimately the choice of the size and grade of the wire.

(3) Roof Mounts:

- (a) Roof mounts are an inexpensive way of elevating signals above roof interference or any other obstruction.
- (b) The design and installation of roof mounts illustrated by GCAA shall take cognizance of the following specifications and recommended practice:
 - (i) Structural checks must be made to ascertain the capability of a chosen roof to withstand the additional loading being imposed on it by the structure and the entire antenna array it will support.
 - (ii) All Roof mounted towers must be certified by the building's structural engineer before installation.
 - (iii) **All Roof mounted towers must have a barrier erected around it. However, Monopoles can be mounted on roof tops without barriers erected around it.**
 - (iv) As a general rule, roof mounts should be limited to light weight structures of low heights and support minimal dead and dynamic loads.

(4) Self-Supporting Towers:

- (a) Self-Supporting towers are free-standing lattice structures.
- (b) The use of self-supporting towers with tapered sections, and face width that vary according to height and load capacity is recommended when land availability is limited provided that it is technically feasible to install them.
- (c) Self-supporting towers shall be designed and constructed as lattice structures in the manner illustrated by the Ghana Civil Aviation Authority and shall have the following features:

- (i) Triangular or square structure
- (ii) Tube legs, angle legs, lattice legs or solid round legs
- (iii) Sections in steel angle or steel or steel tubes
- (iv) Steel angle cross bracing.
- (v) Tapered sections; **However, for shorter towers on roof tops with small foot print, straight sections should be used to ensure rigidity at the top.**
- (vi) Face widths vary according to height and load capacity.
- (vii) Rest platforms provided every 20 metres of height
- (viii) Work platforms provided at all height where antennas are to be installed
- (ix) Fitted with climbing ladder

(5) General Mounts:

- (a) In constructing tower legs, schedule 80 pipes or angle steel should be used although hollow aluminium pips or angle may be used for towers below 10 meters.
- (b) When a tower is made from angle steel, sections should be joined to each other through appropriately sized flanges, bolts, washers and lock nuts
- (c) Lock nuts must be used, nuts on bolts may be clinched if lock nuts are not utilised.
- (d) Lock washers and lock nuts should be used on antenna support steel work and dish panning arm in order to avoid loss of signals.
- (e) Gussets should be used in the strengthening of the weld joint between the base plate and the tower section.
- (f) When a tower is made from angle steel, sections should be joined to each other through appropriately sized flanges, bolts, washers and lock nuts
- (g) Tower sections, when made from steel pipes, should be joined to each other through joint plates welded to the base of each section. The width of the tower section joint plates should be double the width of the wall of the pipe they are supporting.
- (h) There should be adequate application of bracing to prevent towers being exposed to torque that may result in loss of signal during strong wind speeds.
- (i) Each plate should have four (4) 20mm diameter holes to accommodate four (4) 18mm bolts, nuts and washers
- (j) When bolting sections together, bolts should be placed upside down with washers and nuts on topside of plates, the connecting face of plates should not be painted.

(6) Smart Solutions

- (a) Signposts with Antenna Installations: These are self-supporting structures generally used as billboards or advertising structures falling within the street furniture category. Signposts are typically 10 to 20 metres high with concealed macro antennas of 10dBi to 16dBi of antenna gain. Signposts are generally used as standalone macro cells for urban densification or as part of an outdoor distributed antenna system (ODAS).
- (b) Street Lamps: Telecommunications grade street lamps are another class of street furniture typically 4m to 12m in height used as street lights. Antenna gain is typically 11dBi or less depending on the antenna height and packing

(omnidirectional or directional). They are typically used as part of an outdoor distributed antenna system or a standalone microcell.

- (c) Wall Mounts: Wall mounts are a very useful telecom infrastructure solution that are diverse in their application and equipment type. Antenna types range from micro to macro RF antennas and are typically directional or panel antennas mounted on the walls of high-rise buildings.
- (d) Small Cell: Small cells are essentially physically small and low-powered radios that provide operators with a means to densify cellular network in order to add capacity. Small cell technologies include picocells, femtocells, metrocells, microcells and indoor/outdoor distributed antenna systems (IDAS and ODAS). Outdoor small cells typically use infrastructure types already defined above such as street lamps, sign posts and wall mounts

APPENDIX 6

Zoning and General Land Use

Type of Mast/Tower	Commercial			Industrial			Residential		
Ground Based Lattice	SB	H	LS	SB	H	LS	SB	H	LS
	10m	60m	10m x 10m	6m	100m	10m X10m	12m	35m	10mX10m
Ground Based Monopole	5m	40m	8mX8m	5m	40m	8mX8m	5m	40m	10X10m
Camouflaged	3m	40m	6mX6m	3m	40m	6mX6m	3m	40m	10mX10m
Lamppost/Bill Boards	0.5m	18m	1mX1m	0.5m	18m	1mX1m	0.5m	18m	1mX1m
Rooftop	<p>i. Roof mounts can be installed in the penetrating or non-penetrating modes and can be self-support or guyed. However non-penetrating roof mounts are most suitable for flat surfaces.</p> <p>ii. For rooftop tower, the minimum height for the active element from the ground level shall be 15metres (i.e. the height of the building and the roof mount)</p> <p>iii. Rooftop mast should be on a minimum of three-storey building or 10metres high structure. No setback requirement needs to be met if this condition is met in the case of the three-storey building.</p> <p>iv. The minimum setback requirement shall be measured from the base of the tower to the nearest adjoining structure (excluding boundary fence).</p>								

Type of Mast/Tower	Mixed Use			Civic and Cultural			Health Facility			Basic Schools		
Ground Based Lattice	SB	H	LS	SB	H	LS	SB	H	LS	SB	H	LS
	12m	60m	10mX10m	12m	35m	10mX10m	150m	35m	10mX10m	150m	35m	10mX10m
Ground Based Monopole	5m	40m	10m x 10m	5m	40m	10mX10m	150m	40m	12mX12m	150m	40m	12mX12m
Camouflaged	3m	40m	8mX8m	3m	40m	8mX8m	150m	40m	10mX10m	150m	40m	10mX10m
Lamppost/Bill Boards	0.5m	18m	1mX1m	0.5m	18m	1mX1m	0.5m	18m	1mX1m	0.5m	18m	1mX1m
Rooftop	<p>i. Roof mounts can be installed in the penetrating or non-penetrating modes and can be self-support or guyed. However non-penetrating roof mounts are most suitable for flat surfaces.</p> <p>ii. For rooftop tower, the minimum height for the active element from the ground level shall be 15metres (i.e. the height of the building and the roof mount)</p> <p>iii. Rooftop mast should be on a minimum of three-storey building or 10metres high structure. No setback requirement needs to be met if this condition is met in the case of the three-storey building.</p>											

	iv. The minimum setback requirement shall be measured from the base of the tower to the nearest adjoining structure (excluding boundary fence).
--	---

Note:

- **SB** means Set Back
- **H** means Height
- **LS** means Lands Size

Neighbourhood Requirement	
Zooning	Consultative Requirements
Residential	<ul style="list-style-type: none"> • Tower may be solar and/or generator powered. • Immediate neighbours within 50m radius shall be consulted individually. • Co-location must be the first option • For Group consultation one (1) week notice would be required.
Commercial	<ul style="list-style-type: none"> • Immediate neighbours within 100m (Residence where appropriate) radius should be consulted individually and group consultation for those within 200m radius
Industrial	<ul style="list-style-type: none"> • Immediate neighbours within 100m (Residence where appropriate) radius should be consulted individually
Civic & Cultural	<ul style="list-style-type: none"> • Immediate neighbours within 100m radius shall be consulted individually • Immediate neighbours within 150m radius shall be consulted individually
Educational	<ul style="list-style-type: none"> • Not allowed on school compounds (sites*) • At least 150m from the nearest classroom or dormitory Structure. • Consent from the school authorities
Health facilities	<ul style="list-style-type: none"> • Not allowed in clinic and poly clinic facilities (sites *) • At least 150m from the nearest ward and sensitive equipment facilities • Consent from the health authorities
Aviation facilities	<ul style="list-style-type: none"> • Not allowed* • Determined by GCAA
Mixed Use	<ul style="list-style-type: none"> • Immediate neighbours within 150m radius shall be consulted individually

APPENDIX 7

Health Protection-Requirements for Ambient Noise Control, GSS 1222: 2018

Classification

Classification of zones for ambient noise shall be as designated in the Table below:

ZONE	DESCRIPTION OF AREA
A	Residential areas
B	Educational (school) and health (health, clinic) facilities, office and law courts
C	Mixed used (Residential areas with some commercial or light industrial activities)
D	Areas with some light industry, places of entertainment or public assembly and places of worship
E	Commercial areas
F	Light industries areas
G	Heavy industrial areas

Requirements for Ambient Noise Control Level based on categorized zones

ZONE	PERMISSIBLE NOISE LEVEL IN dB(A)	
	DAY (6:00am – 10:00pm)	NIGHT (10:00pm – 6:00am)
A (Residential areas)	55	48
B (Educational and health facilities, office and law court)	55	50
C (Mixed used)	60	55
D (Areas with some light industry)	65	60
E (Commercial areas)	75	65
F (Light industrial areas)	70	60
G (Heavy industrial areas)	70	70

APPENDIX 8

FORM A- COMMUNICATIONS TOWER APPLICATION FORM

CONTACT INFORMATION

NAME:	<input type="text"/>
ADDRESS (LOCATION):	<input type="text"/>
ADDRESS (POSTAL):	<input type="text"/>
DIGITAL ADDRESS	<input type="text"/>
TELEPHONE/ FAX NO:	<input type="text"/>
EMAIL ADDRESS:	<input type="text"/>

CHECK LIST

- ☐ GCAA PERMIT
- ☐ RADIATION PROTECTION BOARD PERMIT
 - ☐ SITE PLAN
 - ☐ BLOCK PLAN
 - ☐ LEASE AGREEMENT
 - ☐ GPS CO-ORDINATES OF TOWERS
 - ☐ EVIDENCE OF CONSULTATIONS WITH NEIGHBOURS
 - ☐ SITE PHOTOGRAPHS

OTHER(S) _____

SIGNATURE

DATE

FORM B – COMMUNICATIONS TOWER APPLICATION FORM

CONTACT INFORMATION

NAME:	<input type="text"/>
ADDRESS (LOCATION):	<input type="text"/>
ADDRESS (POSTAL):	<input type="text"/>
DIGITAL ADDRESS	<input type="text"/>
TELEPHONE/FAX NO:	<input type="text"/>
EMAIL ADDRESS:	<input type="text"/>

COMPANY PROFILE

NAME OF COMPANY:	<input type="text"/>
DATE OF INCORPORATION:	<input type="text"/>
DATE OF COMMENCEMENT OF BUSINESS:	<input type="text"/>
ADDRESS (LOCATION):	<input type="text"/>
DIGITAL ADDRESS:	<input type="text"/>
ADDRESS (POSTAL):	<input type="text"/>
TELEPHONE/FAX:	<input type="text"/>
EMAIL ADDRESS:	<input type="text"/>

OFFICIAL USE ONLY

RECEIVING OFFICERS NAME:

SIGNATURE:

DATE RECEIVED:

FORM C – COMMUNICATIONS TOWER APPLICATION FEEDBACK FORM

TYPE OF APPLICATION:

DATE OF APPLICATION:

DATE STATUS DATE:

DATE:

OFFICER'S NAME:

SIGNATURE:

ADDRESSES:

FORM D –SITE INSPECTION FORM

DETAILS OF CONTRACTOR

Tower Name:

Site Name:

Site Number:

Type of Tower:

Locality:

Region:

SITE INFORMATION:

Coordinates: Latitude:

Longitude:

Structure: Height:

Type:

Face Width:

Panel Height:

Manufacturer:

Site Access:

INSPECTION DETAILS:

Inspected by:

Tower Company Representative:
.....

Municipal Representative:

.....
Date of Inspection:

Structure	<input type="checkbox"/>
Lighting	<input type="checkbox"/>
Painting	<input type="checkbox"/>
Generator	<input type="checkbox"/>
Soil	<input type="checkbox"/>

Other Observation:

.....

.....

.....

.....

.....

.....

.....
Inspector Signature

.....
Date

FORM E – COMMUNICATION TOWER CONSULTATION FORM

SITE INFORMATION

SITE NAME:

TOWER OWNER:

DISTRICT/ MUNICIPALITY:

TYPE: ☐ GROUND ☐ ROOF MOUNT

EMAIL ADDRESS:

DIGITAL ADDRESS:

COMPANY/INIVIDUAL/GROUP CONSULTED

NAME:

ADDRESS/HOUSE NO:

PHONE:

EMAIL ADDRESS:

OWNERSHIP: ☐ LANDLORD ☐ TENANT

NO OF RESIDENTS:

COMMENTS

SIGNATURE_____

DATE_____

APPENDIX 9

PERMIT APPLICANT INSURANCE DETAILS SHEET (PAIDS)

Applicant Site Reference Details	
Site Id: Ghana Post GPS:	
Site Name:	
Locality Name District: Electoral Area: Town/Community:	
MMDA Name:	

Applicant Insurance Information		
Applicant has insurance cover for the above-mentioned site?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
If "YES": Please indicate the name of the Insurance Company & Address:		
Insurance Holder Name		
Insurance Policy Value		
Insurance Policy Number		
Insurance Holder Contact Details		
Policy Cover Type:		
Name of Insurer		
Address/Contact Details of Insurer		

Certification: I/We certify that the information provided above is true and correct as of the date set forth under my/our signature(s)

Applicants Full Name:	
Title/Position	
Signature:	
Date:	

Note: Head of Legal Directorate or approved designate to Certify

Relevant copies of the portion of the Policy Document (value/nature) should be attached