Unofficial translation

LAO PEOPLE'S DEMOCRATIC REPUBLIC
PEACE INDEPENDENCE DEMOCRACY UNITY PROSPERITY

Ministry of Post and Telecommunications **No. 208/MPT**
Vientiane Capital, dated 5 February 2016

Decision
on
The Safety of Frequency Propagation

- Pursuant to the Law on Telecommunications (amended) No. 09/NA, dated 21 December 2011;
- Pursuant to the Prime Minister's Decree on the Organization and Operation of the Ministry of Post and Telecommunications No. 303/PM, dated 26 September 2011;
- Pursuant to research jointly conducted by the United Nations Environment Program, the International Radiation Protection Association, and the World Health Organization, No. 137, 1993; and
- Pursuant to an agreement made by the Leads of the Ministry of Post and Telecommunications;

The Minister hereby issues a Decree:

Chapter 1
General Provisions

Article 1 Objective

This Decision defines the principles, regulations, and standards relating to the administration, monitoring, and inspection of the safety of frequency propagation to ensure that such work is effective and efficient, aiming to ensure the safety of people and contribute to socio-economic development.

Article 2 Safety of Frequency Propagation

The safety of frequency propagation is determined by electric field strength (E), magnetic field strength (H), power density (S), and the specific absorption rate (SAR) of the frequency propagation that does not affect human health.

Article 3 Definitions

Frequency Propagation means electromagnetic transmissions from the antenna of a signal transmitter in the form of radio frequencies;

Electric Field Strength (E) means the strength of the positive electric charge at any point in the electric field as measured in volts per meter (V/m);

Magnetic Field Strength (H) means a vector size which represents a magnetic field quantity at any point as measured in amperes per meter (A/m);

Power Density (S) means the power per surface area in the direction of the frequency propagation as measured in watts per square meter (W/m^2);

Specific Absorption Rate (SAR) means the rate at which the human body absorbs frequency energy as measured in watts per kilogram (W/Kg).

Article 4 Scope of Application

This Decision is applicable to both domestic and foreign individuals, legal entities, and organizations intending to propagate frequencies in the Lao PDR.

Chapter 2
Determination of Safety Zone and Process for Issuing Licenses to Certify Safety of Frequency Propagation

Article 5 Determination of Safety Zones

A safety zone can be determined by the following formula:

$$D = \sqrt{\frac{Pe.i.r.p}{4\pi.S}}(m)$$

D is the safe distance from the point of the frequency propagation as measured in meters (m);
P_{eirp} is the strength of the frequency propagation as measured in watts (W);
S is the power density as measured in watts per square meter (W/m^2);
π here is equal to 3.14.

Article 6 Process for Issuing Licenses to Certify Safety of Frequency Propagation.

Domestic and foreign individuals, legal entities, and organizations intending to propagate frequencies shall submit a request to the Ministry of Post and Telecommunications and shall cooperate with the Department of Telecommunications to survey installation locations and to measure the parameters of frequency propagation.

The Ministry of Post and Telecommunications shall consider the request and issue a license to the requester within 30 business days from the date the request is received, subject to the accuracy and full completion of documents and conditions stipulated in Article 8.

Chapter 3
Safety Standards of Frequency Propagation

Article 7 Specific Absorption Rate of Frequency Propagation with an Energy Rate that Affects the Human Body

The Specific Absorption Rate of a frequency propagation with an energy rate that affects the human body shall be:

- Less than 0.4 watt/kilogram for groups of people who are impacted by electromagnetic frequency from the installation.
- Less than 0.08 watt/kilogram for the general public who are impacted by general electromagnetic frequencies.

Article 8 Limits of Electric Field Strength, Magnetic Field Strength, and Power Density of Frequency Propagation

For groups of people who are impacted by the installation, the absorption parameters shall be less than the limits set below:

Frequency Band f	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (W/m^2)
8.3 KHz-1 MHz	614	$1.6/f$	-
1-10 MHz	$614/f$	$1.6/f$	-
10-400 MHz	61	0.16	10
400-2.000 MHz	$3f^{1/2}$	$0.008f^{1/2}$	f/40
2-300 GHz	137	0.36	50

For the general public, the absorption parameters shall be less than the limits set below:

Frequency Band f	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (W/m^2)
8.3 KHz-1 MHz	87	$0.23/f^{1/2}$	-
1-10 MHz	$87/f^{1/2}$	$0.23/f^{1/2}$	-
10-400 MHz	27.5	0.73	2
400-2.000 MHz	$1.375f^{1/2}$	$0.0037f^{1/2}$	f/200
2-300 GHz	61	0.61	10

Chapter 4
Inspection and Certification of Safety

Article 9 Inspection of Safety

The Department of Telecommunications shall inspect the safety of frequency propagation as follows:

1. Inspection after the installation of frequency propagation equipment and before broadcasting;
2. Inspection of technical standards, safety standards, and installation of telecommunications networks;

3. Inspection of technical standards in accordance with the technologies of specific equipment.

Article 10 Certification and Endorsement

The Department of Telecommunications of the Ministry of Post and Telecommunications shall certify and endorse the safety standards of frequency propagation installed in the territory of the Lao PDR in accordance with international standards.

Article 11 Inspection and Measurement of Frequency Propagation

The Department of Telecommunications of the Ministry of Post and Telecommunications shall inspect and measure Electric Field Strength and Magnetic Field Strength as outlined in Article 7 and Article 8 of this Decision.

Article 12 Measures against Violators

Telecommunications service providers violating an Article of this Decision for the first time will be warned, have the incident recorded in the file, and educated. For subsequent times, they will be fined as following:

1. For the second time: 1,000,000 Kip per tower per time;
2. For the third time: 3,000,000 Kip per tower per time;
3. For the fourth time: 5,000,000 Kip per tower per time.

The fines are to be transferred to the National Budget in accordance with regulations.

Chapter 5
Final Provisions

Article 13 Implementation

The Department of Telecommunications of the Ministry of Post and Telecommunications, in collaboration with other relevant stakeholders, is to implement this Decision.

Article 14 Effectiveness

This Decision is effective after 30 days from the date of signature and fifteen days after posting on the Lao Official Gazette.

Minister

[Signature and seal]

Hiem PHOMMACHANH