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PART II

Statutory Notifications (S. R. O.)

GOVERNMENT OF PAKISTAN

PAKISTAN TELECOMMUNICATION AUTHORITY

NOTIFICATION

Islamabad, the 2nd January, 2009

S. R. O. 43 (I)/2009.—Pursuant to the policy guidelines *vide* No. 2-30/2003-DT dated 2nd April, 2007 issued by the Government of Pakistan *i.e.* Ministry of Information Technology (IT & Telecom Division) on mitigating the environmental and health related effects of the cellular base station antennas, the Pakistan Telecommunication Authority under section 5 sub-section (2) clause (o) of the Pakistan Telecommunication (Re-organization) Act, 1996 (XVII of 1996) is pleased to make the following regulations:

PART-I
Preliminary

1. **Short title, commencement and applicability.**—(1) These Regulations shall be called “Protection from Health Related Effects of Radio Base Station Antennas Regulations, 2008”.

(71)

- (2) These regulations shall come into force from the date of gazette notification.
- (3) These regulations shall apply to all terrestrial wireless (cellular mobile and wireless local loop) operators.

2. **Definitions.**—(1) In these regulations, unless there is anything repugnant in the subject or context:

- (a) **“Act”** means the Pakistan Telecommunication (Re-organization) Act, 1996 (XVII of 1996);
- (b) **“Authority”** means the Pakistan Telecommunication Authority established under section 3 of the Act;
- (c) **“Antenna”**- means the surface that emits electromagnetic radiations;
- (d) **“Certificate”** means a certificate submitted by an operator to the Authority verifying that the antenna conforms with the ICNIRP guidelines and Authority directions;
- (e) **“ICNIRP”** means the International Commission on Non-Ionizing Radiation Protection;
- (f) **“ICNIRP guidelines”** means the guidelines issued by International Commission on Non-Ionizing Radiation Protection in 1998 and amendments made thereof;
- (g) **“Operator”** means a cellular mobile or wireless local loop operator;
- (h) **“Radio Base Station”** means a land station in the land mobile service with one or more transmitters or receivers or a combination of transmitters and receivers, including the accessory equipment, necessary at one location for carrying on a radio communication service;
- (i) **“Rules”** means all or any rules issued by the Federal Government under section 57 of the Act;
- (j) **“Work Practice Manual”** means guidelines which shall be prepared by each operator for the safety of all those individuals working on the Antenna Site; and

(k) **“Work Practice Template”** means a template displayed by an operator in close proximity of the Antenna including all the necessary guidelines/steps to be taken by workers on the site.

(2) Words and expressions used but not defined herein shall bear the meaning given thereto in the Act or the Rules.

3. **Scope.**—The scope of these regulations is to establish the ICNIRP’s guidelines of 1998 as national standards for protecting public at large from health related effects of radio base station antennas and ensure the compliance with the preventive measures given in these regulations while installing and operating the radio base station antennas for provision of telecommunication services.

PART II

Compliance Procedure

4. **Compliance Certificate.**—(1) All operators shall submit a compliance antenna installation certificate alongwith supporting information as specified in regulation 6 of these regulations to the Authority in the prescribed form annexed to these regulations as Annex-A.

(2) All operators shall submit within three months from the date of gazette notification of these regulations, a fresh compliance certificate to the Authority in accordance with sub-regulation (1).

5. **Antenna Installation Standards.**—All antennas installed by the operators shall conform to the standards as laid down in ICNIRP’s guidelines of 1998 as may be available on the PTA website www.pta.gov.pk for public and professional exposure to radiation which shall be considered as national standards for Pakistan.

6. **Supporting Information.**—The supporting information shall be attached to the compliance certificate in the prescribed format attached to these regulations as annex A-1.

PART III

Requirements for installation of antennas

7. **Antenna installation requirements.**—(1) All operators shall ensure that the information listed below is complete in all respects:

(i) The hazard light on top of structure/tower for the safety of aviation should be installed with the following features:

- (a) red color;
 - (b) visible at aerial distance of at least three (3) Kilo meters;
 - (c) omni directional; and
 - (d) blinking of light during day shall be at the rate of four (4) seconds on time and two (2) seconds off time while in night the light should be kept on continuously.
- (ii) The tower should have two colors namely red and white.
- (iii) Information about the site shall be made known by putting a plate in red color on the structure/tower. The following information shall be engraved on plate:
- (a) company name;
 - (b) site ID (assigned by company);
 - (c) height of tower (tallest mechanical structure at the site; from base of the structure and not just the tower);
 - (d) date of Installation;
 - (e) emergency contact number (24x7); and
 - (f) Contact No. of PTA.
 - (g) Contact No. of nearest fire brigade
 - (h) warning to keep the passerby or someone living in the vicinity away from the site as its prolonged exposure can be hazardous and injurious to health.
- (iv) The plate, mentioned in sub-regulation (1) of regulation 7 of these regulations, shall be:
- (a) installed at height of five (5) feet from base of tower;
 - (b) made of stainless steel material or an alloy of good quality and strength;
 - (c) weather resistant;
 - (d) 1' x 1' (ft) in dimensions; and
 - (e) firmly fixed with at least one leg.

PART IV**Antenna installation and safety procedures**

8. **Antenna installation and operation directions.**—(1) Roof-mounted antennas shall be elevated at least of twenty five feet (25ft) above the height of people who may have to be on the roof top.

(2) Radiating surface of all roof-mounted antennas shall be kept twenty five feet (25ft) away from the public places including roof access points, telephone service points etc.

(3) All roof-mounted directional antennas shall be placed near the roof periphery and be pointed away from the building.

(4) The large aperture antennas (lower maximum radiofrequency) and small aperture antennas (lower visual impact) shall be considered especially for installations on building roofs.

(5) Precautions should be taken when designing co-location sites, where multiple antennas owned by different operators are on the same structure, particularly those sites that include high-power broadcast (FM/TV) antennas.

9. **Work practices standards.**— (1) All operators within thirty days from the date of gazette notification of these regulations shall develop and submit to the Authority a work practice manual to be displayed on the antenna sites for information.

(2) Individuals working at antenna sites shall be trained and informed about the presence of RF energy, the potential for exposure and the steps that shall be taken to reduce their exposure.

(3) Each exposed worker shall be asked to sign a document provided by the operator (not its contractor or sub-contractor) which clearly identifies the possible hazards and safety precautions to be taken.

(4) In case where the radio frequency radiation at a site exceeds the national standard for general public/uncontrolled exposures, the site shall be posted with appropriate signs of warning and a statement that it has been cleared by the Authority.

(5) In case where the situation specified in sub-regulation (4) of regulation 9 of these regulations arises, which shall only be in exceptional circumstances, the complete plan with supporting information shall be submitted to the Authority prior to the increase in energy levels, regarding the time, technical specifications, and justification for such increase.

(6) All antennas shall be presumed to remain active at all times.

(7) All operators shall take necessary preventive measures and safety precautions for the protection of their workers including the following: —

- i. a minimum distance of ten feet (10) between the antenna and their workers; and
- ii. a facility to power down (or shut down) the transmitters in the areas which exceed the guidelines for controlled (occupational) exposures.

(8) All Operators shall ensure wearing of a protective gear kit by their workers and that the workers are appropriately communicated to keep moving when working in close proximity of the site.

10. **Inspection.** —(1) The Authority may if it considers necessary and to ensure compliance of these regulations, through an authorized officer inspect the antennas and records maintained by the operator.

(2) The concerned operator shall provide all the information and shall extend all possible assistance to the authorized officer or representative of the Authority to inspect the antenna site(s).

11. **Amendment.**—The Authority may add to or amend these regulations as and when it deems appropriate.

Annex-A

Compliance Certificate (under regulation 4 of these regulations)

Certified that radio network (BTS Antennas) installed by our company in Pakistan are complying with standards/guidelines set by International Commission on Non-Ionizing Radiation Protection (ICNIRP) for radiation hazards (adopted as National Standard by Government of Pakistan).

2. The network already deployed has been audited by us carefully and it is declared/confirmed that power density values at public level in tower's proximity are well within the safe limits as below:

Power Density Public Exposure Limits

For 900 MHz public exposure = < 0.57 mw / cm²

For 1800 MHz public exposure = < 1.2 mw / cm²

3. We further undertake that the Network planned for future installations will be in accordance to the said standards. In case of any deviation found by the Authority on existing sites to date, the same will be modified / removed to bring it within the policy guidelines as prescribed above and incase of non-compliance it may be considered as sheer negligence on our part, subject to the penalties imposed by the Authority at the time of the findings.

Date:

Signature
(Name and Seal of company)

Annex A-1
Regulation 6 of these regulations

SUPPORTING INFORMATION

Supporting information shall be provided in the following format

Data List

BTS Site/Site A										
Site ID	Site Address	Longitude	Latitude	City	Distt	Province	Tower Height AGL+ AMSL (M)	Frequency (s)	Back-Haul	Tx Power (for each band; for Each Antenna; stating directional or omni)
Opposite Microwave Site/Site B							Site Status			
Address	Longitude	Latitude	Hope Distance	Tower Height/ AGL+AMSL (M)	Forwarded To PTA	Current Status	Date of Approval			

[58/Regs/PTA/07/528.]

ERUM LATIF,
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