

Amended Annexure G (Network Rollout and Coverage Obligations)

of

**Ooredoo Q.P.S.C. “License for the Provision of Public Mobile
Telecommunications Networks and Services – issued on 07
October 2007 (ICTRA 08/07A)”**

and

**Vodafone Qatar Q.P.S.C. “License for the Provision of Public
Mobile Telecommunications Networks and Services – issued on 29
June 2008 (ICTRA 04/08) and amended on 26 February 2009 (ICTRA
03/09)”**

December 2018



ANNEXURE G - NETWORK ROLL-OUT AND COVERAGE OBLIGATIONS

1. Throughout the term of this License, the Licensee shall comply with the following:
 - (a) The Continuing Coverage Obligations and Completion Deadlines in Table 1 “Continuing Coverage Obligations and Completion Deadlines for Radio Access Technologies already offered to the public” below;
 - (b) The Rollout Obligation and Completion Deadline in Table 2 “Rollout Obligation and Completion Deadline for IMT 2020” below; and
 - (c) The other provisions of this Annexure G.
2. Regarding the Radio Access Technologies which are already offered to the public, the following Coverage Obligations and Completion Deadlines shall apply:

| Radio Access Technology | Continuing Coverage Obligations | Completion Deadlines | Minimum Signal Strength |
|-------------------------|---|----------------------|--|
| 2G | >= 99.8% of Qatar Territory. This Coverage Obligation will be revised upon renewal of the Assigned Radio Spectrum | (already certified) | -100 dBm at >= 95% of any outdoor area of 100m x 100m at a height of 1.5m above ground level |
| IMT 2000 | | | |
| IMT Advanced | >= 98.0% of Qatar Territory | December 31, 2020 | |

Table 1 Continuing Coverage Obligations and Completion Deadlines for Radio Access Technologies already offered to the public

Note: For the purpose of this Annexure G only, Qatar Territory refers to the primary landmass of the State of Qatar. For the avoidance of doubt, this does not include Qatar territorial waters or offshore islands.

3. Regarding IMT 2020:
 - 3.1 The following Rollout Obligation and Completion Deadline for IMT 2020 shall apply:

| Radio Access Technology | Rollout Obligation (minimum) | Completion Deadline |
|-------------------------|---|---------------------|
| IMT 2020 | >= 40% of active IMT Advanced Stations ¹ (on the Completion Deadline) including all FIFA 2022 World Cup stadiums | December 31, 2020 |

Table 2 Rollout Obligation and Completion Deadline for IMT 2020

- 3.2 The Coverage Obligations and associated QoS requirements for IMT Advanced and IMT 2020 will be set by the CRA no later than April 2021 to ensure the availability of the technology within the Qatar Territory. Targets will be consulted upon with the Licensee and have the overarching goals to ensure the availability of IMT 2020 in all densely populated areas, all primary roads, highways and all venues associated with FIFA 2022 World Cup including stadiums and fan zones.

¹ As defined in the Radio Spectrum License



4. Coverage and Rollout Obligations shall be re-assessed on a regular basis by the CRA, and not less than every five (5) years, in order to adapt these obligations to the evolution of technologies and to the services offered to the public.
5. For IMT Advanced and IMT 2020, the Licensee shall certify to the CRA, no later than one (1) month following each Completion Deadline prescribed for each relevant Coverage and Rollout Obligation, that the relevant Obligations have been met in full.
6. The assessment for the Coverage Obligation shall be based on the results of drive and/or walk tests (“Tests”) for every accessible 100m x 100m surface area as follows:
 - (i) Test routes, including the relevant procedures, methodology and tools shall be determined by the CRA in consultation with the Licensee from time to time.
 - (ii) Test plots shall be reported separately for each Radio Access Technology based on the above Table 3 “Thematic Legend”.
 - (iii) Measurements shall be carried out at a height of about 1.5m above ground level outdoors.
 - (iv) When multiple measurements are taken in a single square, the maximum value of these measurements shall be taken into consideration for the purpose of the achievement of the target.
 - (v) The assessment whether the target has been met requires post-processing of the raw samples from the Tests. This shall be done with a two dimensional sliding window analysis taking into account the geographical properties of the test data and their resolution.
 - (vi) All log files (pre and post-processing) of the Tests shall be provided to the CRA along with the report for verification.

7. The Licensee shall support its certification with:

7.1 Coverage maps showing for each active Stations, the Radio access Technology, the coverage areas and the Reference Signals Received Power (“RSRP”) based on recognized software tools and appropriate propagation patterns.

- (a) The coverage maps shall be provided in a resolution of at least 100m x 100m for the landmass of Qatar. The thematic legend, as set forth in Table 3 below “Thematic Legend” should be followed to plot the signal strength:

| RSRP for IMT Advanced | Range Color |
|-----------------------|-------------|
| Above -100 dBm | Green |
| -100 dBm to -110 dBm | Yellow |
| below -110 dBm | Red |

Table 3 Thematic Legend

- (b) The coverage maps shall be supported with, at the minimum, the following information:

- (i) The statistics and calculations of the proportion of Stations per technology in each municipality and zone.
- (ii) The number of active Stations in the network per technology at the time of completion of the deadline.



(c) The coverage percentage of Qatar Territory shall be calculated as follows:

$$\text{Coverage (\%)} = \frac{\text{Number of 100m x 100m squares meeting at least } -100 \text{ dBm}}{\text{Total number of 100mX100m squares sampled}} * 100$$

(d) The percentage of IMT 2020 Stations in the network shall be calculated as follows:

$$\text{IMT 2020 Stations (\%)} = \frac{\text{Number of Stations enabled with IMT 2020 technology}}{\text{Total number of IMT Advanced Stations}} * 100$$

- 7.2 The list of Stations for which IMT 2020 is available.
- 7.3 An independent certification by an internationally recognized body that the Coverage Obligations have been met. This body should be chosen and paid for by the Licensee based upon its independence, resource availability and experience in such a way as to ensure the certification is completed to a high-level of quality.
- 7.4 A sworn authentication of the certificate signed by the CEO of the Licensee.
8. In the event that the Licensee fails to comply with the Rollout and Coverage Obligations for a given Radio Access Technology, it shall use all reasonable efforts to fulfil the obligation without further delay. For the avoidance of doubt, the Licensee will be considered relieved of the Coverage Obligation associated with a Radio Access Technology planned to be phased out as long as another Radio Access Technology deployed meets the Continuing Coverage Obligation and provides Public Mobile Telecommunications Services with similar or improved quality of service/performance.
9. The CRA may, in its sole discretion, undertake an independent audit of the Licensee's performance with regards to its compliance with the Coverage and Rollout Obligation at any time. The Licensee shall cooperate fully with the CRA or any third party experts that the CRA may commission to undertake such an audit.

