

Three Ireland (Hutchison) Limited's request for an amendment to its 2100 MHz licences

Information Notice

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1 Background

- 1. On 1 October 2013, Hutchison 3G UK Holdings Limited ("Hutchison") notified the European Commission ("EC") pursuant to Article 4 of Council Regulation (EC) No 139/2004 of 20 January 2004 on the control of concentrations between undertakings ("the EU Merger Regulation"), of the (then proposed) acquisition by Hutchison of Telefónica Ireland Limited (the "Proposed Acquisition"). The EC then commenced an investigation into the Proposed Acquisition and ComReg extensively engaged with the EC in relation to its investigation.¹
- 2. On 28 May 2014, the EC announced that it had decided to conditionally approve the Proposed Acquisition on the basis of the commitments entered into by Hutchison and Hutchison's Irish subsidiary, Hutchison 3G Ireland Holdings Limited, in response to the competition concerns identified by the EC ("the Commitments").² At the time, Hutchison operated in Ireland by way of Hutchison 3G Ireland Limited trading under the brand name "3" ("H3GI").

² In summary Hutchison committed to:

- offering to Eircom Limited ("Eircom") to continue the existing network share agreement (between Meteor Mobile Communications Limited ("Meteor") and Telefónica Ireland Limited) on improved terms;
- providing wholesale access to Three's network to two mobile virtual network operators (MVNOs) on the basis of "capacity agreements" in return for fixed payments; and
- offering to one of the two MVNOs (but not both) the option to acquire certain spectrum rights of
 use to enable one or the other to become a mobile network operator (MNO). These spectrum
 rights are:
 - o 2 x 5 MHz of 900 MHz spectrum in Time Slice 2 (13 July 2015 to 12 July 2030);
 - o 2 x 10 MHz of 1800 MHz spectrum in Time Slice 2 (13 July 2015 to 12 July 2030); and
 - 2 x 10 MHz of 2100 MHz spectrum for the remainder of the licence period until 24 July 2022.

The option will be available for 10 years starting from 1 January 2016.

Commitments available at:

http://ec.europa.eu/competition/mergers/cases/additional_data/m6992_4894_3.pdf

¹ Case M.6992 <u>http://ec.europa.eu/competition/elojade/isef/case_details.cfm?proc_code=2_M_6992</u>

- 3. The Proposed Acquisition was completed in July 2014 and H3GI subsequently changed its name to Three Ireland (Hutchison) Limited ("3IHL") and Telefónica Ireland Limited subsequently changed its name to Three Ireland Services (Hutchison) Limited ("3ISHL").
- 4. In July 2015 and following a request by 3IHL, ComReg changed the licensee name of the three licences held by 3ISHL to 3IHL.³
- Accordingly, 3IHL holds two licences granted under the Wireless Telegraphy (Third Generation and GSM Licence) Regulations, 2002 and 2003 (together the "3G Licensing Regulations") for spectrum rights in the 2100MHz band where, amongst other things:⁴
 - 3IHL's 2100 MHz licence expiring on 24 July 2022 consists of 15 MHz of Frequency Division Duplex ("FDD") spectrum (1920 - 1935 MHz (mobile transmit) paired with 2110 – 2125 MHz (base station transmit)) and contains, amongst other things, a coverage obligation of 85% outdoor demographic coverage; and
 - 3IHL's 2100 MHz licence expiring on 1 October 2022 consists of 15 MHz of FDD spectrum (1965 1980 MHz (mobile transmit) paired with 2155 2170 MHz (base station transmit)) and 5 MHz of Time Division Duplex ("TDD") spectrum (1910 1915 MHz), and contains, amongst other things, a coverage obligation of 90.2% outdoor demographic coverage.⁵
- These licences are referred to by 3IHL in its amendment request as the "A Licence" and "B Licence"⁶ respectively. In this document ComReg refers to these licences by the same definitions.
- There are 2 other holders of licences for spectrum rights in the 2100 MHz band; Vodafone Ireland Limited ("Vodafone") and Meteor Mobile Communications Limited, each of which hold rights to 15 MHz of paired FDD spectrum. See Diagram 1 on page 9.

³ In July 2015 3IHL renamed the Liberalised Use, Third Generation and 26 GHz National Block licences from 3ISHL to 3IHL.

⁴ See <u>http://www.comreg.ie/radio_spectrum/search.541.874.10003.0.rslicensing.html</u> and <u>http://www.comreg.ie/radio_spectrum/search.541.874.10031.0.rslicensing.html</u>

⁵ See ComReg Document 07/108.

⁶ http://www.comreg.ie/_fileupload/publications/odtr0196.pdf

2 3IHL's licence amendment requests

8. Details of 3IHL's licence amendment requests are set out in its letter of 5 October 2015 (the "Requested Amendments"), a non-confidential version of which is contained in **Annex 1** to this document.

2.1 Context of the Requested Amendments

- 9. 3IHL submits that, following the acquisition and ComReg's multi-band spectrum award in 2012, it is currently in the process of a major network refresh and subsequent roll-out programme which will entail the replacement of legacy GSM and 3G Radio Access Networks ("RAN"s) with a single integrated solution across all of its Liberalised Use and 3G spectrum holdings.⁷
- 10. 3IHL further submits that this programme consists of:
 - the continuing roll-out of LTE/4G technology, to provide fast data service to the retail customers of both Three and its MVNOs⁸,;
 - optimising the provision of voice and data services using different technologies and frequency bands;
 - enhancing 3G coverage by increased RAN density with more sites⁹ in the 2100 MHz band, and further rollout of 3G on the 900 MHz band; and
 - providing improved service to all users for both voice and data and in particular, bringing an improvement in the 3G service to rural and western areas.¹⁰
- 11. In respect of the 2100 MHz band, 3IHL submits:

⁷ This is assumed to mean the spectrum holdings of Three. See <u>http://www.comreg.ie/radio_spectrum/search.541.874.10031.0.rslicensing.html</u> and <u>http://www.comreg.ie/radio_spectrum/search.541.874.10003.0.rslicensing.html</u> for details of spectrum holdings.

⁸ The MVNOs (ID Mobile and Virgin Mobile) relate to the Commitments given to the EU as part of the merger process.

⁹ Combining the base station locations from both legacy networks of 3ISHL **[confidential]** and 3IHL **[confidential]**, noting that some of which would be shared sites. Following the RAN refresh, three's intention is that a new joint RAN will operate from **[confidential]** sites.

¹⁰ 3IHL further state that following this programme and by Q1/2017, population coverage will be: for 2G service at **[confidential]**, for 3G services **as [confidential]** and for 4G services at **[confidential]**.

- when the RAN refresh programme is completed, it proposes to generally use spectrum blocks 1, 2 and 3 (as shown in Figure 1 below) for coverage and blocks 10, 11 and 12 for capacity. Furthermore, 3IHL's intent is that the population coverage provided using the spectrum rights of use under both the A and B licences will exceed the higher coverage obligation of the B licence¹¹;
- in designing the process for the on-site replacement of the 2100 MHz RAN, an issue arises because the spectrum rights operated by 3IHL are not contiguous, but at opposite ends of the band;
- the span in total for both assignments is 60 MHz and the radio base station equipment currently being supplied to 3IHL does not have the capability to span this bandwidth in a single RBS;
- Without the requested amendments, 3IHL would need to install (or maintain) two 2100 MHz radio base station (RBS) equipment on each 3G coverage site, including those where this is not required for capacity and this could:
 - require additional investment which would not be required for any other reason, and as such would be an inefficient investment; and
 - cause specific technical inefficiencies on certain sites, where additional active and passive equipment would need to be provided and combined into antennas, which would reduce the site effectiveness in certain circumstances.

2.2 Specifics of the Request

12. In light of the above factors, 3IHL requests that ComReg modify each of the A Licence and B Licence so as to "interchange block 2 for block 11", which would allow coverage to be provided for both licences using blocks 1, 2 and 3 from a single RBS on any site.

not all sites will be used both coverage and capacity blocks in the 2100 MHz band, noting that 3G service will be provided on 900 MHz and that LTE/4G and GSM service is also being provided.

¹¹ 3IHL notes that:

[•] the decision regarding which technology, which band, and how many channels should be deployed at each location needs to be determined on a site-by-site basis and is determined by a combination of customer demand, overall network requirements, and local site considerations;

13. The Requested Amendments to each licence are illustrated in Diagram 1 below.

Three 'A' Licence		Meteor Licence		Vodafone Licence		Three 'B' Licence	
Block 1	1920 – 1925 MHz / 2110 – 2115 MHz	Block 4	1935 – 1940 MHz / 2125 – 2130 MHz	Block 7	1950 – 1955 MHz / 2140 – 2145 MHz	Block 10	1965 – 1970 MHz / 2155 – 2160 MHz
Block 2	1925 – 1930 MHz / 2115 – 2120 MHz	Block 5	1940 – 1945 MHz / 2130 – 2135 MHz	Block 8	1955 – 1960 MHz / 2145 – 2150 MHz	Block 11	1970 – 1975 MHz / 2160 – 2165 MHz
Block 3	1930 – 1935 MHz / 2120 – 2125 MHz	Block 6	1945 – 1950 MHz / 2135 – 2140 MHz	Block 9	1960 – 1965 MHz / 2150 – 2155 MHz	Block 12	1975 – 1980 MHz / 2165 – 2170 MHz

Existing FDD 3G Spectrum Assignments

Three 'A' Licence		Meteor Licence		Vodafone Licence		Three 'B' Licence	
Block 1	1920 – 1925 MHz / 2110 – 2115 MHz	Block 4	1935 – 1940 MHz / 2125 – 2130 MHz	Block 7	1950 – 1955 MHz / 2140 – 2145 MHz	Block 10	1965 – 1970 MHz / 2155 – 2160 MHz
Block 11	1970 – 1975 MHz / 2160 – 2165 MHz	Block 5	1940 – 1945 MHz / 2130 – 2135 MHz	Block 8	1955 – 1960 MHz / 2145 – 2150 MHz	Block 2	1925 – 1930 MHz / 2115 – 2120 MHz
Block 3	1930 – 1935 MHz / 2120 – 2125 MHz	Block 6	1945 – 1950 MHz / 2135 – 2140 MHz	Block 9	1960 – 1965 MHz / 2150 – 2155 MHz	Block 12	1975 – 1980 MHz / 2165 – 2170 MHz

Proposed Revised FDD 3G Spectrum Assignments

Figure 1: 3IHL's current and requested 2100 MHz FDD spectrum assignments

14. 3IHL also submits that all other aspects of the licences, including all obligations and commitments would remain unchanged.¹²

2.3 Other matters raised by 3IHL in support of the Requested Amendments

15. 3IHL further submits that:

¹² 3G licence conditions can be viewed at <u>http://www.comreg.ie/radio_spectrum/search.541.874.10003.0.rslicensing.html</u>

- as the blocks the subject of the Requested Amendments are the centre blocks of A Licence and B Licence, the interchange of these blocks will not have any impact on, or have a risk of interference to other licensees;
- it commits to meeting all licence commitments in the A and B Licences unaffected by the proposed swap of frequency;
- each of 3IHL's respective licences retains the same amount of spectrum assigned; and
- the interchange would not impact 3HIL meeting its commitments to and requirements of the EC under the terms of the approval of the acquisition.

3 ComReg's assessment

3.1 Background - statutory framework

- By way of background to the relevant statutory framework informing ComReg's consideration of 3IHL's licence amendment requests, readers are referred to the recent summary of same published by ComReg in Annex 2 of Document 15/140.
- 17. In this regard, ComReg would highlight:
 - its function of the management of the radio frequency spectrum (section 10 of the Communications Regulation Act, 2002 (as amended) ("2002 Act"));
 - its objectives as set out in section 12 of the 2002 Act and Regulation 16(1) of the of the European Communities (Electronic Communications Networks and Services) (Framework) Regulations 2011 ("Framework Regulations") including:
 - to promote competition¹³; and
 - to ensure the efficient management and use of the radio frequency spectrum in accordance with Ministerial Policy Directions issued under section 13 of the 2002 Act;
 - the regulatory principles which it is obliged to apply in pursuit of the objectives set out in Regulation 16(2) of the Framework Regulations, including:
 - ensuring that, in similar circumstances, there is no discrimination in the treatment of undertakings providing electronic communications networks ("ECN") and services ("ECS);
 - safeguarding competition to the benefit of consumers and promoting, where appropriate, infrastructure based competition;

¹³ Including by way of: ensuring that users, including disabled users, derive maximum benefits in terms of choice, price and quality; ensuring that there is no distortion or restriction of competition in the electronic communications sector; and encouraging efficient use and ensuring the effective management of radio frequencies

- promoting efficient investment and innovation in new and enhanced infrastructures;
- its obligation to ensure that radio frequencies are efficiently and effectively used having regard to section 12(2)(a) of the 2002 Act and Regulations 16(1) and 17(1) of the Framework Regulations (see also Regulation 17(1) of the Framework Regulations);
- its obligation to ensure that, in carrying out its functions, measures taken by it are proportionate having regard to its objectives set out in section 12 of the 2002 Act (section 12(3) of the 2002 Act));
- its power to amend the rights, conditions and procedures concerning rights of use for radio frequencies, in objectively justified cases and in a proportionate manner (Regulation 15 of the European Communities (Electronic Communications Networks and Services) (Authorisation) Regulations 2011 ("Authorisation Regulations")¹⁴;
- Regulation 6(4) of the 3G Licensing Regulations¹⁵; and
- Its obligation to monitor and supervise compliance with the conditions of rights of use of radio frequencies (Regulation 16 of Authorisation Regulations);

3.2 ComReg's assessment

Preliminary matters

- 18. Before turning to its substantive assessment, ComReg firstly addresses some preliminary matters below.
- 19. First, and for the avoidance of doubt, where appropriate, the following assessment takes into account the common ownership of the licensed entities.

¹⁴ Regulation 15(4) provides that, except where the proposed amendment is minor in nature and have been agreed with the holder of a right of use for radio frequencies, ComReg is obliged to give notice, in such manner as it considers appropriate, of its intention to make the amendment and invite interested parties, including users and consumers, to make representations on the proposed amendment within such period as may be specified in the notice but not being less than 28 days from the date of the notice except in exceptional circumstances.

¹⁵ Which provides that, without prejudice to paragraph 1 of that Regulation, at the request of the Licensee, ComReg may, if it considers appropriate to do so, amend a 2100 MHz licence by adding to, deleting from or altering the radio frequency spectrum specified in such a licence on which the apparatus may be used.

- 20. Second, ComReg notes 3IHL's view that its licence amendment requests "is a request for a minor technical modification to the licences" and "No third party is impacted, and pursuant to regulation 15(4) of the Authorisation Regulations, no public consultation is required". While there may be some merit to this view, ComReg nevertheless considers it appropriate to provide the opportunity for interested parties to provide any views they may have before determining this matter.
- 21. Third, in light of the fact that the Requested Amendments do not involve amendments to the obligations, commitments or overall quantum of spectrum assigned, ComReg does not believe it necessary to conduct a regulatory impact assessment in present circumstances.¹⁶
- 22. That said, the potential implications of the Requested Amendments on industry stakeholders, competition and consumers are considered in the context of relevant aspects of ComReg's statutory framework.

ComReg's assessment

- 23. Based on the information provided by 3IHL and other information currently before it, ComReg is of the preliminary view that the Request Amendments would be appropriate in the context of ComReg's statutory framework, including being objectively justified and proportionate as required by Regulation 15 of the Authorisation Regulations. Factors informing this view are outlined below.
- 24. First, the Requested Amendments would accord with the objective of promote competition because, among other things:
 - they would be unlikely to result in a distortion or restriction of competition to the detriment of users because:

¹⁶ See ComReg's RIA Guidelines for further details (Document 07/56a).

- following the acquisition of Telefónica Ireland Limited, 3IHL is currently entitled to and enjoys the economic benefits of common ownership of 6 blocks of 2100 MHz spectrum rights (albeit held under 2 separate 2100 licences)¹⁷;
- the Requested Amendments would not increase the amount of 2100 MHz spectrum rights to which 3IHL is entitled;
- whilst the Requested Amendments would interchange the centre blocks in the A Licence and B Licence, it would not affect the conditions and commitments relating to these licences meaning that there would remain 3 blocks the subject of the existing conditions of the A Licence and 3 blocks the subject of the existing conditions of the B Licence;
- as the blocks the subject of the Requested Amendments are the centre blocks of the A Licence and B Licence, the interchange of these blocks should not have any impact on adjacent 2100 MHz licensees; and
- the avoidance of inefficient investment costs by 3IHL should not distort or restrict competition to the detriment of consumers generally; and
- they would facilitate 3IHL's RAN refresh and subsequent roll-out programme in an efficient manner, the outcome of which should contribute to users deriving maximum benefits in terms of choice, price and quality.

¹⁷ In that regard, ComReg recalls that the EC, in its competition analysis of the Proposed Acquisition, considered that the change in spectrum holdings resulting from same is "unlikely to have anticompetitive effects". In particular, the EC's full decision relevantly states (at section 7.6.2.2 - page 163):

[&]quot;The Commission considers that the change in spectrum holdings resulting from the merger is unlikely to have anticompetitive effects. The merger will not reduce the spectrum holdings of Eircom and Vodafone and, hence, it will not have any impact on the network quality and speed offered by Eircom and Vodafone. The fact that, after the merger, there will be a spectrum asymmetry is not, as such, anticompetitive. In this respect, the Commission points out that, at present, each of Vodafone and Eircom have more spectrum than Three. This has not, however, prevented Three from competing effectively in the Irish retail market."

- 25. Second, the Requested Amendments would encourage the efficient use of the radio spectrum by facilitating the conduct of 3IHL's RAN refresh and subsequent roll out programme in a more efficient manner. In particular, by ensuring all licence obligations are met, avoiding inefficient investment costs and any subsequent technical inefficiencies identified by it.
- 26. Third, the Requested Amendments would also accord with the relevant regulatory principles which ComReg is obliged to apply in pursuit of its objectives. In particular:
 - they would promote efficient investment and innovation in new and enhanced infrastructures by facilitating Three's network refresh and rollout programme in an efficient manner by permitting it to avoid what would otherwise be inefficient investment costs;
 - they would not give rise to discrimination in the treatment of undertakings providing ECN and ECS because, whilst 3IHL, Vodafone and Meteor are all 2100 MHz licensees and competing MNOs, the situation of 3IHL is materially different from the other MNOs. In particular, it is the only MNO with two sets of spectrum rights in the 2100 MHz band, at the opposite ends of the band, and which faces the possibility of incurring inefficient infrastructure investment and technical difficulties associated with same; and
 - they would accord with the principle of safeguarding competition to the benefit of consumers and promoting, where appropriate, infrastructure based competition for the reasons identified above (in relation to distortion and restriction of competition).
- 27. Fourth, the Amendment Requests would be proportionate because, among other things:
 - the objective of the Amendment Requests (i.e. facilitating 3IHL's RAN refresh and subsequent rollout programme in a manner which would avoid inefficient investment costs and technical inefficiencies) would accord with ComReg's statutory objectives and regulatory principles as described above;
 - there do not appear to be less onerous means by which these objectives and principles could be achieved; and

- the Amendment Requests would not involve any change to the conditions and commitments to the licences involved.
- 28. Furthermore, the Amendment Requests are without prejudice to ComReg's obligation to monitor and supervise compliance by 3IHL with the obligations of the A and B Licences. ComReg notes, in this regard, 3IHL's commitment to meeting all licence commitments in the A and B Licences is unaffected by the proposed swap of frequency assignments.
- 29. In relation to the Commitments, ComReg:
 - firstly notes 3IHL's submission that the interchange would "...in no way impact on it meeting its commitments to/ requirements of the EC under the approval of the Proposed Acquisition.";
 - recalls that the 2100 MHz divestment spectrum identified in the Commitments relates to 2 x 10 MHz of 2100 MHz spectrum in the A Licence;
 - observes that the Requested Amendments would result in the spectrum blocks in the A Licence no longer being contiguous; and
 - observes that for spectrum efficiency reasons the "Upfront MVNO" or "Second MVNO" seeking to exercise the "Spectrum Option" (terms as defined in the Commitments) may wish to have two blocks of contiguous 2100 MHz spectrum in the A Licence.
- 30. In light of the above, ComReg proposes that a pre-condition of any approval of the Requested Amendments be that 3IHL expressly agree to:
 - such amendments of each of the A and B Licences as required to enable the timely divestment of 2 x 10 MHz of <u>contiguous</u> 2100 MHz spectrum in the A Licence as envisaged under the Commitments;
 - carry out the implementation of such amendments within the 6 month period identified in the Commitments (see paragraph 17 of same); and
 - bear all costs in relation the implementation of such amendments.
- 31. Accordingly, in light of the above and on the basis of the information currently before it, ComReg is minded to approve the Requested Amendments on the terms described above.

4 Next Steps

- 32. Interested parties are hereby invited to provide their views regarding the proposed amendments on or before 28 March 2016.
- 33. Without prejudice to the generality of that invitation, interested parties might provide views having regard to, among other things:
 - ComReg's legal framework and statutory functions, objectives and duties under Irish and EU Law - a general guide to which, as it relates to the area of radio spectrum and the licensing of spectrum rights of use, was recently set out in Annex 2 of ComReg Document 15/140; and
 - the Wireless Telegraphy (Third Generation and GSM Mobile Telephony Licence) (Amendment) Regulations 2003 (S.I. 340 of 2003).
- 34. All submissions should be clearly marked "Submission re: ComReg Document16/16" and sent by post or e-mail to arrive on or before 5pm on 28 March 2016 to:

Tara Kavanagh Commission for Communications Regulation Irish Life Centre Abbey Street Freepost Dublin 1 Ireland

Tel: +353-1-804-9600

E-mail: tara.kavanagh@comreg.ie

Annex 1: Correspondence from 3IHL

Three Ireland (Hutchison) Limited

Registered office 28/29 Sir John Rogerson's Quay Dublin 2, Ireland

t +353 (0) 1 5426300 www.three.ie



5th October 2015

Tara Kavanagh Licensing Operations Manager ComReg Irish Life Centre Lower Abbey Street Dublin 1.

Dear Tara

Three Ireland 2100MHz Licences – Interchange of Channels

Following the acquisition of Telefonica Ireland last year, and the ComReg Multiband Spectrum Auction in 2012, Three is currently in the process of a major network refresh and roll out programme. The outcome of this programme will be to provide increased coverage and capacity for both voice and data services to the now combined customer base of Three and also to its wholesale MVNO customers. To achieve this, it is necessary to replace the existing legacy access networks with a single integrated solution.

Three Ireland currently holds two separate licences to use radio spectrum in the 2100MHz band for the provision of 3G services. In order to facilitate an efficient technical roll-out, a requirement has emerged for Three to interchange (swap) the centre block from each of the two 2100MHz licences. Three views this as a minor technical amendment to the licences. No other licensee is impacted by the change, and there is no change to the licence conditions.

Three requests ComReg to make the amendment, the full details of which are explained in the attachment to this letter.

Yours Sincerely

Tom Hickey

Registered Number: 316982 Place of Registration: Republic of Ireland

General Background

In July 2014, following the grant of approval by DG Competition of the European Commission, Telefonica Ireland Ltd was acquired by the Three Group. Since then, the O2 services have been rebranded and both customer bases have been integrated together under the Three brand. Approval of the acquisition by the European Commission required Three to make certain commitments including the provision of facilities for two MVNO service providers. Three has met its commitments to facilitate those MVNOs, with the first (ID Mobile) having launched service on 20th August, and the second (Virgin Mobile) reported to be ready to launch service on 5th October.

Following the Multiband Spectrum Auction of 2012, mobile operators received new "Liberalised Use" licences which facilitate the use of new technology, and provide more spectrum to operators. All licensees have embarked on network roll-out programmes since the granting of those licences, including Three. The roll-out of this new technology, and the integration of the two separate networks means that a complete access network refresh is required.

The 2100MHz Band

Four Licences have been awarded in this band in total. There are 12 blocks of Frequency Division Duplex spectrum in the band, and each licence includes 3 blocks of 2x5MHz. Three Ireland (Hutchison) Limited (hereinafter referred to as "Three") currently holds two separate licences to use radio spectrum in the 2100MHz band for the provision of 3G services. Three is licenced to use 6 blocks in total, however they are divided into two groups of three at opposite ends of the band. This is shown in a diagram in the Annex to this letter.

Three's Network Roll-out

Three is currently in the process of a major network refresh and roll out programme. There are many aspects to this programme:

1. Rollout of new technology

LTE/4G technology is being rolled out to provide fast data service to the retail customers of both Three and its MVNOs.

2. Enhancement of 3G Coverage

3G service is being enhanced by the use of more sites in the 2100MHz band, and also rollout on 900MHz. This improves both voice and data services.

3. Multiband-Multiservice

Three is now licensed to use four different bands (800MHz, 900MHz, 1800MHz, and 2100MHz), and is rolling out three different technologies in those bands (GSM, 3G, and LTE/4G). This is a complex roll-out that is designed to optimise the provision of both voice and data service, with different technology and bands being appropriate in different circumstances.

4. Densification of the Access Network

Three is combining the base station locations from the two legacy networks to provide increased coverage and capacity. The legacy Three Services (O2) network operated from \approx sites, while the legacy Three network operated from \approx sites, some of which would have been matching sites. Following the access network refresh, the new access network will operate from \approx sites, providing improved service to all users for both voice and data. In particular, this will bring a significant improvement in 3G service in rural and western areas. By Q1 2017, population coverage will be:

- 2G X%
- 3G ×%
- 4G ×%

To achieve the above, it is necessary to replace the existing legacy GSM and 3G access networks with a single integrated solution. This is a complex undertaking, and in order to maintain continuity of service, the network replacement will be carried out in a series of small clustered areas. Work has commenced on the first trial cluster, and the programme will continue until all areas are completed in 2017.

Interchange in the 2100MHz Band

In designing the on-site replacement of equipment for the 2100MHz band, we have come upon an issue that would cause considerable inefficiency in the current configuration. The issue arises because the spectrum operated by Three is not contiguous but is at opposite ends of the band (as shown in the Annex). The span in total for both assignments is 60MHz, and the radio base station equipment (RBS) currently being supplied to Three does not have the capability to span this bandwidth in a single RBS.

When the programme of refreshing the network has been completed, the population coverage provided using the spectrum used under *both* the "A" and "B" licences will exceed the higher coverage requirement of the "B" licence. In order to achieve this in an efficient way, Three proposes to generally use spectrum blocks 1, 2, & 3 for coverage, and to use blocks 10, 11, & 12 for capacity. The decision regarding which technology, which band, and how many channels should be deployed at each location needs to be made on a site by site basis and is determined by a combination of customer demand, overall network requirements, and local site considerations. Bearing in mind that 3G service will also be provided on 900MHz and that LTE/4G and GSM service is also being provided, not all sites will use both coverage and capacity blocks in the 2100MHz band.

As a result of the above, Three requests ComReg to make a minor technical modification to its two 3G licences which is to interchange block 2 for block 11. This will allow Three to provide coverage for both licences using blocks 1, 2, & 3 from a single RBS on any site. The alternative is that Three would need to install two 2100MHz RBSs on each 3G coverage site, including those where this is not required for capacity. This would require additional investment which would not be required for any other reason, and as such would be an inefficient investment. It would also cause specific technical inefficiencies on certain sites, where additional active and passive equipment would need to be provided and combined into antennas. This would reduce the site effectiveness in certain circumstances.

Other Licensees Not Affected

Three has requested to swap block 2 for block 11, as these are the two centre blocks in each assignment, and are "sandwiched" between other lots assigned to Three. As such, the swap of these blocks could not have any impact on any other licensee.

Obligations and Commitments Unchanged

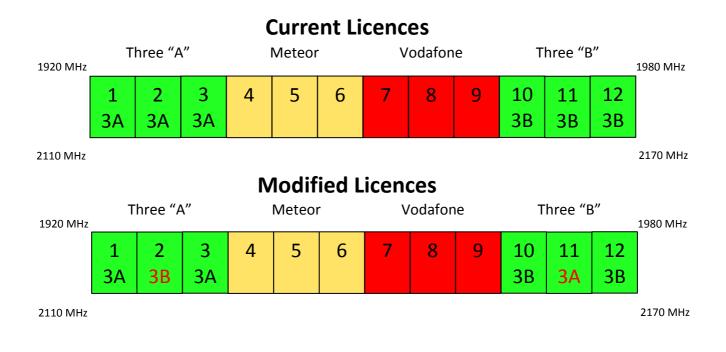
All other aspects of the licences, including all obligations and commitments would remain unchanged. Three commits to meeting all license commitments in its licenses unaffected by the swap of frequency. In addition, Three confirms that the interchange would in no way impact on Three meeting its commitments to/requirements of the European Commission under the approval of the acquisition of Telefonica Ireland Ltd.

Minor Amendment to Licence

Three believes this is a request for a minor technical modification to the licences. No third party is impacted, and pursuant to regulation 15(4) of the Authorisation Regulations¹, no public consultation is required.

¹ European Communities (Electronic Communications Networks and Services)(Authorisation) Regulations, 2011.

Annex 1 The 2100MHz Duplex Band



Current Licences

"A Licence"	Blocks 1,2,3 [1920-1925, 1925-1930, 1930-1935]
"B Licence"	Blocks 10,11,12 [1965-1970, 1970-1975, 1975-1980]

Proposed Modified Licences

"A Licence"	Blocks 1, <mark>11</mark> ,3 [1920-1925, <mark>1970-1975</mark> , 1930-1935]
"B Licence"	Blocks 10, 2,12 [1965-1970, 1925-1930, 1975-1980]