Decision to make the Wireless Telegraphy (Mobile Communication Services on Board Ships) (Exemption) Regulations 2011

Implementing the European Commission Decision

Statement

Publication date: 2 March 2011

Contents

Section 1

Summary

1.1 This statement confirms that, following a formal consultation, the Wireless Telegraphy (Mobile Communication Services on Board Ships) (Exemption) Regulations 2011 (the "Regulations") were made by us on 10 February 2011, and are coming into force on 10 March 2011. A copy of the Regulations can be obtained through the Office of Public Sector Information (OPSI)[1].

1.2 The Regulations create a new exemption to allow terminals to connect to a system providing mobile communication on board ships on a licence-exempt basis providing they meet certain technical requirements.

1.3 In addition to the Regulations, from 10 March 2011, holders of a Wireless Telegraphy Act 2006 (the "WT Act") Ship's Radio Licence can request us to vary their licence to allow the installation and use of a mobile communication on board ship base station. We would then issue a Notice of Variation ("NoV"). A copy of the NoV is contained in Annex 2.

1.4 Mobile Communication Services on Board Ships consist of one or more pico-cell base stations on board a ship (ship-BS) to which mobile terminals used by passengers connect.

1.5 Our decision implements the European Commission Decision of 19 March 2010 on harmonised conditions of use of radio spectrum for mobile communication services on board vessels (MCV services) in the European Union (2010/166/EU) (the "MCV Decision")[2]. The MCV Decision aims to complement existing mobile connectivity when operating in those areas of the territorial seas of European Union Member States that are not covered by land based mobile networks. Member States have until 12 March 2011 to implement the MCV Decision.

1.6 The use of such a service is therefore subject to the usage restrictions set out in the MCV Decision and a number of technical restrictions outlined in our Interface Requirement IR 2082[3]. Specifically, the restrictions include:

- The system providing such services shall not be used closer than 2 nautical miles from the baseline; and
- Only indoor ship–BS shall be used between 2 to 12 nautical miles from the baseline.

1.7 Before deciding to make the Regulations, in accordance with the requirements of section 122(4) of the WT Act, we published a Statutory Notice (the "Notice")[4] on 19 November 2010 containing a draft of the Regulations (the "Proposed Regulations")

[1] SI 2011/316. A link to the online version can be found at http://www.opsi.gov.uk/legislation/about_legislation.
[2] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:072:0038:0041:EN:PDF
[3] http://stakeholders.ofcom.org.uk/binaries/spectrum/spectrum-policy-area/spectrum-management/research-guidelines-tech-info/interface-requirements/Draft_IR_2082.pdf
[4] http://stakeholders.ofcom.org.uk/binaries/consultations/notice-wireless-telegraphy-2010/summary/main.pdf.

and invited comments from stakeholders. In the Notice, we also consulted on a draft NoV.

1.8 We received no comments on the Proposed Regulations and NoV. Given this, we have decided to proceed with making the Regulations and NoV with some minor modification. This statement confirms that we have made the necessary changes required to implement the MCV Decision.

Section 2

Background

2.1 On 19 March 2010 the European Commission (EC) adopted the MCV Decision. In addition to the MCV Decision the European Commission also agreed the Commission Recommendation of 19 March 2010 on authorisation of systems for mobile communication services on board vessels (MCV services) (2010/167/EU) (the "MCV Recommendation")[5].

2.2 The MCV Decision provides the frequency bands and technical parameters to be used and complied with when providing mobile communication on board ships. The technical and operational conditions are based on the European Conference of Postal and Telecommunications Administrations (CEPT)Report 28[6]. The MCV Decision also refers to the harmonised standard developed by [insert full name] ETSI.

2.3 The MCV Decision sets out the following technical conditions for providing mobile communication on board ships in order to avoid harmful interference to land based mobile networks:

2.3.1 the system providing services shall not be used closer than 2 nautical miles from the baseline, as defined in the United Nations Convention on the Law of the Sea[7];

2.3.2 only indoor ship-BS antenna(s) shall be used between 2 and 12 nautical miles from the baseline;

2.3.3 limits to be set for mobile terminals when used on board ships and for ship-BS as set out in Table 1.

[5] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:072:0042:0045:EN:PDF

[6] On 8 July 2008 the European Commission gave a mandate to the CEPT to identify the technical and operational conditions required to ensure the avoidance of harmful interference from MCV services in the 900 and 1800 MHz frequency bands with the operation of existing land-based mobile networks, also in areas of these territorial seas where services are provided by these networks, and to ensure that land-based mobile terminals are not connected to such a system when it is in use within the territorial seas and that any mobile terminals are not prevented from connecting to land-based networks. They produced a final report to the EC in response to the EC Mandate on mobile communication services on board vessels on 1 July 2009 http://ec.europa.eu/information_society/policy/ecomm/radio_spectrum/_document_storage/rsc/rsc28_public_docs/rscom09-27_cept_mcv.pdf

[7] http://www.un.org/Depts/los/convention_agreements/texts/unclos/unclos_e.pdf

Table 1

Parameter	Description
Transmit power/power density	For mobile terminals used on board ships and controlled by the ship-BS in the 900 MHz band[8], maximum radiated output power of 5 dBm.
	For mobile terminals used on board ships and controlled by the ship-BS in the 1 800 MHz band[9], maximum radiated output power of 0 dBm.
	For base stations on board ships, the maximum power density measured in external areas of the ship, with reference to a 0 dBi measurement antenna gain of – 80 dBm/200 kHz.
Channel access and occupation rules	Techniques to mitigate interference that provide at least equivalent performance to the following mitigation factors based on GSM standards shall be used 1. between 2 and 3 nautical miles from the baseline, the receiver sensitivity and the disconnection threshold (ACCMIN and min RXLEV level) of the mobile terminal used on board vessel shall be equal to or higher than –70 dBm/200 kHz and between 3 and 12 nautical miles from the baseline equal to or higher than –75 dBm/200 kHz, 2. discontinuous transmission shall be activated in the MCV system uplink direction, 3. the timing advance value of the ship-BS shall be set to the minimum.

2.4 In the Notice we proposed to implement the MCV Decision by licensing the ship-BS and licence exempting the mobile terminals that connect to it.

Ship-BS

2.5 The international community agrees how spectrum should be allocated at the International Telecommunication Union (ITU). These agreements are published in the Radio Regulations[10] (the "RRs") and the UK implements the RRs through the WT Act and associated legislation.

[8] 'the 900 MHz band' means the 880-915 MHz band for uplink (terminal transmit, base station receive) and 925- 960 MHz band for downlink (base station transmit, terminal receive);
[9] 'the 1 800 MHz band' means the 1 710-1 785 MHz band for uplink (terminal transmit, base station receive) and 1 805- 1 880 MHz band for downlink (base station transmit, terminal receive)
[10] http://www.itu.int/opb/sector.aspx?sector=1

2.6 The RRs require the radio apparatus of a ship be covered by a licence. The licence must be carried on board the ship and be available for inspection by foreign authorities. So, the installation and use of radio apparatus on board a ship, must be authorised by a licence issued by Ofcom. This includes a ship-BS.

2.7 The RRs also provide that the Master of a ship has ultimate responsibility for the use of any radio apparatus on his ship[11]. The WT Act provides that if an offence is committed relating to the use of radio apparatus on a ship, then the Master is guilty of the offence, in addition to anyone who is guilty by actually committing the offence. For this reason we decided that we should authorise the use of the ship-BS for providing mobile communication on board ships by allowing ships to amend their WT Act licence via a NoV.

2.8 Those licensees wishing to obtain a NoV should contact Ofcom requesting for a variation of their existing licence.

Mobile Terminals

2.9 Under sections 8 and 35(1) of the WT Act, it is an offence to, install or use radio equipment without holding a licence granted by us, unless the use of such equipment is exempted.

2.10 Mobile terminals are already licence exempt when connected to terrestrial networks. We therefore proposed to extend this exemption to also include connecting to services on board a ship. The Regulations create a new exemption to allow mobile terminals to connect to a system providing mobile communication on board ships on a licence-exempt basis providing they meet the technical requirement as set out in IR 2082 and the usage restrictions set out in the MCV Decision.

[11] Art 46.1 § 1 The service of a ship station is placed under the supreme authority of the master or of the person responsible for the ship or other vessel carrying the station.

Section 3

Scope of Regulations

Responses

3.1 We received no comments on the Proposed Regulations.

Changes made to the Proposed Regulations

3.2 A number of changes have been made to the Regulations since the Proposed Regulations were published. These changes are administrative and do not affect either the terms of use or the permitted technical parameters of the equipment.

3.3 We have changed the name of the Regulations replacing the term vessel as designated in the MCV Decision to ship. This is to reflect that the term ship is used in UK legislation and not vessel. This change will have no material impact on the regulations as section 115 of the WT Act interprets ship as “includes every description of vessel used in navigation”.

3.4 Regulation 4 has been restructured for clarity purposes. All technical parameters and restrictions on use have remained the same. In Regulation 4(3) we have inserted “when controlled by a ship base station”. This aligns the Regulations closer with the terms set out in the Annex of the MCV Decision.

Final scope of Regulations

The legislative framework

3.5 We can exempt the establishment, installation and use of wireless telegraphy equipment and stations by making Regulations under section 8(3) of the WT Act. The Regulations exempt the use of mobile terminals connecting to an on board ship system pursuant to section 8(4) of the WT Act. The Regulations mirror the technical parameters and standards set out in the MCV Decision. They set the terms, provisions and limitations with which the operation of the mobile terminals connecting to such services must comply.

Extent of application

3.6 The Regulations will apply to ship stations licensed by Ofcom, that is, ships registered in the United Kingdom, the Channel Islands and the Isle of Man.

Regulations to exempt mobile terminals

3.7 Regulation 3 sets out the territorial extent of the Regulations and to what vessels they will be applied to.

3.8 Regulation 4(1) implements Article 3 of the MCV Decision by requiring that the apparatus only operates in the 880 to 915, 925 to 960, 1710 to 1785 and 1805 to 1880 MHz bands.

3.9 Regulation 4(2) stipulates that the apparatus should only be used for MCV services and mirrors the Annex of the MCV Decision. It stipulates that systems providing MCV services are not to be used closer than 2 nautical miles from the baseline.

3.10 Regulation 4(3) states the permitted maximum power output.

3.11 Regulation 4(4)sets out that the apparatus must connect to a vessel–BS which only uses a indoor antenna(s) within 2 to 12 nautical miles from the baseline and operates within a permitted maximum power density.

3.12 Regulations 4(5) outlines that the apparatus must form part of a GSM system which mitigates interference using the techniques set out in Regulation 4(6) or other techniques which provide at least an equivalent mitigation of interference.

3.13 Regulation 4(6) sets out the techniques to mitigate interference based on GSM standards in line with the Annex to the MCV Decision..

3.14 Regulation 4(7) states that the service is authorised on a non-interference and non-protection basis in line with Article 3 of the MCV Decision.

Annex 1

Impact Assessment

Introduction

A1.1 In accordance with Government practice, where a statutory regulation is proposed, a Regulatory Impact Assessment ("RIA") must be undertaken. The analysis presented here, when read in conjunction with the rest of this document, represents an RIA as defined by section 7 of the Communications Act 2003 ("the Communications Act").

A1.2 RIAs provide a valuable way of assessing different options for regulation and showing why the preferred option was chosen. They form part of best practice policy-making and are commonly used by other regulators. This is reflected in section 7 of the Communications Act, which means that we will generally carry out impact assessments where proposals would be likely to have a significant effect on businesses or the general public, or when there is a major change in our activities. However, as a matter of policy we are committed to carrying out and publishing impact assessments in relation to the great majority of our policy decisions. In accordance with section 7 of the Communications Act, in producing this RIA, we have had regard to such general guidance as we consider appropriate including related Cabinet Office guidance. For further information about our approach to impact assessments, see the guidelines, Better policy-making: Ofcom's approach to impact assessment, which are on our website: http://www.ofcom.org.uk/about/policies-and-guidelines/better-policy-making-ofcoms-approach-to-impact-assessment/.

The citizen and/or consumer interest

A1.3 Our principal duty under section 3 of the Communications Act is to further the interests of citizens in relation to communications matters; and of consumers in relevant markets, where appropriate by promoting competition. We take account of the impact of our decisions upon both citizen and consumer interests in the markets we regulate. We must, in particular, secure the optimal use for wireless telegraphy of spectrum and to the principle under which all regulatory activities should be targeted only at cases in which action is needed.

A1.4 In addition to section 3 we must have regard to the desirability of encouraging investment and innovation in relevant markets as well as to further the interests of citizens and consumers. Mobile communication on board ships represents a potentially valuable innovation and the development of a new market for mobile communications.

A1.5 In light of the Commission Decision on harmonised conditions of use of radio spectrum for MCV services in the European Union (2010/166/EU) (the "MCV Decision")[12], we are to authorise the use of spectrum on board vessels so that passengers can use their mobile phones to make and receive calls while out of range of land-based transmitters. The business opportunity seen by proponents of MCV services for operators and the mobile phone networks is based on the

[12] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:072:0038:0041:EN:PDF

expectation that customers will find the service sufficiently valuable to use and pay for it.

A1.6 Establishing a regulatory framework in which services providing mobile communication on board ships can be deployed is in line with the development of a co-ordinated approach to such services across Europe which follows the adoption of the MCV Decision. This allows for the mutual recognition of Member States' authorisations for services on the basis of common technical and authorisation requirements.

A1.7 Following an initial assessment of our policy proposals we considered that it was reasonable to assume that any impacts on consumers and citizens arising from our proposals would not differ significantly between groups or classes of UK consumers and citizens, all of whom would have access to these services, potentially at end-user prices reflective of all general input costs, including opportunity costs of spectrum used.

A1.8 In addition, we noted that there is no available evidence to suggest that our decision to make the changes to the licensing regime or the Regulations would have any greater direct impact on certain groups, including groups based on gender, race or disability, or for consumers in Northern Ireland relative to consumers in the UK more generally. We did not consider that there was evidence to suggest that costs imposed on operators, would differ significantly across these aforementioned groups of consumers and citizens relative to consumers in general. This was because we would not expect the impact of supplying these groups of consumers and citizens to differ significantly from the impact of supplying consumers in general. Nor would cost reflective end-user prices therefore be expected to impact significantly differently on these groups as a result of these proposals.

A1.9 We have not carried out a full Equality Impact Assessment in relation to race equality, equality schemes in Northern Ireland and disability equality schemes. This is because, following our initial assessment, we do not believe that the decision here is intended (or would, in practice) have a significant differential impact on different gender or racial groups, on consumers in Northern Ireland or on disabled consumers compared to consumers in general.

Ofcom's policy objective

A1.10 We are required to implement MCV Decision by law. Therefore, our analysis of measures that implement European Commission (EC) decisions is less detailed than for our own policy initiatives. Each of the measures required are associated with costs and benefits. However, if we did not implement an EC decision, the EC and others could begin legal proceedings against the UK, the costs of which we deem to be potentially very high both quantitatively and qualitatively, outweighing the costs we consider would be associated with correct implementation.

A1.11 We seek wherever possible, to reduce the regulatory burden upon our stakeholders, in this instance users of the radio spectrum. One way in which we can do this is to remove the need for spectrum users to apply for individual licences to authorise the use of radio equipment. In line with section 8 of the WT Ac, the use of wireless telegraphy equipment in the UK and Crown Dependencies is authorised either by a WT Act licence or by exemption from the need to hold such a licence. Under section 8(4) of the WT Act we must exempt equipment if it is unlikely to cause undue interference. Exemption is realised by describing the details of equipment and the parameters under which it may be used in a statutory instrument

(secondary legislation called regulations) that exempts users of such equipment from the need to hold a WT Act licence provided they comply with the terms of the regulations.

Implementing the MCV Decision

A1.12 Mobile phone use on ships has not been widely adopted because of concerns about potential interference to land-based systems. At the EU level, the technical work was completed and sets out the technical criteria that would prevent land-based systems from being interfered with.

A1.13 European bodies have set out the common technical requirements for services providing mobile communication on board ships and have developed a set of technical parameters to reduce the risk of possible interference to terrestrial networks. We believe that these will be adequate to reduce the risk of harmful interference.

A1.14 Supporters of these services argue that such systems offer additional value to passengers. Their business cases rest on the assumption that passengers will pay for the service. If these services are not valued by consumers, they will not be used and few installations will be made. We can therefore rely on the market to determine the degree to which services are rolled out.

A1.15 EU Member States and the EC have defined the technical and authorisation parameters which will allow services providing mobile communication on board ships to be installed across Europe. The outcome of this initiative is a mandatory requirement for Member States to make the 900 and 1800 MHz bands available for such services. This requirement cannot be disregarded and Member States are expected to authorise these services by 12 March 2011. Further, if the UK did not participate in this approach, it might be argued that UK businesses and consumers would be disadvantaged in not having access to these innovative services.

A1.16 In light of the MCV Decision, we believed that the authorisation of services providing mobile communication on board ships should be based on the common EU regulatory framework.

A1.17 To allow such services, the following apparatus is required:

1.17.1 A ship Base Station (ship-BS). This is a mobile pico-cell located on a ship and supporting GSM services on the 900MHz and/or 1800 MHz bands.

1.17.2 A mobile terminal.

Ship-BS

Options considered

A1.18 In looking to authorise the use of ship-BS we considered the following options:

- Licence a network operator;
- Make the installation and use of the base station licence-exempt;
- Authorise the installation and use of the base station by varying the existing ship radio licence; or

- Do nothing.

Analysis of the different options

Licensing the network operator

A1.19 This option would enable us to authorise a network operator to install equipment on board a ship. This would enable the operator to deploy such services and would therefore comply with the MCV Decision.

A1.20 Businesses would face administrative costs associated with applying for the licence and annual renewal. In addition we would incur additional costs in setting up a licensing system and handling licensing transactions.

A1.21 The RRs and the WT Act both vest ultimate authority for radio apparatus on a ship in the ship's Master. To license a network operator would blur this authority and may lead to breaches of the MCV Decision, over which the Master had no control.

Licence exemption

A1.22 This option would require us to make regulations that would exempt the ship-BS from the need to hold a WT Act licence. Operators would be free to install ship-BS equipment without the need to apply for or amend an existing licence.

A1.23 There are one-off administrative costs associated with making a statutory instrument. We consider the implementation costs to be low, both in absolute terms and in comparison to licensing alternatives that might require an auction or the maintenance of an annually renewable licence scheme if licences are awarded on a first come first served basis.

A1.24 Costs to business are likely to be lower under a licence-exemption approach than the alternative of a licensed approach, since licence-exemption represents the least cost regulatory approach to the authorisation of spectrum use. For example if use of spectrum is authorised through a WT Act licence, businesses face administrative costs associated with applying for the licence and annual renewal.

A1.25 However by doing this it would weaken the Master's ability to control what was used on his ship. The RRs also require a ship to have a licence for all of its radio apparatus. If a UK ship radio station were to be inspected overseas, the surveyors would expect to see on the licence all of the radio apparatus installed on the ship. As the equipment would be exempt from licensing it would not be on the licence causing a breach of the RRs.

License as part of the ship's existing licence

A1.26 We would authorise the ship-BS as part of the ship's existing radio licence. We already have a formal Notice of Variation (NoV), which we issue on request, to vary the licence to authorise the installation and use of GSM base stations on ships. Varying a licence in this manner is provided for by Schedule 1 of the WT Act.

A1.27 It would be easy for us to adapt this NoV to accommodate the MCV Decision, while noting that some ships will not be sailing anywhere near the waters of EU Member States. As we already have a licensing process set up we do not expect that the additional costs of modifying this to be significant.

A1.28 There would be a slight administrative cost to businesses associated with requesting the NoV. We do not currently charge a fee for this nor does the cost of the licence increase, therefore we believe that any costs associated with the initial request would be minor.

A1.29 Authorising the ship-BS by amending the ship radio licence would mean that the Master retains control of the radio apparatus used on his ship and for which he is ultimately answerable. The NoV, taken with the ship's radio licence would show a ship-BS as part of the equipment installed on the ship thus providing documentation for any foreign surveyors. This would be fully compliant with the MCV Decision and RRs.

Do nothing

A1.30 We could choose not to authorise the use of ship-BS as outlined by the MCV Decision.

A1.31 By doing nothing, we would have been in breach of our European obligations and the UK could be open to infraction proceedings initiated by the EC.

The preferred option

A1.32 Based on the analysis of the options above, we decided to authorise the use of ship-BS by amending the radio licence of those ships that carry this equipment. We believe that this approach enables the Master to control the use of the on board ship-BS and to issue instructions to limit its use or turn it off. Ship operators will therefore need to apply to Ofcom for a variation of their ship radio licence. We adopted this approach for the corresponding equipment on board aircraft[13].

Mobile terminals

Options considered

A1.33 In looking to authorise the use of terminals connecting to mobile communication on board ships services we considered the following options:

- Make the use of the mobile terminals licence-exempt;
- Authorise the use of the mobile terminals by issuing a licence; or
- Do nothing.

Analysis of the different options

Licence exemption

A1.34 Mobile terminals are already licence exempt when connected to terrestrial networks. As the mobile communication on board ships service effectively replicates the operation of a terrestrial base station but on a ship most consumers would not be aware of the regulations. It would therefore be sensible to extend the current authorisation regime. Consumers could use their existing terminal without any additional requirements in order to access such a service, enabling easy access to the network making enforcement of a licensing regime difficult.

[13] http://stakeholders.ofcom.org.uk/binaries/consultations/mca/statement/mca.pdf

A1.35 There are one-off administrative costs associated with making a statutory instrument. We consider the implementation costs to be low, both in absolute terms and in comparison to licensing alternatives that might require an auction or the maintenance of an annually renewable licence scheme if licences are awarded on a first come first served basis. Consumers and businesses would not incur a charge to access such as system. In addition it supports of our objectives of deregulation and administrative simplification when we exempt radio equipment.

Licence mobile terminal

A1.36 This proposal would require the owner of the mobile terminal to hold a licence before they connect to a on board communication service.

A1.37 Due to the number of licences that we would probably need to issue, the costs of administrating such a system would be passed onto consumers and businesses. As there exists no suitable licensing product, there would be a regulatory burden onus as the regulator to develop, implement and run a licensing regime. This additional cost and administrative burden would almost certainly deter users from utilising such a service which would go against the aims of the MCV Decision.

A1.38 As there is no requirement on mobile terminal users to hold a WT Act licence when using it on land, to require a licence when using the same equipment on board a ship would be disproportionate. In addition, due to the volume of equipment it would be impractical and unfeasible to issue individual licences. Any such requirement would be almost impossible to enforce by Ofcom or the ship's Master.

Do nothing

A1.39 We could choose not to authorise the use of mobile terminals providing communication on board ships as outlined by the MCV Decision.

A1.40 By doing nothing, we would have been in breach of our European obligations and the UK could be open to infraction proceedings initiated by the EC.

The preferred option

A1.41 The preferred option was to make a statutory instrument to licence-exempt to use of mobile terminals when connecting to on board ship services. The benefit of this option was that we remain compliant with our statutory obligations. For this reason it would be more effective and straightforward for terminals connecting to a such a service to follow the same authorisations regime as when connecting to terrestrial systems.

Conclusion

A1.42 We considered that the mobile terminal should be licence-exempt and treated the same way as when connecting to a terrestrial network.

Annex 2

Notice of Variation

WIRELESS TELEGRAPHY ACT 2006
NOTICE OF VARIATION OF A SHIP RADIO LICENCE FOR THE PURPOSE OF THE INSTALLATION AND USE OF A PUBLIC CELLULAR BASE STATION ON BOARD A SHIP (MOBILE COMMUNICATION SERVICES ON BOARD SHIPS)

Ofcom, in exercise of the power conferred by Schedule 1, paragraph 6 of the Wireless Telegraphy Act 2006 (as amended) ("the Act"), in accordance with Schedule 1, paragraph 7 of the Act, hereby varies the Ship Radio Licence (the "Licence") granted to:

Licensee

in respect of the ship identified below:

Ship	
Licence №	
Call Sign	
MMSI №	
Date of issue of this Notice of Variation:	3rd March 2011

1 Terms and expressions defined in the Licence shall have the same meaning herein except where the context requires otherwise or where otherwise stated.

2 This Notice of Variation replaces any notice of variation of the Licence for the purpose of the installation and use of a public cellular base station on board a ship.

3 As and from the Date of Issue of this Notice of Variation, the Licence shall be varied so that the following radio equipment, may, in addition to that already set out in the Licence, be established, installed and used on the ship subject to the terms set out in the Licence as varied by paragraphs 4 to 6 below:

(a) a Ship Base Transceiver Station used for supporting GSM services in the 900 MHz band and/or the 1800 MHz band.

4 The radio equipment described in paragraph 3(a) above shall be read as an integral part of the Licence and the following additional terms shall apply in respect of the establishment, installation and use of this radio equipment:

(a) A Ship B-S shall be operated on a 'non-interference non-protected' basis. That is, that no harmful interference may be caused to any radio communication service and that no claim may be made for protection of these services against harmful interference originating from other radio communication services;

(b) A Ship B-S shall not be used closer than two nautical miles from the baseline;

(c) Only indoor Ship B-S antenna(s) shall be used between two and twelve nautical miles from the baseline;

(d) The following limits apply to any use of the Ship B-S:

Parameter	*Description*
Transmit Power / Power Density	The maximum power density measured in external areas of the ship, with reference to a 0dBi measurement antenna gain: -80 dBm/200kHz
Channel access and occupation rules	Techniques to mitigate interference that provide at least equivalent performance to the following mitigation factors based on GSM standards shall be used: — discontinuous transmission[14] shall be activated in the Mobile Communication Services on Board Ships system uplink direction; — the timing advance[15] value shall be set to the minimum.

(e) A Ship-BS must at all times comply with the technical and operational criteria contained within the UK Interface Requirement 2082 for Mobile Communication Service on Board Ships, as varied from time to time.

5 In this Notice of Variation to the Licence:

(a) “baseline” is to be understood for measuring the breadth of the territorial waters under the United Nations Convention on the Law of the Sea;

(b) “the Commission Decision” means Decision 2010/166/EU of the European Commission of 19 March 2010 on harmonised conditions of use of radio spectrum for mobile communication services on board ships in the European Union[16];

(c) “dBi” means decibels of power referenced to the gain of an isotropic antenna;

(d) “dBm” means decibels of power referenced to one milliWatt;

(e) “kHz” means kilohertz;

(f) “MHz” means megahertz;

(g) “GSM system” means an electronic communications network, that complies with the GSM standards, as published by European Telecommunications Standards Institute;

(h) “Mobile Communication Services on Board Ships” means electronic communication services, as defined in Article 2(c) of Directive 2002/21/EC of the European Parliament and of the Council[17], provided to enable persons on

[14] Discontinuous transmission, or DTX; as described in GSM standard ETSI TS 148 008
[15] Timing advance; as described in GSM standard ETSI TS 144 018
[16] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:072:0038:0041:EN:PDF
[17] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2002:108:0033:0050:EN:PDF

board a ship to communicate via public communication networks using a GSM system without establishing direct connections with land-based mobile networks;

(i) "Radio Regulations" means the 2008 edition of the Radio Regulations made under Article 13 of the Constitution of the International Telecommunication Union as amended from time to time;

(j) "Ship Base Transceiver Station" or "Ship-BS" means a mobile pico-cell located on a ship and supporting GSM services in the 900 MHz and/or 1 800 MHz bands;

(k) "the 900 MHz band" means the 880-915 MHz frequency band (for the uplink from the apparatus to the ship base transceiver station) and the 925-960 MHz frequency band (for the downlink from the ship base transceiver station to the apparatus);

(l) "the 1800 MHz band" means the 1710-1785 MHz frequency band (for the uplink from the apparatus to the ship base transceiver station) and the 1805-1880 MHz frequency band (for the downlink from the ship base transceiver station to the apparatus); and

(m) all technical terms, unless the contrary intention appears, shall have the meaning assigned to them in the Radio Regulations.

6 This Notice of Variation forms part of the Licence and must be attached to the Licence.

7 This Notice of Variation shall take immediate effect.

Issued by Ofcom

Notes for Licensees:

1 This Notice of Variation does not affect the requirement, where necessary, to obtain licences or authorisations under other legislation or from other countries prior to the installation or operation of a Ship Base Transceiver Station, in particular outside UK territorial waters. The Licensee is encouraged to seek its own independent professional advice in this respect.

2 This Notice of Variation implements the Commission Decision insofar as it relates to authorising the Ship Base Transceiver Station.

3 Further guidance and information can be obtained from:

Ofcom Licensing Centre
Riverside House
2a Southwark Bridge Road
London
SE1 9HA

Tel. +44 (0)300 123 1000 or +44 (0)20 7981 3131
Fax. +44 (0)20 7981 3333
http://www.ofcom.org.uk

and, in respect of any ship survey and certification requirements:

The Maritime and Coastguard Agency
Survey and Certification
Spring Place
105 Commercial Road
Southampton
SO15 1EG

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