**Public Consultation**

**TRA Regulations – Mobile Communications On-Board Vessels**

**Commencement Date: 04 September 2018**

**Response Date: 03 October 2018**

**Preface and Notes to Potential Respondents**

In keeping with its values of transparency and sector engagement, the TRA wishes to review and study the impact of regulatory instruments issued by it to keep abreast of developments to better involve all stakeholders. The TRA strives to meet the needs of the sector and seeks the views and feedback from the sector for the revision of the regulations. The purpose of this document is to invite comments from stakeholders regarding the TRA’s intention to revise TRA Regulations concerning Mobile Communications On-Board Vessels in accordance with the Telecom Law.

Stakeholders who wish to respond to this consultation should do so in writing to the TRA on or before the response date stated on the front cover of this document.

The comments which are contained in any response to this consultation should be clearly identified with respect to the specific question in this consultation to which such comments refer. Any comments which are of a general nature and not in response to a particular question should be clearly identified as such.

Responses to this consultation should be made in writing and provided electronically in MS Word format and Adobe PDF format, on or before the response date stated on the front cover of this document. Responses must be accompanied by the full contacts details (contact name, e-mail address and phone and fax numbers) of the respondent to:

[**spectrumconsultation@tra.gov.ae**](mailto:spectrumconsultation@tra.gov.ae);

Executive Director Spectrum Affairs

Telecommunications Regulatory Authority

P.O. Box 26662

Abu Dhabi, UAE

Respondents are advised that it will be the general intention of the TRA to publish in full the responses received to this consultation. Additionally, the TRA may, at its discretion generate and publish a “Summary of Responses” document at the conclusion of this consultation. Accordingly, the Summary of Responses may include references to and citations (in whole or in part) of comments which have been received. The TRA recognizes that certain responses may include commercially sensitive and confidential information which the respondent may not wish to be published. In the event that a response contains confidential information, it shall be the responsibility of the respondent to clearly mark any information which is considered to be of a confidential nature.

In any event the respondent shall be required to submit two versions of its response to the TRA as follows:

* A full copy of its response in MS Word format with any confidential information clearly marked. The TRA will not publish the Word document and will only use it for internal purposes.
* A publishable copy of its response in Adobe PDF format. The TRA will publish the PDF version in its entirety. Thus, the respondent should take care to redact any commercially sensitive and confidential information in the PDF version of its response.

By participating in this consultation and by providing a PDF version of its response the respondent expressly authorizes the TRA to publish the submitted PDF version of its response in full.

It should be noted that none of the ideas expressed or comments made in this consultation document will necessarily result in formal decisions by the TRA and nothing contained herein shall limit or otherwise restrict the TRA’s powers to regulate the telecommunications sector at any time.

If any person or entity seeks to clarify or discuss any part of these Regulations can request for a meeting in writing again to the above E-mail and then TRA will set the meetings in the period from **04 September 2018 to 03 October 2018** so that formal comments can still be received by **15.00 noon on 03 October 2018.**

**Consultation Schedule**

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| **Milestone** | **Due Date** | **Notes** |
| |  | | --- | | Closing Date for Initial Responses | | 03 October 2018 | |  | | --- | | All responses to this consultation should be properly received by no later than 15.00 noon on the closing date. Responses are to be submitted in electronic format as set out in this consultation document. | |
| |  | | --- | | Latest date for requests for extension to the due date for Initial Responses. | | 26 September 2018 | |  | | --- | | Stakeholders wishing to secure an extension to the Closing Date for Initial Responses may apply in writing to the TRA for such an extension. The request should set out the rationale for the request.  Requests for extension should be submitted by e-mail to the e-mail address shown above.  The TRA will not consider any requests for extension which the TRA receives after 15.00 noon on the date stated here.  The TRA will consider requests to extend the Closing Date for Initial Responses and will take into account such factors as:  the number of such requests received; the rationale for such requests; and the effect on the overall time-scale of the particular project in question. In the event that the TRA extends the Closing Date for Initial Responses, the TRA will publish the revised closing date on its website. | |

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1. **Introduction**

1.1 The TRA intend to revise its Regulations on Mobile Communications On-Board Vessels. As such, all readers are informed that this document outlines the draft version of these regulations in order to give this document context and to enable the TRA to ask pertinent questions. All text in this consultation document should be read and interpreted as text and not as recording decisions of the TRA.

1.2 The TRA notes that there has been a move to permit 3G (UMTS) and 4G (LTE) services on vessels and that as a result there is a need to update relevant parts of these regulations to provide more clarity on the frequencies and associated attributes under which they can operate.

1.3 As such, the TRA seeks to consider inputs of all industry stakeholders regarding these changes, which are increasingly relevant and valuable in the TRA’s exercise of its duties and legal mandates.

1.4 Additionally, the TRA strives to follow the principles of transparency, fairness and openness in dealings with customers, partners and other stakeholders and, therefore considers that it is important to take into account the views of those who have a legitimate interest in the outcomes of the TRA’s regulation.

1.5 In the ensuing text, significant changes are marked as follows:

* Additions are highlighted in yellow
* Deletions are ~~struck-through and highlighted in grey~~

1. **Matters for Discussion and Consultation**

Article (1)

Scope of Document

* 1. These regulations are issued in accordance with the provisions of the UAE Federal Law by Decree No 3 of 2003 (Telecom Law) as amended and its Executive Order.
  2. This document comprises technical regulations for the authorization and operation of Mobile Communications On-Board Vessels systems. It shall be read in conjunction with the following documents available from the TRA website at [www.tra.gov.ae](http://www.tra.gov.ae):
     1. Spectrum Allocation and Assignment Regulations
     2. Spectrum Fees Regulations
     3. Interference Management Regulations
     4. National Spectrum Plan including National Table of Frequency Allocation
     5. Maritime Radio Systems Regulations

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| Question 1: Do you have any comments concerning the Scope of the Document? |

**Article (~~1~~2)**

**Definitions**

~~1.1 In applying these Regulations, the following terms shall have the following meanings unless the context requires otherwise, whereas any term undefined in the following shall be defined in line with the Federal Law by Decree No. 3 of 2003 as amended its Executive Order and Radiocommunications Policy:~~

* 1. The terms, words and phrases used in these Regulations shall have the same meaning as is ascribed to them in the Telecom Law and its Executive Order as amended (Federal Law by Decree No. 3 of 2003 as amended its Executive Order) unless these Regulations expressly provide otherwise for, or the context in which those terms, words and phrases are used in these Regulations indicates otherwise. The following terms and words shall have the meanings ascribed to them below:
     1. **~~“Applicant”~~** ~~means any Person who has applied for a License or an Authorization in accordance with the Telecom Law or other Policy Instruments issued by the Authority.~~
     2. **~~“Application”~~** ~~means the request for issuance of a License or an Authorization, received at the Authority on prescribed forms as per the procedure in vogue.~~
     3. **“Authorization” or “Frequency Spectrum Authorization”** means a valid frequency spectrum authorization issued by the TRA and permits the use of radio frequency subject to terms and conditions as stipulated by the TRA
     4. **“Baseline”** means “normal baseline”, as defined in the UN Convention on the Law of the Sea (UNCLOS, 1982), including fringe islands.
     5. **“Earth Station On-Board Vessels”** or **“ESV”** means Earth Stations operated on-board ships in accordance with ITU-R Resolution 902.
     6. **~~“Radio Frequency Authorization”~~** ~~means an authorization, which permits the use of Radio Frequency subject to terms and conditions as stipulated by the Authority.~~
     7. **“Ship Radio License”** means Radio Frequency Authorization. The word ‘License’ when used for Ship Radio License means Radio Frequency Authorization.
     8. **“The System”** means the ~~Cellular System~~Mobile Communication On-Board Vessels (~~OBV~~MCV) using ~~GSM-900 system (880-915 / 925-960 MHz) and/or GSM-1800 system (1710-1785 / 1805-1880 MHz)~~the specific mobile technologies and frequencies specified in  ~~for the purpose of~~ these regulations. The System does not include the ~~GSM~~ backhaul connection.
     9. **“Territorial Waters”** means “territorial sea”, as defined in the UN Convention on the Law of the Sea (UNCLOS, 1982), excluding internal waters, harbours, and ports.

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| Question 2: Do you have any comments concerning the Definitions? |

**Article (~~2~~3)**

**Permitted Usage**

* 1. Usage of Cellular Systems On Board is becoming popular whereby users can use cell phones just as they use on land. The following are the permitted usage conditions:
     1. The System can be used within ~~the corridor~~ an on/off border starting the following distances ~~from 2 NM~~ from the Baseline up to the edges of the UAE Territorial Waters:
* For GSM and UMTS: 2NM
* For LTE: 4 NM
  + 1. The System shall be turned OFF when the ship enters the area within ~~2 NM~~the above distances from the Baseline.
    2. The System shall not cause harmful interference nor claim protection from the UAE land based cellular systems.
    3. The UAE registered ships may be able to use the System in the UAE Territorial Waters and International waters if their Ship Radio License includes the System and adherence to the conditions as set in these regulations.
    4. The UAE registered ships may be able to use the System in the Territorial Waters of other States if the National regulations of that State allow such use. The responsibility to adhere to the National regulations within the Territorial Waters of each State lies with the ship owner and or ship operator.
    5. The foreign flag ships may be able to use the System in the UAE Territorial Waters if their Ship Radio License includes the System and adherence to the conditions as set in these regulations.
    6. The System shall be turned OFF in the UAE Territorial Waters if the System does not meet the conditions as set in these Regulations.
    7. The System shall be turned OFF in the Territorial Waters of other States if the System used by UAE Flag ships does not meet the conditions as set in the National Regulations of that State.
    8. The System is only allowed to ~~be~~ use~~d in~~ the following frequency bands and technologies ~~i.e. GSM-900 and/or GSM-1800~~.

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| **Technology** | **Frequency Bands Permitted** |
| GSM | 880-915 / 925-960 MHz  1710-1785 / 1805-1880 MHz |
| UMTS | 1920-1980 / 2110 – 2170 MHz |
| LTE | 1710-1785 / 1805-1880 MHz  2500-2570 / 2620–2690 MHz |

* + 1. The Authority Regulation for Earth Stations ~~on Board vessels (ESV)~~ shall be referred for the use of backhaul ~~of the GSM Base Station Transceiver (BTS)~~ if through ESV. In case Mobile Satellite Service (MSS) is used (e.g. Inmarsat terminal, Thuraya terminals, etc) for backhaul, then the MSS terminal should be part of Ship Radio License.
    2. The use of the System is authorized on secondary, non-exclusive and sharing basis within the Ship Radio License.
    3. In all conditions whatsoever, the System shall be switched OFF immediately if directed by the Authority.

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| Question 3: Do you have any comments concerning the permitted usage or any other comments related to this article? |

**Article (~~3~~4)**

**Technical Conditions**

* 1. The technical conditions as given in these regulations shall apply on the System.
  2. Only indoor ~~v-BS~~ antenna(s) shall be used between ~~2~~ the on/off border and 12 NM from the Baseline.
  3. The System shall control all MS (Cell phones) to use 0 dBm.
  4. For GSM systems, the following technical parameters shall apply:
     1. The MS receiver sensitivity and the disconnection threshold (ACCMIN & min RXLEV level) shall be less than -75 dBm/200 kHz. ACCMIN (RX\_LEV\_ACCESS\_MIN, as described in GSM standard 3GPP TS 144.018 and RXLEV (RXLEV-FULL-SERVING-CELL, as described in GSM standard 3GPP TS 148.008).
     2. DTX (discontinuous transmission, as described in GSM standard 3GPP TS 148.008) shall be activated on the System uplink (MS to BS).
     3. Timing advance (as described in GSM standard 3GPP TS 144.018) shall be set to minimum for the BTS.
     4. The System emissions measured anywhere external to the vessel (i.e. at ship perimeter or on its open deck areas) shall not exceed -80 dBm/200 kHz (assuming a 0 dBi measurement antenna gain). This requires careful planning for the installation of the equipment and antenna systems.
     5. Only pico or femto cell based BTS shall be used.
     6. The System may use Detect and Avoid mechanism. The scan rate should be in the order of 200 channels/second.
     7. The System may have at least two transceivers (GSM radio channels) employed, one used for static BCCH channel and one for the synthesized FH operation carrying TCH channel used for traffic. The transmissions from MS would be allowed on static BCCH channel only to effectuate the random access procedure (i.e. requesting the call activation or responding to paging calls). Once the communications with BTS has been established, the MS call should be placed on the FH channel. In other words, the static channel carrying BCCH should be used only for that sole purpose and no traffic should be allowed within its remaining time slots. FH should be used in synthesized mode, i.e. one v-BS transmitter constantly changing its operating frequency; FH hopping rate should be 217 hops per second (i.e. frequency changed with every transmitted TDMA frame) and Change of operating frequencies (channels) should follow the pseudo-random pattern.
  5. For UMTS and LTE systems, the following technical parameters shall apply:

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| **Parameter** | **UMTS** | **LTE** |
| Maximum bandwidth (per frequency band) | 5 MHz | 5 MHz |
| PLMN network selection timer when in national waters | 10 minutes | 10 minutes |
| Carrier centre frequencies | Not to be aligned with land network carriers | Not to be aligned with land network carriers |
| Quality criteria Qrxlevmin | >=-87 dBm / 5 MHz between 2 and 12 NM | >=-105 dBm / 15 kHz (>=-83 dBm / 5 MHz) between 4 and 12 NM |
| Indoor MCV BS emission limit on deck | -102 dBm / 5 MHz (CPICH) | -120 dBm / 15 kHz (-98 dBm / 5 MHz) |
| RRC inactivity release timer | 2 seconds | 2 seconds |
| Cell range for the DAS | 600 metres | 400 metres |

* 1. The System shall include a control mechanism based on GPS for sensing and controlling the On/Off, radiated power levels ~~of BTS~~ and external antenna disabling upon crossing the boundaries mentioned in this Regulation.

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| Question 4: Do you have any comments concerning the technical conditions or any other comments related to this article? |

**3. General comments**

3.1 Further to the specific matters discussed, and questions asked above, please identify any additional issues which you feel are relevant for consideration in this consultation. Please provide specific support and/or explanation of your viewpoints as well as recommendations regarding how such issues might be resolved.