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## Public Consultation

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# TRA Regulations – Free Space Optics (FSO)

Commencement Date: 26 June 2018

Response Date: 24 July 2018

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Telecommunications Regulatory Authority (TRA)  
P O Box 26662, Abu Dhabi, United Arab Emirates (UAE)  
[www.tra.gov.ae](http://www.tra.gov.ae)

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## 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- Free Space Optics Version 1.0 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.

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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 **26 June to 24 July 2018** so that formal comments can still be received by **3.00pm on 24 July 2018**.

### Consultation Schedule

Milestone	Due Date	Notes
Closing Date for Initial Responses	24 July 2018	All responses to this consultation should be properly received by no later than <u>15.00 noon</u> 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.	17 July 2018	<p>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.</p> <p>Requests for extension should be submitted by e-mail to the e-mail address shown above.</p> <p>The TRA will not consider any requests for extension which the TRA receives after <u>15.00 noon</u> on the date stated here.</p> <p>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.</p>

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## 1 Introduction

- 1.1 At the outset it should be noted that the TRA intend to revise its Regulations on Free Space Optics Version 1.0. As such, all readers are informed that this document describes the changes to 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 has published spectrum regulations for FSO links to clarify the associated attributes under which they can operate in the UAE.
- 1.3 As such, the TRA acknowledges that the total number of stakeholders in the telecommunications sector is increasing and that their relative interests may also be growing or changing. Accordingly, the TRA considers that the inputs of all industry stakeholders 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~~

## 2 Matters for Discussion and Consultation

### Article (1)

#### ~~Purpose~~ **Scope of Document**

- 1.1 These regulations establish a regulatory framework for the usage of FSO Links in the UAE in order to promote usage and deployment of FSO links in the UAE. Moreover, to increase the choice and plurality available for connectivity and to Facilitate high data rate connectivity.

Question 1: Do you have any proposed modifications/additions/suppressions to Scope of Regulations.

Question 2: Do you think that these regulations on FSO should be merged with other TRA Regulations? Or not to be regulated as Radiocommunications service/system?

### Article (2)

#### Definitions

~~2.1 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:~~

- 2.1 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:

2.1.1 “**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.

2.1.2 “**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.

2.1.3 “**Authorization**” means a Frequency Spectrum Authorization granted by the Authority.

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- 2.1.4 “**Free Space Optics (FSO)**” means Wireless Transmission using Free Space Photonics, Laser or Optical Wireless transmitting modulated visible or infrared (IR) beams through the atmosphere for telecommunications.
- 2.1.5 “**Wavelength (Wa or  $\lambda$ )**” means the central wavelength and it’s FWHM (Full Width at Half Maximum). The unit should be in nanometres (e.g.:  $\lambda = 849 \pm 2$  nm). If there is a WDM transmission, the spectral range will be used.

Question 3: Do you have any proposed modifications/additions/suppressions to Definitions.

### Article (3)

#### Applications and Fees

- 3.1 The usage of any FSO link in the UAE is subject to a valid Authorization issued by the Authority. The Application shall be submitted to the Authority. The Application processing charges and annual Authorization renewal charges shall be in accordance with the latest version of Spectrum Fees Regulations. The Authorization can be issued for a period of one or three or five years.

Question 4: Do you have any further comments concerning the Applications and Fees for FSO links?

## Article (4) Link Planning

- 4.1 Link planning, power levels, selection of equipment, fading margins and catering for the fog and sandstorm outages shall be the sole responsibility of the Applicant. The transmit power of the laser diode higher than 10 mW should be justified by the Applicant to the satisfaction of the Authority with details of the deployment and eye safety. The Authority shall not be responsible for any harmful interference to FSO links.

Question 5: Do you agree that the TRA has clearly stated link planning aspects for FSO?

## Article (5) Equipment Approval

- 5.1 FSO links equipment must comply with (International Electrotechnical Commission) IEC standards for eye safety and protection. FSO links equipment should be designated as IEC Class 1 or 1M (following the IEC 60825-1 standard as and when revised) and may use 1300-nm or higher wavelength laser diodes. Lower wavelength (450- 1300 nm) optical links may only be used where the Authorised user is certain that there is no risk to human eyes. For equipment approvals, the relevant Regulatory Instruments shall apply.

Question 6: Do you have any further comments concerning the equipment approval for FSO?

## 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.