



هيئة تنظيم الاتصالات  
Telecommunications Regulatory Authority  
Kingdom of Bahrain - مملكة البحرين

## **Review of the Schedule of Fees**

**A Consultation Document  
issued by  
the Telecommunications Regulatory Authority  
of the Kingdom of Bahrain**

15 March 2015

Ref: TOD/ICT/0315/007

Purpose: to carry out a comprehensive review of the current Schedule of Fees through the adoption of an appropriate pricing mechanism and to introduce new structures for Domain Name Fees, Application Fee for Interference Investigation and Fees for Radiocommunication Station (Mast and Towers) Sites.

**Public Consultation on new Schedule of Fees**  
Table of contents

**Table of contents**

List of acronyms and definitions .....	5
Invitation to public consultation .....	7
Introduction to the public consultation .....	10
Draft Resolution No. [...] of 2015 – Schedule of Fees published on [Day] [Month] 2015 .....	12
Reasoning for the Draft Schedule of Fees.....	13
1 Executive summary of main changes .....	13
1.1 Telecommunications Licence Application Fee .....	13
1.2 Gross Annual Turnover-based Fee .....	13
1.3 Frequency Licence Fees .....	13
1.4 Numbering Fees .....	14
1.5 Type Approval Fees .....	14
1.6 Domain Names Fees.....	15
1.7 Fees for Radiocommunication Station (Mast and Towers) Sites .....	15
1.8 Exemptions and reductions .....	15
2 Introduction.....	16
2.1 Context of the review.....	16
2.2 Legal basis .....	17
2.3 Building blocks of the Draft Schedule of Fees.....	18
2.4 Entry into force of the new Resolution.....	19
3 Telecommunications Licence Fees.....	19
3.1 General principles concerning Telecommunications Licence Fees .....	19
3.2 Issues with existing Telecommunications Licence Fees .....	20
3.3 Relevant changes and justifications .....	20
3.4 Relevant text in the Draft Schedule of Fees.....	23
3.5 Question(s) to stakeholders.....	23
4 Frequency Licence Fees.....	23
4.1 General principles concerning Frequency Licence Fees .....	23
4.2 Issues with existing Frequency Licence Fees .....	25
4.3 Relevant changes and justifications .....	25
4.4 Conclusion.....	34
4.5 Relevant text in the Draft Schedule of Fees.....	35
4.6 Question(s) to stakeholders.....	35
5 Numbering Fees.....	36

**Public Consultation on new Schedule of Fees**  
Table of contents

5.1	General principles concerning Fees for assignment of numbers.....	36
5.2	Issues with existing Fees for assignment of numbers.....	36
5.3	Relevant changes and justifications .....	36
5.4	Relevant text in the Draft Schedule of Fees.....	38
5.5	Question(s) to stakeholders.....	38
6	Type Approval Fees .....	39
6.1	General principles concerning Type Approval Fees .....	39
6.2	Issues with existing Type Approval Fees .....	39
6.3	Relevant changes and justifications .....	39
6.4	Relevant text in the Draft Schedule of Fees.....	40
6.5	Question(s) to stakeholders.....	40
7	Domain Names Fees .....	41
7.1	General principles concerning Domain Names Fees.....	41
7.2	Issues with existing Schedule of Fees .....	42
7.3	Relevant changes and justifications .....	42
7.4	Relevant text in the Draft Schedule of Fees.....	43
7.5	Question(s) to stakeholders.....	43
8	Fees for Radiocommunication Station (Masts and Towers) Sites .....	44
8.1	General principles concerning Fees for Radiocommunication Station (Mast and Towers) Sites.....	44
8.2	Relevant text in the Draft Schedule of Fees.....	44
8.3	Question(s) to stakeholders.....	44
9	List of questions .....	45
	Annex A – Draft Schedule of Fees .....	46
1	Definitions.....	46
2	Categories of Fees covered by the Schedule of Fees .....	49
3	General principles for the determination of Fees .....	49
4	Exemptions from and reduction of Fees .....	51
5	Telecommunications Licence Fee.....	51
6	Gross Annual Turn-over based Fee.....	52
7	Frequency Licence Fees.....	52
7.1	General.....	52
7.2	Application and Modification Fees applicable to Frequency Licences .....	53
7.3	Annual Frequency Licence Fees .....	54
7.4	Temporary Frequency Licence Fee .....	54

**Public Consultation on new Schedule of Fees**  
Table of contents

7.5	Minimum Fee .....	55
7.6	Equipment-based Fees .....	55
7.7	Temporary Frequency Licence Fees for special events (Private Users) .....	55
7.8	Application Fee for Interference Investigation .....	56
8	Numbering Fees .....	56
9	Type Approval Fees .....	57
10	Domain Name Fees .....	57
11	Fees for Radiocommunication Station (Mast and Towers) Sites .....	58
12	Appendix 1: Value of parameters in the formula .....	60
13	Appendix 2: Calculations examples .....	62
13.1	Standard parameter of a calculation .....	62
13.2	Calculation example 1 (PtP Assignment) .....	64
13.3	Calculation example 2 (PtP Assignment) .....	64
13.4	Calculation example 3 (PtA Nationwide Allotment) .....	64
13.5	Calculation example 4 (Temporary PtA Nationwide Allotment) .....	64
14	Appendix 3: Exemptions and reductions (section 4 of the Schedule of Fees) .....	66
14.1	Scope .....	66
14.2	Exemptions pursuant to section 4 of the Schedule of Fees .....	66
14.3	Reductions pursuant to section 4 of the Schedule of Fees .....	67

**Public Consultation on new Schedule of Fees**  
List of acronyms and definitions

**List of acronyms and definitions**

ACF	Area Coverage Factor
BD	Bahraini Dinar
BW	Bandwidth
ccTLD	Country-code top-level Domain
DF	Demand Factor
DVB-T2 IRD	Integrated Receiver Decoders for use with 2 <sup>nd</sup> Generation Digital Terrestrial Television broadcasting system
DWLF&M	Directorate of Wireless Licensing, Frequency and Monitoring
EoY	End of Year
FLF	Fixed Link Factor
F1	FIA Formula One World Championship
FREQ	Frequency Factor
GEO	Geographic Factor
GMPCS	Global Mobile Personal Communications by Satellite
GSM	Global System for Mobile Communications
IDEN	Integrated Digital Enhanced Network
IDTV	Integrated Digital TV
kHz	Kilo Hertz
KTS	Key Telephone System
LD	Level Domain
LPD	Low Power Device
LTE	Long Term Evolution
MHz	Mega Hertz
PABX	Private Automatic Branch Exchange
PtA	Point-to-Area
PtP	Point-to-Point
RA	Radiocommunications Authority refers to the Directorate of Wireless Licensing, Frequencies & Monitoring according to Legislation & Legal Opinion Commission decision No. 2008/474 dated 17 April 2008
RFID	Radio-frequency Identification
SRD	Short Range Device
TLD	Top-level Domain
TRA	Telecommunications Regulatory Authority of the Kingdom of Bahrain
UHF	Ultra High Frequency
UNI	User Network Interface
UWB	Ultra-Wideband
VAS	Value-added Services
VHF	Very High Frequency
VSAT	Very Small Aperture Terminal
WEC	World Endurance Championship

**Public Consultation on new Schedule of Fees**  
List of acronyms and definitions

WBA	Wireless Broadband Access
WiMAX	Worldwide Interoperability for Microwave Access

Unless the context requires otherwise, terms and expressions used in capital letters in the present “Reasoning for the Draft Schedule of Fees” shall have the same meaning as that prescribed to them according to the definition section of the “Draft Schedule of Fees”.

**Public Consultation on new Schedule of Fees**  
Part 1 – Invitation to public consultation

**Invitation to public consultation**

**Request for comments**

1. The Telecommunications Regulatory Authority (“the Authority”) and the Directorate of Wireless Licensing, Frequency & Monitoring (“DWLF&M”) (jointly referred to as “the Authorities”) invites all interested parties to submit written comments with regard to the issues addressed in the consultation document.
2. The Authorities particularly welcome comments and responses to the specific numbered questions set out in the “Reasoning for the Draft Schedule of Fees”, supported by appropriate substantiation.

**Instructions for submitting a comment**

3. Comments should be submitted no later than 27 April 2015 at 4pm.
4. Responses should be sent to the Authority preferably by email to the attention of:  

Telecommunications Regulatory Authority  
[sof@tra.org.bh](mailto:sof@tra.org.bh)  
P.O. Box 10353, Manama,  
Kingdom of Bahrain  
Fax: +973 1753 2125
5. Comments submitted in printed format, especially by fax or post, must be accompanied by a CD-ROM or USB storage key containing the same comments in electronic format.

**Format of comments**

6. In providing their comments, interested parties are kindly requested to use the following template. In particular, any comment should clearly specify the numbered questions it is referring to and indicate any attachment relevant to the specific comment.

Review of the Schedule of Fees		
[Name of the company/ institution/ association]	[Name of principal contact person, and position]	[Contact information i.e. email address, telephone number, fax number, postal address etc.]
[Enter number of question] Example: Q1	[Enter here the exact wording of the question referred to]	
Comment	[Enter here your comment on the question referred to above]	

**Public Consultation on new Schedule of Fees**  
Part 1 – Invitation to public consultation

Substantiation	[Enter here the substantiation in support of your comment]
Attachment	[Enter here number and title of any attached document relevant to your comment]

7. Responses should include:
- a. the name of the company/institution/association etc.;
  - b. the name of the principal contact person and his/her position;
  - c. full contact details (email address, telephone number, fax number, postal address etc.); and
  - d. in the case of responses from individual consumers, name and contact details.
8. The Authorities expects the comments to follow the same order as the one set in the “Reasoning for the Draft Schedule of Fees” and summarized in the list of questions.
9. The Authorities also invites respondents to substantiate their responses. Any response submitted without any substantiation may not be considered. In case of disagreement with one of the approaches proposed by the Authorities, the respondent is invited to provide an alternative to such approach together with detailed justifications.
10. In the interest of transparency, the Authority intends to make all submissions received, available to the public. The Authority will evaluate a request for confidentiality in line with relevant legal provisions and the Authority’s published guidance on the treatment of confidential and non-confidential information.<sup>1</sup>
11. Respondents are required to mark clearly any information included in their submission that is considered confidential. Where such confidential information is included, respondents are required to provide both a confidential and a non-confidential version of their submission (soft copies and not scanned copies). If a part or a whole submission is marked confidential, reasons should be provided. The Authority may publish or refrain from publishing any document or submission at its sole discretion.

---

<sup>1</sup> The Authority, *TRA Treatment of Confidential and Non-Confidential Information*, 10 September 2007 (ref: LAU/0907/160)



**Public Consultation on new Schedule of Fees**  
Part 1 – Invitation to public consultation

**Structure of the consultation documents**

12. The consultation documents consist of the following five (05) parts:
  - a. Invitation to public consultation (Part 1);
  - b. Introduction to the public consultation (Part 2);
  - c. Draft Resolution No.[...] of 2015 (Part 3);
  - d. Reasoning for the Draft Schedule of Fees (Part 4); and
  - e. Draft Schedule of Fees and appendices (Part 5).

**Way forward**

13. This consultation is open for public comments.
14. All relevant (substantiated) comments will be reviewed and the Authorities may, at their sole discretion, integrate those acceptable to them in the finalized version of the new Resolution. Therefore, the Authorities will not be bound to comply with any comment or opinion received and may not respond to comments or opinions individually.
15. Once the Authority has received and reviewed all the comments raised by respondents, it will issue its final Resolution on the Schedule of Fees.
16. For generic information about the Authority's consultation processes, interested parties are invited to refer to the "Consultation Process Regulation" dated 10 August 2003 at the Authority's website.<sup>2</sup>
17. For more clarification concerning this specific consultation process, interested parties are invited to contact [sof@tra.org.bh](mailto:sof@tra.org.bh)

---

<sup>2</sup> [http://www.tra.bh/media/document/Consultation\\_Process\\_ERU\\_RN\\_001\\_v1.0%5B1%5D\\_PDF.pdf](http://www.tra.bh/media/document/Consultation_Process_ERU_RN_001_v1.0%5B1%5D_PDF.pdf)

## **Introduction to the public consultation**

18. The present public consultation gives the opportunity to interested parties to contribute to the on-going process of the Authority to enhance the licence fee structure in the Schedule of Fees so that it represents a more equitable mechanism, along with the introduction of Domain Name Fees, Application Fee for Interference Investigation, and Fees for Radiocommunication Station (Mast and Towers) Sites.
19. The Authority is in charge of regulation in the public telecommunications sector. It was established by Legislative Decree No. 48 of 2002 promulgating the Telecommunications Law (“Telecommunications Law”). Since its establishment, the Authority has been working with government entities, consumers, operators and investors to develop the Kingdom into the region’s most modern telecommunications hub and to facilitate the growth of the telecommunications market.
20. The Authority carries out its duties independently and in a transparent and non-discriminatory manner. Its tasks include, inter alia, the introduction of competition in the telecommunications market, the promotion of effective and fair competition among licensed operators and the protection of the interests of subscribers and users of telecommunications services.
21. In particular, the Authority is empowered to set and collect licence Fees and fines, which are in turn used to fund its operations and activities. In accordance with Article 18 of the Telecommunications Law, the funding of the Authority is derived from application, initial and renewal Fees charged for licences, annual turn-over based Fees and fines collected from licensees.
22. In accordance with Article 42 of the Telecommunications Law, the DWLFM is responsible for overall frequency co-ordination and assignment including the public telecommunication Operators and for administering and/or licensing all spectrum users (other than Public Telecommunications Operators). The Authority is responsible for the issuance of frequency licences to Public Telecommunications Operators.
23. Pursuant to Article 3(f) of the Telecommunications Law, the Authority is, except in emergency cases, required to give interested parties the opportunity to share their opinions on any planned measure that will have a material effect on a particular Telecommunications market.
24. In the present consultation document, the Authorities outline their positions with regard to a range of questions related to the Schedule of Fees and would like to collect views of interested parties on these issues.
25. The consultation document consists of five (05) parts:
  - a. the first part (Invitation to Public Consultation) provides specific instructions for the submission of comments;
  - b. the second part (Introduction to the public consultation) puts the whole consultation process to context;
  - c. the third part (Draft Resolution No.[...] of 2015) consists of the draft text of the new Resolution on the Schedule of Fees;

## **Public Consultation on new Schedule of Fees**

### Part 2 – Introduction to public consultation

- d. the fourth part (Reasoning for the Draft Schedule of Fees) contains explanatory statements for the Authorities' position regarding the proposed changes; and
- e. the fifth part (Annex A - Draft Schedule of Fees) contains the draft text of the proposed Schedule of Fees to be promulgated.

**Draft Resolution No. [...] of 2015 – Schedule of Fees published on [Day]  
[Month] 2015**

**WHEREAS**

26. Pursuant to Article 3(c)(6) of the Telecommunications Law, the Telecommunications Regulatory Authority (the “Authority”) is empowered to set and collect licence Fees and fines, which are in turn used to fund its operations and activities;
27. Pursuant to Article 42(a) of the Telecommunications Law, the Radiocommunications Authority “RA” is responsible for overall frequency co-ordination in the Kingdom; and
28. Pursuant to Article 18 of the Telecommunications Law, the funding of the Authority is derived from application, initial and renewal Fees charged for licences, annual turn-over based Fees and fines collected from licensees.

**NOW THEREFORE**

29. The Authority, pursuant to its powers under Article 3(c)(1), (6) and (18), Article. 18 (a)(2), Article 27(a), Article 44(a) and Article 38(c) of the Telecommunications Law hereby resolves to:
  - a. repeal Resolution No. 3 of 2010, published on 28 July 2010; and
  - b. publish and adopt the Schedule of Fees as set out in Annex A to this Resolution.

**LICENSEES COMPLIANCE**

30. Licensees shall comply with the terms of this Resolution. Failure to comply with the terms of this Resolution may constitute a material breach of the Telecommunications Law and/or the Licence and may consequently be subject to enforcement action pursuant to the relevant provisions of the Telecommunications Law.

**ENTRY INTO FORCE**

31. This Resolution is effective as of the 1<sup>st</sup> January 2016. It supersedes the Resolution No. 3 of 2010 – Telecommunications Regulatory Authority’s Schedule of Fees for 2010 published on 28 July 2010.
32. This Resolution is without prejudice to any further Orders, Regulations and Determinations that the Authority may consider necessary pursuant to its powers and duties under the Telecommunications Law. The Authority reserves the right to amend, modify or replace this Resolution and/or to issue further clarifications in relation to the same.

Signed on [Day Month Year]

**[●]**

Chairman

Telecommunications Regulatory Authority

Manama, Kingdom of Bahrain

**Public Consultation**  
Part 4 – Reasoning for the Draft Schedule of Fees

## **Reasoning for the Draft Schedule of Fees**

### **1 Executive summary of main changes**

33. Based on all relevant elements detailed in the present part of the consultation documents, the Authorities have adopted a position with regard to the review of the Schedule of Fees 2010 as promulgated by Resolution No. 3 of 2010.
34. This position includes changes as summarized below, with the ultimate aim to introduce an equitable pricing mechanism as well as new structures for Domain Name Fees, Application Fee for Interference Investigation, and Fees for Radiocommunication Station (Mast and Towers) Sites.

#### **1.1 Telecommunications Licence Application Fee**

35. There is no change being contemplated to the Fees payable in respect of Licence Application Fee.
36. The terminology (Telecommunications Licence Application Fee) has been introduced in order to ensure alignment with the terminology used in the Telecommunications Law.
37. Additionally, the Authority considers that an Application Fee should be payable upfront for any application of a Telecommunications Service Licence.
38. The service licence application Fees defined in section 4.1 of the current Schedule of Fees are being renamed “Initial Licence Fee” in the new proposed Schedule of Fees and it is payable upon notification from the Authority that the Licence application is approved, before such Licence is issued.
39. The Authority also introduces the Renewal Licence Fee which is payable upon the renewal of the Licences for another Licence term.
40. In addition, the specific reference to the term “VSAT” in the relevant table of Fees has been removed. In this respect, the term “Earth Stations” has been retained and VSATs are considered to fall under the umbrella of that term.

#### **1.2 Gross Annual Turnover-based Fee**

41. The Gross Annual Turn-over based Fee is kept unchanged at 0.8% and shall be payable in respect of each subsequent year following the granting of a Telecommunications Licence.

#### **1.3 Frequency Licence Fees**

42. Terminological adjustments: The term “Spectrum licensing Fees” is replaced by the term “Frequency Licence Fees”. Also, the term “VSAT” in the Draft Schedule of Fees has been removed. In this respect, the term “Earth Stations” captures any related Equipment including VSATs.

## Public Consultation

### Part 4 – Reasoning for the Draft Schedule of Fees

43. The determination of Frequency Licence Fees is now based on the application of a formula.
44. The new approach is intended to introduce a systematic and uniform system of Fees in view of the fast rate of technological evolution. Accordingly, a model has been developed based on the current working practice of the Authorities.
45. This model is meant to ensure that the Authorities at least recover the costs incurred in administrating and managing spectrum.
46. Where the spectrum is perceived to have a commercial value which exceeds the Fees set by the Schedule of Fees then a separate allotment process (competitive tendering, auction or direct attribution) is applied to determine the relevant Spectrum Usage Rights Fees.
47. The main elements of the new approach of determining Frequency Licence Fees include:
  - a. An Annual Frequency Licence Fee that is calculated based on a formula which applies to annual Point-to-Point (PtP) Assignments and Point-to-Area (PtA) Assignments/Allotments;
  - b. A Temporary Frequency Licence Fee is calculated based on a formula which applies to temporary Point-to-Point (PtP) Assignments and Point-to-Area (PtA) Assignments/Allotments;
  - c. A Temporary Frequency Licence Fee for Special Events (Private Users) is set based on a table, with events being limited to a maximum period of four (4) calendar weeks;
  - d. A Minimum Fee is applied per single frequency Assignment/Allotment where an Annual or Temporary Frequency Licence Fee is below the Minimum Fee, excluding Temporary Frequency License Fee for Special Events. The absolute value of the Minimum Fee is set to 1% of the Unit Price for 1 MHz, currently proposed BD70;
  - e. An Application Fee is newly introduced with regard to Frequency Licensing. It is set at BD30 and it is payable (in advance) for each application of Assignment/Allotment except for Temporary Frequency License Fee for Special Events where the Application Fee is set at BD30 regardless the number of the requested frequency assignments; and
  - f. An Equipment-based Fee is maintained to the same Fee as in the current Schedule of Fees; it refers to cases in which determination of the Annual or Temporary Frequency Usage Fees depends on the specific Equipment used, these are Fees for marine and coast stations, aircraft call signs and amateurs.

#### 1.4 Numbering Fees

48. The Authority does not propose to change the Assignment Fee. However the Reservation Fee is increased from 10% to 80% of the Assignment Fee.

#### 1.5 Type Approval Fees

49. The term “Equipment approval Fees” is replaced by the term “Type Approval Fees”.

## **Public Consultation**

### **Part 4 – Reasoning for the Draft Schedule of Fees**

50. A system with four (4) generic categories is now introduced for the table: Short Range Devices, Radiocommunications Equipment, Terminal Devices, and Passive Equipment.

#### **1.6 Domain Names Fees**

51. New Fees for accreditation of a Registrar are being introduced. Also, an Application Fee is being implemented; the level thereof is set purposely low (BD 250) in order to create incentives for the accreditation of new Registrars.

#### **1.7 Fees for Radiocommunication Station (Mast and Towers) Sites**

52. It is being proposed that the Authority would become the entity responsible for the processing of applications for the issuance of permits for the erection of Radiocommunication Station (Masts and Towers) Sites for Public Licensees. As such the Authority is introducing fees to cover this new activity.
53. It is also noted that some of the arching objectives of the new related regulation are being promulgated to encourage operators to share masts in a bid to tackle location shortages and accessibility in addition to alleviating the concerns of public and planning authorities. There is also a drive to minimise the visual impact of masts and towers and minimise the environmental impact.
54. The proposed fees are per site; for example if two or more operators are sharing a tower or a mast the fees will be sharable between the licensed operators.
55. The Authority is therefore keen to ensure that even in setting the level of fees for the erection of masts and towers, the Authority will provide an incentive to operators to (i) share masts and (ii) to camouflage sites.
56. The new fees are set out in Section 8 of the Schedule of Fees and shall become applicable only to the extent that the Authority becomes tasked with undertaking such responsibilities.

#### **1.8 Exemptions and reductions**

57. The Draft Schedule of Fees provides for exemptions or reductions with regard to certain activities, systems or spectrum uses. The reasons for these exemptions or reductions are manifold and depend on the case concerned.
58. The relevant list related to exemptions and reductions is presented in Appendix 3 of the Draft Schedule of Fees.

## Public Consultation

### Part 4 – Reasoning for the Draft Schedule of Fees

## 2 Introduction

### 2.1 Context of the review

59. The current Schedule of Fees was promulgated by the Authority in 2010 by Resolution No. 3 of 2010. This is the latest Schedule of Fees. It was elaborated following a tariff rebalancing process in which the Authority updated the Schedule of Fees with two particular effects:
- a. Reduction of the annual turn-over based Fee from 1% (the legal maximum) to 0.8% and
  - b. Increase of other Fees such as service licence application Fees, spectrum licensing Fees, Equipment approval Fees and Fees for assignment of numbers.
60. This intervention of the Authority was intended to follow key principles of efficiency and value-for-resource while managing socio-economic objectives wherever possible.
61. In the light of its regulatory mandate to promote effective and fair competition among Licensed Operators, private licensees, stakeholders and protect consumers' interests, the Authorities have embarked on a comprehensive review of the current Schedule of Fees. It includes the following five (05) main Fees categories:
- a. **Service licence application Fees** that cover a limited range of services including fixed services paging, international facilities and services, satellite reception as well as value-added and internet services. The Fees vary from BD1,000 to BD35,000;
  - b. **Annual turn-over based Fee** of 0.8% of the total of gross annual turn-over of the Licensee from activities covered by the Licence;
  - c. **Spectrum licence Fees** are apparatus-based and assessed on the basis of transmitter power (used as a proxy for coverage) and the frequency band used, the nature of the link (point-to-point, point-to-area) and directly proportional to the bandwidth used. HF and UHF2 bands represent the most expensive spectrum bands at BD6,507 per MHz for nationwide coverage while SHF/EHF frequencies are the least expensive at BD434 per MHz for nationwide coverage. The Schedule of Fees clearly seeks to reflect the value of the spectrum to users;
  - d. **Equipment approval Fees** which apply differently whether the piece of equipment has a radio interface or not; and
  - e. **Fees for assignment of numbers** that rely on a simple system that is based on the number of digits requested. In addition, a 10% of the numbering fee applies for number reservation.
62. The Authorities have identified some room for improvements in the current Schedule of Fees, which can be summarized as follows:
- a. The current Schedule of Fees has no consistent model behind the charging of the different bands within the spectrum section. This makes it difficult for the Authorities to adjust the pricing approach according to developments in the sector;
  - b. There are no transparent weights related to capacity or level of demand in the spectrum pricing approach;



## Public Consultation

### Part 4 – Reasoning for the Draft Schedule of Fees

- c. The process of temporary Assignments and the pro-rata related credit note scheme is no longer appropriate, as it requires high administrative effort and also allows for the possibility for abuse of inconsistency in temporary Assignments;
  - d. The introduction of Fees for initial application or any modification of the licences in order to minimise abuse or/and inefficient planning on requester side without causing administrative overhead;
  - e. Although determination of numbering Fees currently causes no particular problems as there is no shortages of numbers, there is a need for dedicated review of the allocation policy;
  - f. The introduction of Domain Name Fees;
  - g. Regulatory certainty in relation to Equipment approval Fees;
  - h. The introduction of the Application Fee for Interference Investigation that covers the interference investigation costs incurred by of the Authorities in initiating an interference investigation; and
  - i. The introduction of Fees for Radiocommunication Station (Mast and Towers) Sites.
63. The review is intended to adopt an equitable pricing mechanism to existing Fees and introduce new structures for Domain Name Fees, Application Fee for Interference Investigation and Fees for Radiocommunication Station (Mast and Towers) Stations. The new proposed Schedule of Fees will govern all frequencies managed by the Authorities.

## 2.2 Legal basis

64. The Telecommunications Law authorises the Authority to set out the fees payable by licensees. The relevant provisions can be summarized as given below.
65. According to Article 18(a) of the Telecommunications Law, sources of funding of the Authority shall include:
- a. Application, initial and renewal Fees charged for Licences;
  - b. Annual Fees based on the gross annual turn-over of Licensees resulting from activities under the Licence. The Fees shall not exceed one percent (1%) of such gross annual turn-over;
  - c. Fees charged by the Authority for any services that it provides; and
  - d. Fines collected by the Authority from Licensees on the basis of the Licences granted to them.
66. In the same spirit, Article 3(c)(6) of the Telecommunications Law empowers the Authority to:
- a. Set and collect application, initial, annual and renewal Fees for Licences;
  - b. Collect fines and fees under any Licence, where appropriate; and
  - c. Collect any fees for services provided by the Authority.
67. The following Articles also deal with the Authority's power to determine certain categories of Fees:

## Public Consultation

### Part 4 – Reasoning for the Draft Schedule of Fees

- a. Article 27(a) of the Telecommunications Law foresees an Application Fee to be determined by the Authority for the application for a Telecommunications Licence;
  - b. Article 38(c) of the Telecommunications Law foresees a Fee to be determined by the Authority for the approval of Telecommunications Equipment; and
  - c. Article 44(a) of the Telecommunications Law foresees an Application Fee to be determined by the Authority for the application for a Frequency Licence.
68. In addition:
- a. Article 3(c)(1) covers all Fees that the Authority is empowered to collect according to the Telecommunications Law, for example Article 3 (c)(6) thereof;
  - b. According to Article 18 (a)(2), Article 27(a), Article 38(c) or Article 44(a), the Authority shall determine the Fees as referred to above by means a Resolution; and
  - c. Pursuant to Article 42(a) of the Telecommunications Law the Radiocommunications Authority “RA” is responsible for overall frequency co-ordination in the Kingdom.

### 2.3 Building blocks of the Draft Schedule of Fees

69. The Draft Schedule of Fees (Annex A) constitutes part 5 of the consultation documents. It is an integral part of the new Resolution and includes 3 appendices:
- a. One detailing the parameters of the formula;
  - b. One presenting four examples of calculation of Annual and Temporary Frequency Licence Fees using the formula; and
  - c. One addressing exemptions and reductions.
70. When referring to the “present” Schedule of Fees within the Draft Schedule of Fees (Part 5 of this consultation document) means the proposed Schedule of Fees.
71. By way of quick overview, the building blocks of the Draft Schedule of Fees are illustrated in the chart below:

## Public Consultation

### Part 4 – Reasoning for the Draft Schedule of Fees

Building blocks of Part 5: Annex A – Draft Schedule of Fees			
<b>1</b> Definitions	<b>2</b> Fees categories	<b>3</b> General principles	<b>4</b> Exemptions & reduction
All terms used in capital letters in the Schedule of Fees (if not defined in the Telecoms Law)	Six (06) fee categories	General principles for the determination of Fees	Refers to Appendix 3
<b>5</b> Tel. License Appl. Fees	<b>6</b> Turnover based Fee	<b>7</b> Frequency License Fees	<b>8</b> Numbering Fees
Table from section 4.1 of existing SoF	Current 0.8% or Minimum Fee	<ul style="list-style-type: none"> <li>■ Appl. &amp; Modif. Fees</li> <li>■ Ann. Freq. License Fees</li> <li>■ Temp. Freq. Licen. Fees</li> <li>■ Minimum Fee</li> </ul>	<ul style="list-style-type: none"> <li>■ Assig. &amp; Mod. Fee</li> <li>■ Renewal Fees</li> <li>■ Annual Fee</li> </ul>
<b>9</b> Type Approval Fees	<b>10</b> Domain Name Fees	<b>11</b> Appendix 1-2-3	
<ul style="list-style-type: none"> <li>■ Short-range Devices</li> <li>■ Radio Communications equipment</li> <li>■ Terminal Devices</li> <li>■ Passive Equipment</li> </ul>	<ul style="list-style-type: none"> <li>■ Fees for Registrar accreditation (table)</li> <li>■ Fees for DN creation and renewal (table)</li> </ul>	<ul style="list-style-type: none"> <li>■ Formulas parameters (1)</li> <li>■ Standard calculation (2)</li> <li>■ Exemptions &amp; reductions (Appendix 3)</li> </ul>	

#### 2.4 Entry into force of the new Resolution

72. The Authorities plan to issue the final Resolution in 2015 so as to start applying it from 1<sup>st</sup> January 2016.

### 3 Telecommunications Licence Fees

73. In sections 4.1 and 4.5 of the current Schedule of Fees, the Telecommunications Licence Fees include a Telecommunications Licence application Fee and a gross annual turn-over based Fee.

#### 3.1 General principles concerning Telecommunications Licence Fees

74. Licence fee structures vary from country to country. Some countries only levy the annual recurring licence fee, which is based on the revenues of the licensee. In addition to a revenue-based fee, other countries also consider a one-time fee at the time of the issuance of the licence.
75. The licences give the right to licence holders to provide the service they require (i.e. public access mobile radio, national fixed telephony, internet services, etc.). In some instances, the regulator enforces a minimum annual licence fee to address cases where a licensee reports no turn-over.

## Public Consultation

### Part 4 – Reasoning for the Draft Schedule of Fees

#### 3.2 Issues with existing Telecommunications Licence Fees

76. The Authority has determined that there are a number of Licensees that claim to generate no revenues from licensed activities. Whilst the Authority wishes to put on record that the non-utilisation of a Licence could lead to the revocation of the same,<sup>3</sup> the Authority reiterates that there are costs still involved for the purposes of administering and maintaining those same Licences. Accordingly, the Authority believes that it is appropriate to secure a minimum payment to cover such costs. As a result, annual Licence Fees will be subject to a minimum payment threshold. As things stand today, the administration costs referred to in this paragraph are currently being covered by licensees who are actually generating revenues from licensed services. The Authority believes that this is not an equitable situation and the anomaly deserves to be addressed.
77. Additionally, the Authority considers that an Application Fee should be payable upfront for any application of a Telecommunications Service Licence. Such Application Fee should not be refundable when the application is being rejected by the Authority. The service licence application Fees defined in section 4.1 of the current Schedule of Fees are being renamed Initial Licence Fee in the new proposed Schedule of Fees and it is payable upon notification from the Authority that the Licence application is approved, before such Licence is issued.
78. The Authority also introduces the Renewal Licence Fee which is payable upon the renewal of the Licences for another Licence term.

#### 3.3 Relevant changes and justifications

##### 3.3.1 Summary from the Authority's internal benchmark study

79. As can be seen from international benchmarks, no similarities can be identified in the organizational structure of Telecommunications Licence Fees.<sup>4</sup> It is therefore up to the individual regulator to decide on which organization fits best in its country. In most cases, the regulator charges a Fee composed of a percentage of turn-over plus a one-time Fee for the specific Licence. The percentage on turn-over itself can be constant (such as the 0.8% currently being applied by the Authority) or can vary.
80. From the Authority's internal benchmark study, it follows that the highest ceiling for the annual turnover based license fee is 1%.<sup>5</sup> The percentage on turn-over of 0.8% currently being applied by the Authority is below the 1% and is therefore in line with international best practice.

##### 3.3.2 Relevant Fee schedule

81. The Telecommunication Licence Application Fee is set at BD500; this Fee is non-refundable.

---

<sup>3</sup> Steps have been undertaken by the Authority in 2014 to revoke the licences of those who are not providing licensed activities.

<sup>4</sup> For example fees in Singapore and South Africa are levied on the revenues of the licensed activity, while the UAE charges a fixed annual fee plus an annually recurring acquisition fee. Other countries combine both approaches and levy a fixed fee plus a percentage on turnover.

<sup>5</sup> This amount is charged for example by the regulatory authorities in Oman and Singapore. In the latter case a certain turnover is set as basis for the level of the fee. Note that where a minimum fee is imposed or where there is an additional fixed levy, the resulting fee may well be a higher value than 1% of turnover for some licensees.

## Public Consultation

### Part 4 – Reasoning for the Draft Schedule of Fees

82. The following table sets out the Initial Licence Fees and the Renewal Licence Fees payable in respect of each type of Licences.

**Table 1: Initial Licence Fees and Renewal Licence Fees**

Licence	One-Time Fee (BD)
Individual Licence for Paging Services	5,000
Individual Licence for Earth Station Services *	5,000
Individual Licence for Public Access Mobile Radio Services	5,000
Individual Licence for International Telecommunications Facilities	20,000
Individual Licence for International Telecommunications Services	10,000
Individual Licence for National Fixed Services	35,000
Individual Internet Exchange Licence	5,000
Class Licence for Internet Services	5,000
Class Licence for Value Added Services	1,000
Individual Licence for Mobile Virtual Network Operator and/or Enabler	5,000
Unified Licence	5,000

\* For the purpose of the payment of renewal fees, all previously issued Individual Licences for VSAT Services are considered to be Individual Licences for Earth Station Services.

Source: the Authority

83. The proposed Schedule of Fees will remove the reference to VSAT in the current Schedule of Fees and will now merely be referred to as “Earth Stations” as this is the generic term capturing all Equipment that satisfy the features as defined within the framework of the present consultation documents.
84. The default 15-year duration of a Telecommunications Licence (insofar as the issuance of new Licences is concerned) is not changed. The Authority considers that 15 years is a suitable period for long-term investments decisions.
85. With regard to the Gross Annual Turn-over based Fee, the Authority’s position is to keep the current level of 0.8%.
86. There shall be a Minimum Fee of BD1,000 as there are costs involved for the purposes of administering and maintaining those same Licences. For clarity, where the Licensee claims that it has not recorded any revenues from licensed activities in a particular calendar year or where it reports a gross annual turn-over from licensed activities in a particular calendar year that does not exceed BD125,000 , then the Minimum Fee is due.
87. The Initial License Fee for the period from the effective date until the end of the calendar year in which the license is awarded shall be fixed as specified in the Telecommunications License.
88. The Gross Annual Turn-over based Fee shall be payable in respect of each subsequent year.
89. The Initial Licence Fees and Renewal Licence Fees related to “Individual Internet Exchange Licence” and “Class Licence for Internet Services”, has been increased in the proposed Schedule of Fees to BD5,000 to cover the Authority’s cost for the activities required towards those specific licensees.
90. If a unified licensing framework is introduced, the Application Fee for a unified individual Licence or unified class Licence shall be BD2,000 each.

**Public Consultation**

Part 4 – Reasoning for the Draft Schedule of Fees

## Public Consultation

### Part 4 – Reasoning for the Draft Schedule of Fees

#### 3.4 Relevant text in the Draft Schedule of Fees

See section 5 and 6 of the Draft Schedule of Fees

#### 3.5 Question(s) to stakeholders

**Q1. Do you agree with the proposed Licence Fee structure? If you do not agree, please present arguments as to why you disagree and what you would recommend, bearing in mind that both are foreseen in the Telecommunications Law.**

**Q2. What do you think about the combination of the Gross Annual Turn-over based Fees with the idea of setting a Minimum Fee and the level thereof? If you do not agree, please present arguments as to why you disagree.**

## 4 Frequency Licence Fees

### 4.1 General principles concerning Frequency Licence Fees

91. The radio frequency spectrum is fundamentally a scarce resource and accordingly it has to be managed effectively, a process in which pricing plays its part. There are almost as many perceptions of the role of pricing in spectrum management as there are countries. The ITU has endeavoured to identify principles regarding Licence Fees and its latest report on the Economic Aspects of Spectrum Management<sup>6</sup> notes that *Licence fees can be efficiently implemented using the following principles:*

- Decisions and changes related to fee collection should be undertaken in an open manner through consultation with users and industry.
- Fees should take into consideration, to the maximum extent possible, the value of the spectrum.
- Fee mechanisms should be easy to understand and implement.

---

<sup>6</sup> ITU, “Economic aspects of spectrum management”, ITU-R SM.2012 – 4, (06/2014), <http://www.itu.int/pub/R-REP-SM.2012-4-2014>

## Public Consultation

### Part 4 – Reasoning for the Draft Schedule of Fees

- Fees should not be an impediment to innovation and use of new radio technologies, or to competition.
- Fees should support the attainment of the spectrum manager's national goals and objectives.

The basic types of fees are those based on the spectrum management costs for processing licence applications, revenues derived from licensee's use of the frequency spectrum, and incentive fee formula. Spectrum management fees are based on direct costs incurred by spectrum managers in processing applications, and may also reflect indirect spectrum management costs; i.e., overhead costs.

92. Since the key principles were outlined by the ITU in 1993,<sup>7</sup> the recommendations and/or guidelines have become less clear-cut. The consistent pattern that has emerged since then is that for specific spectrum bands where spectrum availability has an increased demand (and where it is still possible to make new assignments/allotments), competitive auctions are held in which the allotment value is often based on the highest price offered which can be considered as a good representation of the perceived value of the band at that point in time. Comparative selection processes (i.e. beauty contests) have also been considered as an alternative to competitive auctions. For the rest of the spectrum, the prices (i.e. Annual or Temporary Frequency Licence Fees) are applied administratively.
93. For the spectrum bands where administrative pricing is applied, the fees should in principle be set based on recovering the costs of spectrum regulation<sup>8</sup>.
94. As a general principle, these Fees should be implemented in a transparent and fair manner without any complicated administrative mechanisms. Therefore the Fees should be defined by some fixed (long-term constant) input parameter individually weighting the use of spectrum according to bandwidth, frequency band and target coverage area and one overall scaling unit factor for all weights taking the overall cost target into account. To be more flexible, the scaling factor might be adapted on a regular basis to reflect new tendencies in frequency spectrum use, but taking care not to increase administrative efforts.
95. For the Kingdom, in view of the fast rate of technological evolution, it is clearly desirable to have a systematic and uniform system of administrative Fees. Accordingly, a model has been developed that evolves from the current practice. It must be emphasised that this model is for the administrative Schedule of Fees. In case the spectrum is perceived to have a commercial value, or is reserved for the use of a specific Radiocommunications service, and is "scarce" as its availability is less than its desired use, a separate allotment process (competitive tendering, auction or direct attribution) is applied.

---

<sup>7</sup> ITU (1993): Spectrum Pricing Study, Commission Study Groups, ITU-R, SM.2012 – this is cited (with commentary) in Martin Cave, Chris Doyle and William Webb, "Essentials of Modern Spectrum Management", Cambridge University Press 2007.

<sup>8</sup> ITU, "Economic aspects of spectrum management", ITU-R SM.2012 – 4, (06/2014), <http://www.itu.int/pub/R-REP-SM-2012-4-2014> - Section 2.2.2 c



## Public Consultation

### Part 4 – Reasoning for the Draft Schedule of Fees

#### 4.2 Issues with existing Frequency Licence Fees

96. From the Authorities perspective, the existing approach for determining Fees with regard to spectrum contains a range of areas in need of improvement. The main areas are described below:

- a. With regard to Frequency Licence Fees, the Authorities acknowledge that there is no consistent model behind the charging of the different bands. The consequence is that the system is difficult to adjust;
- b. There are no weights related to capacity or level of demand;
- c. The process of temporary Assignments and the pro-rata related credit note scheme is not appropriate, as it requires high administrative effort and also allows for the possibility for abuse of inconsistency in temporal Assignments; and
- d. No Fees for initial application or any modification of the licences. This allows for abuse or/and inefficient planning on requester side while causing administrative overhead.

97. After a thorough analysis, the following detailed key points can be made regarding the current Schedule of Fees:

- a. The price per MHz varies from band to band with 2 frequency bands at the maximum price of BD6,507 while the other bands range between 7% and 67% of this value;
- b. Nationwide Allotments are naturally set at the highest value for any band;
- c. Fixed link Assignments on the other hand have been calculated as 10% of the maximum (i.e. nationwide);
- d. Although non-nationwide Assignments are charged depending on the maximum transmitter power (90% to 25% of the maximum value), there is not much evidence of such Assignments existing in practice;
- e. Bands above 55GHz are entirely used for PtP links and all are charged independently from the bandwidth used at BD1,000 per link and not pro-rata;
- f. The Minimum Fee for each Assignment is BD40, which occurs generally for the terrestrial Assignments at low bands and low bandwidth; and
- g. Some temporary links attract a charge that is higher than the annual Fee of BD1,000. This minor observation is clarified in the proposed Schedule of Fees.

#### 4.3 Relevant changes and justifications

98. The present section discusses the proposed changes made to Frequency Licence Fees as compared to the current Schedule of Fees. It also provides justifications for such changes.

99. The methodology for determining Frequency Licence Fees should meet the following objectives:

- a. It should be based on a consistent logic that is intuitively comprehensible to all stakeholders, transparent and simple;
- b. It should be technologically neutral;

## Public Consultation

### Part 4 – Reasoning for the Draft Schedule of Fees

- c. It should be sustainable and designed in a manner that makes it easy to implement eventual changes;
  - d. It should be consistent for the licensing of temporary Assignments;
  - e. It should ensure that the Fees enable the Authorities to recover all the costs they incur for the management of the radio frequency spectrum.
100. Although opinions vary on the issue, the position of the ITU has been that “The spectrum charge should be calculated so as to cover the costs of spectrum regulation. Spectrum pricing should not seek to maximise revenue for the state”.<sup>9</sup>
101. Therefore it is useful to have a flexible model that is driven by a Unit Price that can be raised (or lowered) and thus ensure a cost recovery target.
102. Outcome of the new proposed Schedule of Fees should be recovery of all costs incurred within the framework of spectrum management and monitoring activities.
103. Charging of Annual and Temporary Frequency Licence Fees shall be per assignment/allotment, per unidirectional link. Any bi-directional usage will be subject to an Annual/Temporary Frequency Licence Fee for each direction. This applies with regard to both Authorities.
104. In order to minimize administrative workload, the annual frequency license will be renewed automatically for one year if it is not explicitly cancelled or modified, and will be included in the invoice of the following year. Therefore, the Authorities must be formally notified by 30<sup>th</sup> November of any cancellation or modification of existing frequency licences. Any notification received after this deadline will not be considered.

#### 4.3.1 Application and Modification Fee

105. For the whole process of frequency Assignment or Allotment, a non-refundable Application Fee will be charged in advance to cover the cost of the Authorities from the application to the final decision.
106. The Application Fee will be set differently for two categories as follows:
- a. BD30 per application for:
    - i. Marine ship-station;
    - ii. Coast Station;
    - iii. Aircraft station;
    - iv. Amateur station;
    - v. Any Licensee adding new radio Equipment to his network as compared to the initial Assignment or Allotment.

---

<sup>9</sup> ITU (1993): Spectrum Pricing Study, Commission Study Groups, ITU-R, SM.2012 – this is cited (with commentary) in Martin Cave, Chris Doyle and William Webb, “Essentials of Modern Spectrum Management”, Cambridge University Press 2007.

## Public Consultation

### Part 4 – Reasoning for the Draft Schedule of Fees

- vi. For applications regarding above stations, one application shall be limited to one station, i.e. there shall be a separate application for each station
- b. For all other services and uses of radio frequency spectrum, BD30 per frequency Assignment or Allotment; except for Temporary Frequency License Fee for Special Events where the Application Fee is set at BD30 regardless the number of the requested frequency assignments.

107. In case of any change of existing Assignments or Allotment within the on-going year, a Modification Fee of BD30 will be charged in order to capture all efforts of the Authorities with regard to each frequency Assignment or Allotment. The Modification Fee is set at a level that fully reflects the administrative effort of the Authorities.

#### 4.3.2 Temporary Frequency Licence Fee

##### Current Schedule of Fees

108. The current Schedule of Fees defines a Fee for a temporary Assignment of one month duration, such Fee is set as follows:

**Table 1: Current Temporary Frequency Licence Fee**

Bandwidth	Charge
0 – 1 MHz	BD20 per assignment
> 1 MHz	BD20 per MHz per assignment

Source: the Authorities

##### Proposed Schedule of Fees

109. The minimum duration for a temporary assignment is one (01) calendar month and the maximum is eleven (11) calendar months non-renewable.

110. As Temporary Frequency Licence Fee, an amount of 1/12 of the Annual Frequency Licence Fee should be charged on a monthly basis. In addition, the Application Fee will be charged once for each temporary period. In case of any modification within the temporary period, a Modification Fee (BD30) will be additionally charged. For the avoidance of doubt, upon the expiry of a temporary Assignment/Allotment, the Authorities do not guarantee a renewal if requested within the eleven (11) calendar months.

#### 4.3.3 Temporary Frequency Licence Fee for Special Events (Private Users):

111. Temporary Assignment/Allotment are typically requested by special event organizers for enabling broadcast coverage, surveillance, security, sound relay etc.. Examples of such special events include the F1 race, the WEC 6-hour race, the Bahrain international air show etc. Such special events are normally planned well in advance and organisers are advised to contact DWLF&M as early as possible during the planning stage and preferably not less than 3 months prior to the event.

## Public Consultation

### Part 4 – Reasoning for the Draft Schedule of Fees

112. This type of events is limited to a maximum duration of 4 weeks. The Temporary Frequency Licence Fee for Special Events is only available to private users and is set based on the following table:

**Table 2: Special events Temporary Frequency Licence Fees for private users**

Bandwidth	Fee
0 – 1 MHz	BD25 per Assignment/Allotment
> 1MHz	BD25 per MHz per Assignment/Allotment

Source: DWLF&M

#### 4.3.4 Parameters

113. In line with the findings of relevant benchmarks<sup>10</sup> elaborated by the Authorities within the framework of the present review process, the following parameters have been identified as best practice and are relevant to determine the appropriate Annual/Temporary Frequency Licence Fee according to the new proposed approach:

- a. Unit Price = Value applied to the whole framework, the level of which is set in the light of the Authorities' expected outcome. It is expressed in Bahrain Dinars per 1 MHz of bandwidth;
- b. BW = Bandwidth (in MHz or part thereof);
- c. FREQ = Frequency factor reflecting the frequency band assigned;
- d. DF = Demand Factor;
- e. ACF = Area Coverage Factor for Assignments/Allotments.

##### 4.3.4.1 Unit Price and process of its appropriate estimation

114. The Unit Price is the main scaling factor in the new proposed methodology. It is set as appropriate (if required by the Authorities) in the light of the outcome expected by the Authorities.

##### 4.3.4.2 Bandwidth (BW)

115. Of the many conceivable ways of factoring bandwidth into Annual Frequency Licence Fees, regulators usually adopt one of the following:

- a. A linear approach: All variables being equal, the spectrum price is proportionate to the amount of bandwidth used;

---

<sup>10</sup> The schedule of spectrum fees of South Africa, Qatar, UAE, Oman, Singapore, Malta and Luxembourg were analysed to evaluate best practises in order to transfer these into the revised schedule of fees for Bahrain.

## Public Consultation

### Part 4 – Reasoning for the Draft Schedule of Fees

- b. A premium for large bandwidth approach: Licensees requesting large bandwidths pay a premium. This approach discourages Licensees to hoard spectrum, but may raise transparency and objectivity questions as to the amount of the appropriate premium;
  - c. A discount for large bandwidth approach: The more bandwidth used, the lower the overall price. This approach does little to encourage spectrum efficiency, especially in conditions of scarcity.
116. For the proposed Schedule of Fees, the linear approach is applied. It bears the clear advantage of being fair. Spectrum hoarding can be avoided by setting appropriate price levels or by implementing market competition rules when demand rises dramatically.

#### 4.3.4.3 Frequency Factor (FREQ)

117. Spectrum is a limited resource in the sense that the exploitable range is limited by the advances of technology. The usage of frequency started with low frequencies as was allowed by the state of technological development. As a result, low frequencies are cluttered with various assignments for various applications many of which could be deployed in higher frequencies. Irrespective of the suitability of high frequencies to some applications, assigning bandwidth of several MHz reduces the number of possible assignments/allotments as the band below 1 GHz for instance is finite. This is not the case at higher frequencies where the limits are only those imposed by Equipment technology.
118. Efficient usage of spectrum therefore involves encouraging as many assignments to use high frequencies where availability is abundant and usage is still low. Low frequencies have the advantage of lesser attenuation than high frequencies. This makes low frequencies appropriate for large area coverage. The coverage of a signal is determined by several factors, the most universal of which are the frequency, radiated power and propagation environment. All other things being equal, the higher the frequency, the shorter the wavelength and the more difficult it is at the receiving end to pick the signal up due to the higher attenuations.
119. At low frequencies, larger areas can be covered (longer ranges can be achieved by links) than at high frequencies. As a consequence, deploying a system at lower frequencies requires fewer infrastructures than at higher frequencies, all other parameters held constant. This property makes the lower frequencies more attractive. Since range is the advantage here, quantifying the Frequency Factor requires knowledge of what affects range, and how.
120. The Frequency Factor can then be assumed to be a normalized version of the received power. Assuming a transmit power reference and a static distance, different frequencies will result in different path losses from which the received signal levels can be derived. For convenience of use, ranges have been defined. The main challenge is to select the ranges so as to contain bands allocated for the same purpose. By doing so, there will be only minimal disparity between Licensees using different frequency bands to deliver the same services.
121. The following are the ranges for the Frequency Factor:

Table 3: Frequency Factor

from (kHz)	to (kHz)	FREQ Factor
------------	----------	-------------

## Public Consultation

### Part 4 – Reasoning for the Draft Schedule of Fees

3	3,000	1.20
3,000	30,000	1.00
30,000	300,000	0.80
300,000	1,000,000	0.50
1,000,000	3,000,000	0.40
3,000,000	5,000,000	0.30
5,000,000	10,000,000	0.25
10,000,000	20,000,000	0.18
20,000,000	30,000,000	0.10
30,000,000	60,000,000	0.05
60,000,000		0.01

Source: the Authorities

#### 4.3.4.4 Demand Factor (DF)

122. In some areas (irrespective of the geographic dimension), radio frequency spectrum could become scarce or unavailable. Demand exceeding supply is an indication of value of an item on the market. In the case of spectrum, both current and prospective Licensees should be aware of its value and be prepared to pay for it. This factor is either neutral (i.e. 1) when there is still radio frequency spectrum available or higher than 1 when there is shortage of spectrum. If availability of spectrum is more than its desired use, then the factor is set below 1 for these sub-bands. In other words, wherever there is a high demand, prices are automatically higher than the base price. The following table shows applied Demand Factors:

**Table 4: Demand Factor**

Applicable sub-bands, kHz		
From	to	Demand Factor
137,000	144,000	1.50
146,000	149,900	1.50
150,050	156,490	1.50
156,560	156,760	1.50
156,840	174,000	1.50
230,000	312,000	1.50
312,000	328,600	2.00
335,400	470,000	2.00
21,200,000	23,600,000	1.50
24,500,000	26,500,000	1.50
37,000,000	39,500,000	2.90
40,500,000	43,500,000	2.90
74,000,000	76,000,000	0.33
84,000,000	86,000,000	0.33

## Public Consultation

### Part 4 – Reasoning for the Draft Schedule of Fees

Source: the Authorities

123. The Demand Factor reflects the demand for a particular spectrum sub-band. The default value is 1 and is not indicated in the table.

#### 4.3.4.5 Area Coverage Factor (ACF)

124. In radio, the idea of ‘area sterilized’ refers to the area over which a given transmitting station radiates. Intuitively, a wireless communication between any two pieces of Equipment, whether fixed or mobile, requires a link between both. When the receiving units are mobile or when their number is large, it is more cost-effective for the transmitting station to cover an entire area rather than maintaining several physical links with one transmitter each. In practice, most point-to-area systems are built to radiate all around the base stations (omni-coverage) or in partitions (sectors around the base station). This means that the assignment area will often be a radial area around the base station reflecting both the transmission coverage of the base station and the area of likely interference caused by the mobile stations.

125. Furthermore, the use of a frequency across a geographical area makes it difficult or simply impossible in some cases to have another Licensee use the same frequency in the same area. In other words, the use of spectrum usually carries the notion of exclusivity over a given area. As a consequence, Annual and Temporary Frequency Licence Fees should take into consideration the area over which each specific assignment of spectrum is denied to all other Licensees (i.e. “sterilized”). One of the reasons for congestion is the expanse of the area sterilized. The larger the area sterilized, the more difficult it is to re-use frequencies.

126. In order to promote spectrum efficiency and a sparing use of limited spectrum, the area sterilized should be factored into the Annual or Temporary Frequency Licence Fees by means of the Area Coverage Factor (ACF).

127. The ACF will take the value of 0.05 for Assignment used for point-to-point communications (per direction), and the value of one (1) for all other cases.

#### 4.3.5 Minimum Fee

128. As it is now based on formula, the calculated Fee of a particular Assignment/Allotment may not be sufficient to ensure that the Authorities recover the cost of processing such Assignment/Allotment. The Authorities have therefore introduced a Minimum Fee which is set to 1% of the Unit Price. The basic principle is that Licensees will pay whichever is higher between the calculated Annual or Temporary Frequency Licence Fee based on the new formula based approach and the Minimum Fee, excluding Temporary Frequency Licence Fee for Special Events.

#### 4.3.6 Equipment-based Fees

129. With regard to Equipment-based Fees, the approach will remain unchanged as compared to the existing Schedule of Fees. The Authorities see no need for action in this respect. Moreover, the experience from other countries as resulting from the Authorities internal benchmark study produced no relevant insights.

## Public Consultation

### Part 4 – Reasoning for the Draft Schedule of Fees

130. Analysis of the practice of foreign countries during the Authorities' internal benchmark study revealed that VSAT Equipment usage is charged for everybody.<sup>11</sup> It is the Authorities' position that there is no specificity in the Kingdom that is opposed to the adoption of such approach which is in line with best practice.
131. The Authorities therefore holds the view that VSAT Equipment shall also be subject to payment of Fees. However, since VSAT services are already covered by Earth Stations for which the Annual Frequency Licence Fee formula applies, it will not be included in the table below of Equipment-based Fees.

**Table 5: Schedule of Equipment-based Fees**

Equipment	Fee
Marine ship station private	BD10
Marine ship station commercial	BD100
Aircraft station	BD100
Coast station	BD40
Amateur station	BD10

Source: DWLF&M

#### 4.3.7 Application Fee for Interference Investigation

132. The Authorities have decided to introduce a fee of BD100 when an applicant requests an investigation on an alleged interference case. This fee is called Application Fee for Interference Investigation and covers the cost incurred by the Authorities in initiating the interference investigation process.
133. The Application Fee for Interference Investigation is payable by the applicant and is non-refundable.
134. This Fee should help reduce abuse of the Authorities' services.

#### 4.3.8 Summary

135. The Annual Frequency Licence Fee is calculated based on the following formula:

$$\text{Annual Frequency Licence Fee} = \text{Unit Price} \times \text{BW} \times \text{FREQ} \times \text{DF} \times \text{ACF}$$

Where:

- i. Unit Price is a fixed amount in Bahrain Dinars per 1 MHz of bandwidth;
- ii. BW = Bandwidth (in MHz or part thereof);

---

<sup>11</sup> This is for example the case in South Africa, UAE, Singapore



## Public Consultation

### Part 4 – Reasoning for the Draft Schedule of Fees

- iii. **FREQ** = Frequency factor reflecting the frequency band assigned/allotted;
- iv. **DF** = Demand Factor;
- v. **ACF** = Area Coverage Factor.

136. The Temporary Frequency Licence Fee is calculated by the application of the following formula:

$$\text{Temporary Frequency Licence Fee} = \text{Temporary Unit Price} \times \text{BW} \times \text{FREQ} \times \text{DF} \times \text{ACF}$$

137. The Temporary Unit Price is a fixed amount expressed in Bahrain Dinars per MHz of bandwidth and is a percentage of the annual Unit Price determined on pro-rata temporary basis (rounded up to the nearest month). For example, for a 1-month Assignment, it is equal to 1/12 (i.e. 8.33%) of the applicable annual Unit Price.

138. The Temporary Frequency Licence Fee is limited to a maximum of eleven (11) months, the minimum period being one (01) month. Upon the expiry of a temporary Assignment/Allotment, the Authorities do not guarantee a renewal if requested within the eleven (11) calendar months.

139. The Authorities reserve the right to reject a request for temporary Assignment/Allotment on the grounds of congestion and/or non-availability during the requested period. In addition, an Application Fee has to be paid at the beginning of each temporary period. In case of any modification of the Licence within the temporary period, an additional Modification Fee (fixed at BD30) is charged, except for Temporary Frequency License Fee for Special Events where the Application Fee is set at BD30 regardless the number of the requested frequency assignments. This ensures that temporary assignments will be of limited attractiveness, which in turn will create incentives for efficient behaviour.

140. Temporary Frequency Licence Fee for Special Events (Private Users): Temporary Assignments/Allotments are typically requested by special event organizers for enabling broadcast coverage, surveillance, security, sound relay etc. Examples of such special events include the F1 race, the WEC 6-hour race, the Bahrain international air show etc. Such special events are normally planned well in advance and organisers are advised to contact DWLF&M as early as possible during the planning stage and preferably not less than 3 months prior to the event. This type of events is limited to a maximum duration of 4 weeks. The Temporary Frequency Licence Fee for Special Events is only available to private users and is set based on the following table:

**Table 6: Special events Temporary Frequency Licence Fees for private users**

Bandwidth	Fee
0 – 1 MHz	BD25 per Assignment/Allotment
> 1MHz	BD25 per MHz per Assignment/Allotment

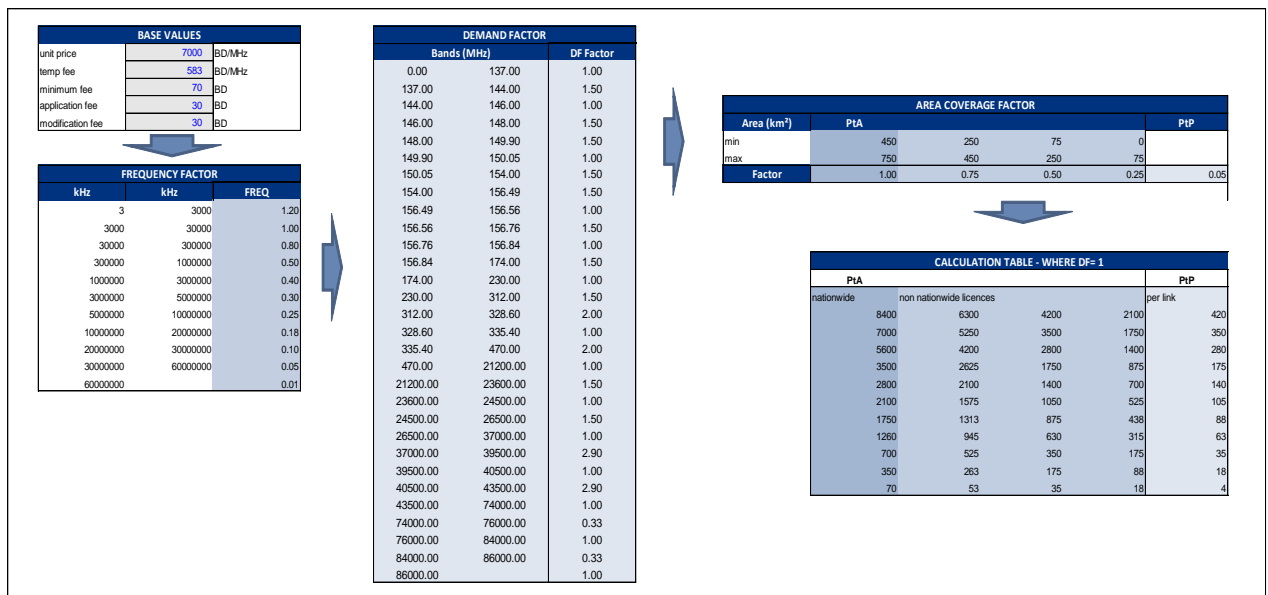
**Public Consultation**  
**Part 4 – Reasoning for the Draft Schedule of Fees**

Source: DWLF&M

**4.3.9 Factors used for Frequency License Fees**

141. In the following figure, all parameters of the model are summarized, including, for demonstration purposes, a Fee Calculation Table (based on a Unit Price per MHz of BD 7,000 and a Demand Factor = 1.0). The monthly Fee and the Modification Fee are rated according to the usage of bandwidth. The Minimum Fee is BD70. The Application Fees will be charged independently of the service provided by the applicant, but depending rather on the efforts required for the Authorities with regard to each application.

**Figure 1: Schedule of Fees in BD based on Unit Price BD7,000 and DF = 1**



Source: the Authorities

**4.4 Conclusion**

142. The new approach for the determination of Annual and Temporary Frequency Licence Fees is technology neutral. In principle, the only parameter that needs to be changed is the Unit Price. This value could be adjusted as needed to implement government policies.

143. As far as spectrum value is concerned, the new approach reflects the relative value of the different frequency bands and is service neutral. This means for example that the Fee for 1 MHz in use for GSM, is considered to be equivalent to a non-GSM use as long as they occur in the same bands. The Annual and Temporary Frequency Licence Fees do not discriminate between services that are “commercial” and those that are non-commercial, since the Annual and Temporary Frequency Licence Fees are not a tax.

## **Public Consultation**

### **Part 4 – Reasoning for the Draft Schedule of Fees**

#### **4.5 Relevant text in the Draft Schedule of Fees**

**See section 7 of the Draft Schedule of Fees**

#### **4.6 Question(s) to stakeholders**

- Q3. Do you agree with the overall approach used for setting the Frequency Licence Fees, in particular the Annual and Temporary Frequency Licence Fees? If you do not agree, please indicate which points you are in disagreement with. Provide justifications and propose an alternative.**
- Q4. If you are a Frequency Licence holder, please indicate what potential impact the new Schedule of Fees would have on the overall amount you pay for Frequency Licences.**

## Public Consultation

### Part 4 – Reasoning for the Draft Schedule of Fees

## 5 Numbering Fees

### 5.1 General principles concerning Fees for assignment of numbers

144. Numbering is a regulatory area that requires significant administrative efforts and the corresponding costs are covered by one-time and annual Fees for the assignment of numbers and number blocks (commonly referred to as Numbering Fees). Additionally, fees will also reflect the scarcity of numbering resource. Depending on the type of number, a Fee is payable for the assignment of a single number or for the assignment of a number block with a pre-defined size (i.e. a block of 10,000 numbers for fixed or mobile subscribers).

145. Internationally the majority of regulators charge numbering fees by setting a reference value (i.e. 8-digit number) and then vary the fee according to either the number of digits in the sequence or the type of number.<sup>12</sup> For the number of digits in the sequence, the less numbers are in the sequence, the more scarce and expensive the numbering resource becomes. On the other hand, those regulators choosing to use number types as a charging principle base the corresponding fees on the type of service the number is utilized for the value it has in the market and the scarcity of the numbering resource.

### 5.2 Issues with existing Fees for assignment of numbers

146. With the exception of the reservation Fee, the Authority is of the view that there are no critical issues with regard to Numbering Fees, although a revision of the Reservation Fees is considered to be appropriate.

### 5.3 Relevant changes and justifications

147. The present section discusses the changes made to the Fees for assignment of numbers as compared to the existing Schedule of Fees as well as the justifications for such changes.

#### 5.3.1 Summary from the Authority's internal benchmark study

148. The benchmark considered for the review of the current schedule of fees indicated what majority of regulators have, in the first place, a numbering structure according to number type and secondly a fee structure that uses both a one-time application fee and a recurring annual fee.<sup>13</sup>

#### 5.3.2 Structure for the planned Fees

149. There are two main approaches for the setting of fees for assignment of number blocks:

---

<sup>12</sup> The Numbering fee structure in Qatar, Saudi Arabia, Singapore, Malta, Oman and Luxemburg, were analysed in the benchmark study that took place.

<sup>13</sup> Ditto.

## Public Consultation

### Part 4 – Reasoning for the Draft Schedule of Fees

- a. based on number type;
  - b. based on the number of digits in the sequence; or
  - c. based on a combination of the two.
150. While a majority of regulators appears to favour number types, there is no clear argument for one approach over the other; the Authority has chosen to keep the existing approach based on the number of digits in the sequence.
151. The Authority considers that on-network numbers (i.e. short codes for services only accessible to subscribers of a specific network) should not be subject to Numbering Fees.
152. The Authority, at its sole discretion, may decide to exempt short codes used for public and social services from payment of numbering Fees (e.g. ambulance, fire and rescue, police, traffic incident, coast guards, child abuse etc.).
153. To prevent Licensees from abusively reserving number blocks, the Authority proposes to increase the Reservation Fee from 10% to 80% of the Assignment Fees.

#### 5.3.3 Relevant schedule of Fees

154. It follows from the above that the current structure of Fees for the assignment of numbers shall remain in place with an adjustment made to the Reservation Fees:

**Table 2: Reservation Fees and Assignment Fees for reservation and assignment of numbers**

Type	Reservation Fee (BD)	Assignment Fee (BD)	Fee basis
Application	25	25	one-time per application
Per 8 digit number	0.080	0.100	Annually pro-rated per day (from the day of reservation/assignment)
7-digit	0.800	1.000	Annually pro-rated per day (from the day of reservation/assignment)
6-digit	8	10	Annually pro-rated per day (from the day of reservation/assignment)
5-digit	80	100	Annually pro-rated per day (from the day of reservation/assignment)
4-digit	800	1,000	Annually pro-rated per day (from the day of reservation/assignment)
3-digit	8,000	10,000	Annually pro-rated per day (from the day of reservation/assignment)

Source: the Authority

155. For each reduction in the sequence of digits, an additional factor of 10 is applied to reflect scarcity of the corresponding number range.
156. Furthermore, a Reservation Fee representing 80% of the Assignment Fee is being introduced. This reflects the associated workload for the Authority, which is not substantially lower for reservations compared to allocations.

## **Public Consultation**

### **Part 4 – Reasoning for the Draft Schedule of Fees**

#### **5.4 Relevant text in the Draft Schedule of Fees**

**See section 8 of the Draft Schedule of Fees**

#### **5.5 Question(s) to stakeholders**

**Q5. Do you agree with the Authority's proposed Fees for application, reservation and assignment of numbers? If you do not agree, please present arguments as to why you disagree.**

## Public Consultation

### Part 4 – Reasoning for the Draft Schedule of Fees

## 6 Type Approval Fees

### 6.1 General principles concerning Type Approval Fees

157. The Fee structure for Equipment approval differs from country to country. However, the most common methodology is the implementation of an Application Fee for a specific Equipment type combined with a renewal Fee. Additional charges can be levied for modification, re-issuance and testing of Equipment.

### 6.2 Issues with existing Type Approval Fees

158. The current scheme of Type Approval Fees is not clearly structured and might quickly become outdated in respect of certain categories of Equipment.

### 6.3 Relevant changes and justifications

159. The present section discusses the proposed changes to the Type Approval Fees as compared to the current Schedule of Fees as well as the reasoning behind such changes.

#### 6.3.1 Summary of international benchmarks

160. The fee structure for Type Approval was significantly different in other countries and direct comparison was not possible.<sup>14</sup>

161. The Fee structure currently applied by the Authorities distinguishes between two (02) types of Equipment being approved: 'Telecommunications Equipment with Radiocommunication interface' and other forms of telecommunications equipment.

162. The Authorities proposes to modify the current Schedule of Fees to reflect international best practice which usually distinguishes more than two (02) types of Equipment and reflects a grouping that follows a clear logic with regard to Equipment usage:

- a. Short Range Devices;
- b. Radiocommunication Equipment;
- c. Terminal Devices; and
- d. Passive Equipment.

#### 6.3.2 New Fee schedules

163. The following table shows a new scheme of Type Approval Fees. It is based on four categories: Short Range Devices, Radiocommunication Equipment, Terminal Devices and Passive Equipment. The scheme distinguishes between Application (first time approval), Modification (any changes to existing certificate) and the Renewal Fees.

---

<sup>14</sup> The Type approval Fee regimes of Singapore, Qatar, South Africa and Saudi Arabia were analysed.

## Public Consultation

### Part 4 – Reasoning for the Draft Schedule of Fees

Table 3: Type Approval Fees

Category	Application Fee	Renewal Fee	Modification Fee
Short Range Devices	50	10	40
Telecommunications Equipment (except Short Range Devices and Terminal Devices)	100	10	80
Terminal Devices	50	10	40
Passive Equipment	10	10	10

Note: All Fees in BD  
Source: the Authorities

164. The Non-Objection Certificate (NOC) Fee will be charged at BD10.

If so needed for any devices operated for their personal use, individuals may obtain a Non-Objection Certificate (NOC) from the Authorities free of charge.

#### 6.4 Relevant text in the Draft Schedule of Fees

See section 9 of the Draft Schedule of Fees

#### 6.5 Question(s) to stakeholders

**Q6. Do you agree with the positions as regards Type Approval Fees? If you do not agree please present arguments as to why you disagree.**



## Public Consultation

### Part 4 – Reasoning for the Draft Schedule of Fees

## 7 Domain Names Fees

### 7.1 General principles concerning Domain Names Fees

165. Domain Names are essential to the operation of a website and therefore a universal part of the hosting product set, typically used by a hosting provider as an entry point into selling higher-value services. Most hosting providers offer a variety of domain extensions, with the selections they make available generally determined by the geographies or the specific vertical markets they serve.
166. Many countries currently apply the Registry-Registrar model, which foresees a separate Domain Name Administration department within the regulatory body serving as the Registry. The department's responsibilities include:
- a. Managing the Domain Names within its assigned country code top-level domain (ccTLD);
  - b. Maintaining the WHOIS database for that domain, which stores information on each Domain Name, such as the domain's Registrant, Registrar and expiration date; and
  - c. Maintaining the root servers for that ccTLD, which act as an "address book" for all domain name servers responsible for the ccTLD.
167. The Registry does not directly administer the Domain Names, but rather accredits several Registrars (operators or ISPs). The Registrar provides front-end registration services to Registrants via a contract with the Registry. These services form the public interface to Registry services. Some Registrars use resellers to provide customer sales and services. Resellers buy Domain Names and manage Domain Name records for their customers through an interface with their Registrar. However, they do not have direct access to the Registry. It is usually in the best interest of the Registry to have several Registrars and resellers in the market as it promotes competition and provides the Registrants with fair market prices.
168. The Registrant is the individual or organisation that registers a specific Domain Name. This individual or organisation holds the right to use that specific Domain Name for a specified period of time, provided certain conditions are met and the Application Fees are paid. This person or organisation is the "legal entity" bound by the terms of the relevant service agreement with the Registry authority for the ccTLD in question, which is the Authority in case of .bh ccTLD.
169. The charging model for Registry-Registrar can vary slightly from country to country; However, the overall Fees always include:
- a. Application Fee for accreditation of the Registrar;
  - b. Accreditation Fee (once the application has been approved);
  - c. Initial deposit as insurance of future payments by the Registrar;
  - d. Annual recurring Fee for accreditation; and
  - e. Domain Name registration and renewal Fee for having the right to sell specific Domain Name types.

## Public Consultation

### Part 4 – Reasoning for the Draft Schedule of Fees

#### 7.2 Issues with existing Schedule of Fees

170. There are currently no Fees for Domain Name Registrars. Since there are costs involved, there should be a price for it.

#### 7.3 Relevant changes and justifications

##### 7.3.1 Summary from the Authority’s internal benchmark study

171. Currently in the Kingdom of Bahrain, there are only Application Fees for Accreditation of the Registrar and for the registration/renewal of a Domain Name. Internationally, Domain Name Fees sometimes have a breakdown of processes, which can be attributed to charges related to accreditation and those related to registration and renewal.<sup>15</sup>

172. Based on this, the Authority proposes to introduce the Registry-Registrar model. The following Fee structure applies:

- a. Accreditation of Registrar:
  - i. Application Fee (one-time);
  - ii. Initial deposit (minimum requirement to be set); and
  - iii. Fee for annual renewal of accreditation (annual).
- b. Domain Name rights:
  - i. Registration/renewal of a Domain Name (1-5 years).

173. The Authority (acting as the Registry) has set up the wholesale prices applicable to the different second level Domain Names (2LD). Looking at current retail prices for Domain Names in the market “.bh” is generally more expensive than “com.bh”. The cheapest Domain Name is “name.bh”, while other Domain Names are within the same price range.

##### 7.3.2 New Fee schedules

174. An analysis of the cost base was the starting point for setting the level of Domain Names Fees. The following table summarizes the Fees for accreditation of the Registrar:

**Table 4: Fees for accreditation of the Registrar**

New structure	Fees (BD)
One-time Application Fee	250
Initial Deposit	3,400
Annual Accreditation	450

Source: the Authority

175. To make sure that new Registrars are incentivized to get accredited, the Application Fee will be rather low at BD 250 (Non-refundable). Initial deposit estimate is based on the

---

<sup>15</sup> For example Singapore, UAE, Qatar, South Africa.

## Public Consultation

### Part 4 – Reasoning for the Draft Schedule of Fees

assumption that if the Registrar does not pay the Annual Accreditation Fee, the initial deposit should cover approximately 150% of its cost for the next five years. A review of the market for domain names suggests that the suggested figure will be sufficient to ensure cost recovery.

176. Benchmarks analyses reveal that Annual Accreditation Fee is on average around 180% higher than the Application Fee.<sup>16</sup> A Registrar must pay a Fee to gain the right to sell specific Domain Names. The following is the Fee schedule for Domain Names:

**Table 5: Fee schedule for Domain Names**

Fees for Domain Name creation and renewal (BD)					
2 <sup>nd</sup> Level TLDs	1 Year (BD)	2 Years (BD)	3 Years (BD)	4 Years (BD)	5 Years (BD)
.bh	30	45	63	82	98
.com.bh	20	30	42	55	66
.net.bh	15	23	32	41	49
.org.bh	15	23	32	41	49
.edu.bh	15	23	32	41	49
.biz.bh	15	23	32	41	49
.info.bh	15	23	32	41	49
.cc.bh	15	23	32	41	49
.name.bh	5	8	11	14	16

Source: the Authority

177. For discounting the following factors were applied:

**Table 6: Discounting factors for Domain Name Fees**

	1 <sup>st</sup> year's	2 <sup>nd</sup> year's	3 <sup>rd</sup> year's	4 <sup>th</sup> year's	5 <sup>th</sup> year's
<b>Factors:</b>	100%	50%	40%	30%	20%

Source: the Authority

178. Determination of Fees is intended to secure cost coverage.

179. The Authority may at any time introduce additional Second-Level Domain Names and assign a corresponding Fee to this new category or assign it to an existing Fee category.

#### 7.4 Relevant text in the Draft Schedule of Fees

See section 10 of the Draft Schedule of Fees

#### 7.5 Question(s) to stakeholders

**Q7. Do you agree with the positions on Fees with respect to Domain Names? If you do not agree, please present arguments as to why you disagree.**

<sup>16</sup> UAE, Qatar, South Africa.

## Public Consultation

### Part 4 – Reasoning for the Draft Schedule of Fees

## 8 Fees for Radiocommunication Station (Masts and Towers) Sites

### 8.1 General principles concerning Fees for Radiocommunication Station (Mast and Towers) Sites

180. The Authority is to ensure that fees for the erection of masts and towers will provide an incentive to operators to:

- a. share masts; and
- b. camouflage sites addressing environmental concerns.

181. The new fees are set out in the below table for the Annual Fee for each category of mast or site for Public Licensees.

182. A one-time Application Fee shall apply (to be paid in advance) for each request of Radiocommunication Station or Site; and shall become applicable only to the extent that the Authority becomes tasked with undertaking such responsibilities.

**Table 7: Annual Fees for Radiocommunication Station (Mast and Towers) Sites**

Nature of Site	Fee (BD)	Application Fee (BD)
Lattice Tower	750 /Annum	750
Roof Top Mast	750 /Annum	750
Monopole (greenfield)	500 /Annum	500
Pole (rooftop)	350 /Annum	350
Camouflaged	250 /Annum	250
Wall Mounting	150 /Annum	150
Mobile Cell Unit	25/Day	25
IBS	150 /Annum	150

Source: the Authority

### 8.2 Relevant text in the Draft Schedule of Fees

**See section 11 of the Draft Schedule of Fees**

### 8.3 Question(s) to stakeholders

**Q8. Do you agree with the positions on Fees with respect to Radiocommunication Station (Mast Towers) Sites? If you do not agree, please present arguments as to why you disagree**

## Public Consultation

### Part 4 – Reasoning for the Draft Schedule of Fees

#### 9 List of questions

Q1. Do you agree with the proposed Licence Fee structure? If you do not agree, please present arguments as to why you disagree and what you would recommend, bearing in mind that both are foreseen in the Telecommunications Law.

Q2. What do you think about the combination of the Gross Annual Turn-over based Fees with the idea of setting a Minimum Fee and the level thereof? If you do not agree, please present arguments as to why you disagree.

Q3. Do you agree with the overall approach used for setting the Frequency Licence Fees, in particular the Annual and Temporary Frequency Licence Fees? If you do not agree, please indicate which points you are in disagreement with. Provide justifications and propose an alternative.

Q4. If you are a Frequency Licence holder, please indicate what potential impact the new Schedule of Fees would have on the overall amount you pay for Frequency Licences.

Q5. Do you agree with the Authority's proposed Fees for application, reservation and assignment of numbers? If you do not agree, please present arguments as to why you disagree.

Q6. Do you agree with the positions as regards Type Approval Fees? If you do not agree please present arguments as to why you disagree.

Q7. Do you agree with the positions on Fees with respect to Domain Names? If you do not agree, please present arguments as to why you disagree.

Q8. Do you agree with the positions on Fees with respect to Radiocommunication Station (Mast Towers) Sites? If you do not agree, please present arguments as to why you disagree

**Public Consultation**  
Part 5: Annex A – Draft Schedule of Fees

## **Annex A – Draft Schedule of Fees**

### **1 Definitions**

1. Any capitalised term used in the present Schedule of Fees shall have the same meaning as attributed to it in the Telecommunications Law unless the context requires otherwise or it is otherwise specified explicitly herein.
2. Where the Telecommunications Law provides for no definition, the words, phrases, or expressions used in capital letters herein shall have the meaning as specified below.
3. “*Allotment*” (of a radio frequency or radio frequency channel) refers to an authorization given by the Authorities for one or more Radiocommunications Stations to use a radio frequency or radio frequency channel under specified conditions in identified geographical area. This understanding is adopted for the purpose of the present Schedule of Fees. without prejudice to the definition of the ITU Radio Regulations;
4. “*Annual Frequency Licence Fees*” refers to the Fees to be paid to the Authorities on an annual basis for the usage of radio frequency spectrum assigned or allotted;
5. “*Application Fee*” refers to the Fee to be paid to the Authorities upon submission of an application in order to cover all efforts of the Authorities from the application to the final decision;
6. “*Area Coverage Factor*” (“ACF”), in radio the ‘area sterilized’ refers to the area over which a given transmitting station radiates. Intuitively, a wireless communication between any two pieces of Equipment, whether fixed or mobile, requires a link between both. The assignment area will often be a radial area around the base station reflecting both the transmission coverage of the base station and the area of likely interference caused by the mobile stations.
7. “*Assignment*” (of a radio frequency spectrum) refers to an authorization given by the Authorities for a station to use a radio frequency or radio frequency channel under specified conditions. This understanding is adopted for the purpose of the present Schedule of Fees, without prejudice to the definition of the Telecommunications Law;
8. “*Assignment Fee*”, in the context of numbering, refers to a Fee which applies when a Licensee is being assigned a number block;
9. “*Authority*” refers to the Telecommunications Regulatory Authority
10. “*Authorities*” refers to the Authority and the DWLF&M;
11. “*Domain Name*” refers to a unique name that identifies an internet resource such as a website;
12. “*DWLF&M*” refers to the Directorate of Wireless Licensing. Frequencies & Monitoring which is the Radiocommunications Authority according to Legislation & Legal Opinion Commission decision No. 2008/474 dated 17 April 2008;
13. “*Earth Station*” refers to a station located either on the earth's surface or within the major portion of the earth's atmosphere and intended for communication with one or more space

## Public Consultation

### Part 5: Annex A – Draft Schedule of Fees

stations; or with one or more stations of the same kind by means of one or more reflecting satellites or other objects in space, which also covers the VSAT station;

14. “*Equipment-based Fee*” refers to cases in which determination of the Annual or Temporary Frequency Usage Fees depends on the specific Equipment used, these are Fees for marine and coast stations, aircraft call signs and amateurs as listed in the table under section 7.6 of the present Draft Schedule of Fees;
15. “*Fee*” refers to any payment to be made to the Authorities as prescribed in the present Schedule of Fees;
16. “*Frequency Licence Fee*” refers to Fee related to annual or temporary usage of radio frequency spectrum;
17. “*Gross Annual Turnover*” refers to the total amount of financial inflows generated by a Licensee from the provision of services or performance of activities covered by the Licence;
18. “*Minimum Fee*” refers to the minimal amount to be paid for the usage of assigned/allotted radio frequency spectrum. This amount is relevant with regard to the Annual or Temporary Frequency Licence Fees when the formulas produce a result, which is below that amount. The term is also used with regard to the Annual Turn-over Based Fee where it has a different value and is intended to secure payments in case of very low turn-over;
19. “*Modification*” refers to any changes with regard to existing licences and certificates;
20. “*Non-Objection Certificate (NOC) Fee*” refers to the Fee payable for issuing a NOC.
21. “*Passive Equipment*” means any Telecommunications Equipment without any form of power supply or amplification and which does not itself generate any telecommunications signals. Equipment is considered passive if:
  - a. its inherent physical characteristics are such that it is incapable of generating or contributing to electromagnetic emissions which exceed a level allowing radio and telecommunications equipment and other equipment to operate as intended; and,
  - b. it will operate without unacceptable degradation in the presence of the electromagnetic disturbance normally present in its intended environment.
22. “*Point-to-Area*” or “*PtA*” refers to Assignments/Allotment of radio frequency or radio frequency channel for non-Point-to-Point links. i.e. for one or more stations that are not necessary stationary;
23. “*Point-to-Point*” or “*PtP*” refers to Assignments of radio frequency or radio frequency channel for unidirectional links between fixed locations, including Earth Stations;
24. “*Private User*” means any Person who has been granted a Frequency Licence other than a Public Telecommunications Operator;
25. “*Public Services Receive-only Equipment*” refers to any Equipment for receiving of transmissions intended for the general public (e.g. radio and television, as well as navigational aids like Global Positioning Systems (GPS));
26. “*Registrant*” refers to a Domain Name holder, i.e. an authorized user of a Domain Name;
27. “*Registrar*” refers to any accredited organization or company that is empowered to assign and manage internet Domain Names after having being accredited by a Registry to do so;

## Public Consultation

### Part 5: Annex A – Draft Schedule of Fees

28. “*Registry*” refers to the administrative organization responsible for maintaining the database of names registered within the Top Level Domain (TLD) it administers. It receives registration information from each Domain Name Registrar and publishes the information using the WHOIS protocol;
29. “*Reservation Fee*” in the context of numbering refers to a Fee which applies when a Licensee reserves a number block;
30. “*Safety of Life Systems and Services*” refer to radio Equipment designed for Safety Services including Radiocommunications Equipment designed for persons with special needs and for safety of patients for which the DWLF&M shall approve the bands or frequencies and type of Radiocommunications Equipment;
31. “*Safety Service*” refers to a Radiocommunication used permanently or temporarily for the safeguarding of human life and property;
32. “*Short-Range Devices*” (SRD) refers radio devices that offer a low risk of interference with other radio services, usually because their transmitted power and hence their range is low. SRD are essentially low power Radiocommunication systems. Examples are access control (including door and gate openers); alarms and movement detectors; closed-circuit television (CCTV); cordless audio devices, including wireless microphones; industrial control; local area networks (LAN); medical implants; UWB sensors & radars (such as ground probing radar); remote control; radio frequency identification (RFID); road transport telematics; or telemetry, etc.;
33. “*Spectrum Usage Rights Fees*” refer to Fees to be paid for the acquisition of radio frequency spectrum within the framework of specific allotment processes such as competitive tendering, auction or direct attribution. They are not covered by the present Schedule of Fees; and do not exempt the licensee from a Frequency Licence Fee;
34. “*Telecommunications Equipment*” means hardware used for the purpose of telecommunication and could be (but not necessary) part of or is connected to, or comprises, a Public Telecommunications Network. This understanding is adopted for the purpose of the present Schedule of Fees, without prejudice to the definition of the Telecommunications Law;
35. “*Telecommunications Initial Licence Fee*” refers to the Fee paid upon notification from the Authority that the Licence application is approved, before such Licence can be issued;
36. “*Telecommunications Renewal Licence Fee*” refers to the Fee paid upon the renewal of the Licences for another Licence term;
37. “*Temporary Frequency Licence Fee*” refers to a Fee paid for any use of radio frequency spectrum for a temporary period of time limited to a maximum of eleven (11) months and minimum of one (01) month;
38. “*Temporary Frequency Licence Fee for Special Events*” refers to the Fees paid for distinct type of events at a national level and is only available to Private Users;
39. “*Temporary Unit Price*” refers to the Unit Price applied for the determination of a Temporary Frequency Licence Fees and is defined as a percentage (%) of the relevant annual Unit Price;
40. “*Terminal Device*” refers to any device used by an end user, enabling communication or a relevant component thereof which is intended to be connected directly or indirectly by any means whatsoever to interfaces of communications networks (that is to say



## Public Consultation

### Part 5: Annex A – Draft Schedule of Fees

telecommunications networks used wholly or partly for the provision of communications services);

41. “*Type Approval*” is the term preferred in the context of Fees and has the same meaning as the term “Equipment Approval” used in the Telecommunications Law. The term Type approval is preferred in the present document with regard to Fees as it better reflects international common use;
42. “*Turnover Declaration Form*” refers to a statement to be submitted to the Authority by each holder of a Telecommunications Licence for the purpose of the Gross Annual Turnover based Fee;
43. “*Unit Price*” refers to a fixed amount used in the formula for determining Fees (where applicable) as is expressed in Bahrain Dinars per 1 MHz of bandwidth per year;
44. “*WHOIS*” refers to a special service (a protocol) used by a Registry to publish Domain Names registration information.

## 2 Categories of Fees covered by the Schedule of Fees

45. The present Schedule of Fees covers the following main categories of Fees:
  - a. Telecommunications Licence Fees including the following sub-categories:
    - i. Telecommunications Licence Application Fees;
    - ii. Telecommunications Initial Licence Fee;
    - iii. Telecommunications Renewal Licence Fee; and
    - iv. Gross Annual Turn-over based Fee.
  - b. Frequency Licence Fees including the following sub-categories:
    - i. Annual Frequency Licence Fee;
    - ii. Temporary Frequency Licence Fee;
    - iii. Temporary Frequency Licence Fee for Special Events (Private Users);
    - iv. Application & Modification Fee;
    - v. Equipment-based Fee; and
    - vi. Application Fee for Interference Investigation
  - c. Fees for assignment of numbers (also known as “Numbering Fees”);
  - d. Type Approval Fees (also known as equipment approval Fees);
  - e. Domain Names Fees; and
  - f. Fees for Radiocommunication Station (Mast Towers) Sites.

## 3 General principles for the determination of Fees

46. The new approach for determination of Fees introduces a unified Fee policy, which governs all frequencies managed by the Authorities;

## Public Consultation

### Part 5: Annex A – Draft Schedule of Fees

47. Application Fees will reflect the costs incurred by the Authorities in the whole process from the application up to the final decision;
48. Application Fees are payable in advance upon submission of an application and shall not be refunded irrespective of whether the application was successful or not;
49. Where the spectrum is perceived to have a commercial value, which exceeds the Fees set by the Schedule of Fees, then a separate allotment process (competitive tendering, auction or direct attribution) is applied to determine the relevant Spectrum Usage Rights Fees;
50. Annual and Temporary Frequency Licence Fees are determined by the method of cost recovery along administrative incentive pricing. This method is based on formulas the components of which are defined in the present Schedule of Fees;
51. In order to encourage the efficient use of spectrum and to stimulate growth, the formula for determining Annual and Temporary Frequency Licence Fees have the following characteristics:
  - a. The amount of the Fee results from a basic equation that is the product of the volume (i.e. bandwidth) of assigned or allotted radio frequency spectrum (in MHz) and the Unit Price of the frequency (BD per MHz); and
  - b. This basic equation is modified by the inclusion of a number of factors, which aims to implement the spectral policy pursued by the Authorities.
52. The factors of the formula might be adjusted from time to time by the Authorities according to policy imperatives. The relevant provisions of the Telecommunications Law and other regulations related to stakeholders' consultation shall apply in the case of such adjustments;
53. This formula-based approach determines the Annual and Temporary Frequency Licence Fees by administrative incentive pricing;
54. Annual and Temporary Frequency Licence Fees must be at least sufficient and appropriate to promote the optimal use of spectrum and cover the costs of managing and controlling the use of the radio frequency spectrum;
55. In order to facilitate the management of Fees by the Authorities and also protect from volatile developments, the concept of a Minimum Fee is introduced as a threshold;
56. In addition, the following factors are accounted for in the revised approach for determining Fees:
  - a. The need to promote easy market entrance, foster competition as well as efficient use of national scarce resources;
  - b. The impact of the new Fees on consumers and operators;
  - c. The need to reflect, as appropriate, the real value of the spectrum, Domain Names and numbers in the Bahraini market;
  - d. Conformity with the Telecommunications Law;
  - e. Spectrum availability in particular frequency sub-bands, including high frequency demand areas;
  - f. The need to recover the Authorities' costs relating to their operations and activities;

## Public Consultation

### Part 5: Annex A – Draft Schedule of Fees

- g. The current national numbering ranges and the expected growth; and
  - h. The various economic aspects that could be affected by the new Fees structure.
57. Failure to pay the Fees as resulting from the present Schedule of Fees shall lead to Authorities' taking appropriate measures in accordance with the provisions of the Telecommunications Law and other applicable Legal Instruments (including the Licences) non-payment of the Fees may ultimately lead to the revocation of the Licence. The Authorities maintains its right to invoice the Fee even after revocation.

#### 4 Exemptions from and reduction of Fees

58. Certain activities and services are exempted from the payment of certain Fees. The list of those exemptions is presented in Appendix 3 to the present Schedule of Fees and might be adjusted from time to time by the Authorities according to country's policy imperatives;
59. Exemption from the payment of Annual and Temporary Frequency Licence Fees remains without prejudice to the duty to pay Application or Modification Fees with regard to the relevant Frequency Licence;
60. Annual and Temporary Frequency Licence Fees are reduced by a certain percentage (%) for certain users as determined in the list presented in Appendix 3 to the present Schedule of Fees. The list of reductions might be adjusted from time to time by the Authorities according to country's policy imperatives;
61. Eventual exemptions or a reduction remains without prejudice to the obligation to comply with other mandatory requirements such as Type Approval.

#### 5 Telecommunications Licence Fee

62. The following Fees shall apply for Telecommunications Licence applications:

**Table 1: Initial Licence Fees and Renewal Licence Fees**

Individual Licence for Paging Services	5,000
Individual Licence for Earth Station Services *	5,000
Individual Licence for Public Access Mobile Radio Services	5,000
Individual Licence for International Telecommunications Facilities	20,000
Individual Licence for International Telecommunications Services	10,000
Individual Licence for National Fixed Services	35,000
Individual Internet Exchange Licence	5,000
Class Licence for Internet Services	5,000
Class Licence for Value Added Services	1,000
Individual Licence for Mobile Virtual Network Operator and/or Enabler	5,000
Unified licence	5,000

\* For the purpose of the payment of renewal fees, all previously issued Individual Licences for VSAT Services are considered to be Individual Licences for Earth Station Services.

Source: the Authority

## **Public Consultation**

### **Part 5: Annex A – Draft Schedule of Fees**

63. The Telecommunications Licence Application Fee is set at BD500, it is a one-time and non-refundable fee;
64. If a unified licensing framework is introduced, the Application Fee for a unified individual Licence or unified class Licence shall be BD2,000 each;
65. The Application Fee for a Telecommunication Licence shall be paid at the time of application and shall be non-refundable in the event that the application is not successful;
66. The Initial Licence Fee is payable upon notification from the Authority that the Licence application is approved, before such Licence is issued;
67. The Renewal Licence Fee is payable upon the renewal of the Licences for another Licence term.

## **6 Gross Annual Turn-over based Fee**

68. Every Licensed Operator has to pay a Gross Annual Turn-over based Fee to the Authority;
69. The Fee is 0.8% of the Gross Annual Turn-over of the Licensee resulting from activities covered by the Licence. There shall be a Minimum Fee of BD1,000 in this respect. For clarity, where the Licensee claims that it has not recorded any revenues from licensed activities in a particular calendar year or where it reports a gross annual turn-over from licensed activities in a particular calendar year that does not exceed BD125,000 , then the Minimum Fee is due.
70. Details of the revenues, which are not generated by activities from licensed services (non-licensed revenues), should be submitted and explained sufficiently;
71. The Authority has the right to issue an estimated invoice in the case of non-compliance. The estimated invoice is subject to adjustment when the Authority receives the required documents;
72. All operators are subject to uninformed auditing by the Authority to check the validity of the submissions;
73. The Initial License Fee for the period from the effective date until the end of the calendar year in which the license is awarded shall be fixed as specified in the Telecommunications License;
74. The Gross Annual Turn-over based Fee shall be payable in respect of each subsequent year.

## **7 Frequency Licence Fees**

### **7.1 General**

75. Frequency Licence Fees will apply in many forms including Application Fees, Modification Fees, Spectrum Usage Rights Fees, Annual Frequency Licence Fees, Temporary Frequency Licence Fees and a Minimum Fee;

## Public Consultation

### Part 5: Annex A – Draft Schedule of Fees

76. Spectrum Usage Rights Fees are out of scope of the new Resolution and the present Schedule of Fees as they are addressed within the framework of specific allotment processes (competitive tendering auction or direct attribution);
77. Charging of Annual and Temporary Frequency Licence Fees by the Authorities shall be per Assignment/Allotment, i.e. per unidirectional link; any bi-directional usage will be subject to an Annual/Temporary Frequency Licence Fee for each direction;
78. Links between space stations and earth stations shall be treated as PtP links;
79. The Authorities shall not reimburse any portion of Annual or Temporary Frequency Licence Fees if the Licensee terminates his Frequency Licence before the end of the applicable period;
80. Application Fees are payable in advance upon submission of an application for a Frequency Licence and shall not be refunded irrespective of whether the application was successful or not;
81. Frequency Licence Fees, Application/Modification Fees and Annual/Temporary Frequency Licence Fees, shall be paid by the applying person or Frequency Licence holder respectively, regardless of who is using the infrastructure;
82. Frequency Licence, except Temporary Frequency Licence, is renewed automatically for one year if it is not explicitly cancelled or modified, and will be included in the invoice of the following year. Therefore, the Authorities must be formally notified by 30<sup>th</sup> November of any cancellation or modification of existing frequency licences. Any notification received after this deadline will not be considered;
83. If a Licensee wishes to change his annual Frequency Licence to a temporary Frequency Licence for the next calendar year or vice versa. He shall inform the Authorities of such change by using the application form no later than 30<sup>th</sup> November of each year.

#### 7.2 Application and Modification Fees applicable to Frequency Licences

84. For the whole process of frequency assignment or allotment, a non-refundable Application Fee will be charged in advance to cover the cost of the Authorities from the application to the final decision;
85. The Application Fee is set differently for two categories as follows:
  - a. BD30 per application for
    - i. Marine ship-station;
    - ii. Coast Station;
    - iii. Aircraft station;
    - iv. Amateur station; and
    - v. Any Licensee adding new radio Equipment to his network as compared to the initial Assignment or Allotment.
  - b. For applications regarding above stations, one application shall be limited to one station, i.e. there shall be a separate application for each station; and
  - c. For all other services and uses of radio frequency spectrum, BD30 per frequency Assignment or Allotment, except for Temporary Frequency License Fee for

## Public Consultation

### Part 5: Annex A – Draft Schedule of Fees

Special Events where the Application Fee is set at BD30 regardless the number of the requested frequency assignments.

86. The Modification Fee is also set at BD30 and is charged in the event of any change made to an existing Frequency Licence within the applicable year.

### 7.3 Annual Frequency Licence Fees

#### Formula used to determine the Annual Frequency Licence Fees

87. With the exception of Equipment-based Annual Frequency Licence Fees, which are set separately (see below), all Annual Frequency Licence Fees are calculated based on the following formula:

$$\text{Annual Frequency Licence Fee} = \text{Unit Price} \times \text{BW} \times \text{FREQ} \times \text{DF} \times \text{ACF}$$

Where the parameters are defined as follows:

- i. Unit Price = A fixed amount expressed in Bahrain Dinars per 1 MHz of bandwidth per year;
  - ii. BW = Bandwidth (in MHz or part thereof);
  - iii. FREQ = Frequency Factor reflecting the frequency band of the Assignment/Allotment;
  - iv. DF = Demand Factor;
  - v. ACF = Area Coverage Factor.
88. The values of parameters used in the formulas are detailed in Appendix 1 of the present Schedule of Fees.

### 7.4 Temporary Frequency Licence Fee

#### Formula used to determine the Temporary Frequency Licence Fees

89. As Temporary Frequency Licence Fee, an amount of 1/12 of the Annual Frequency Licence Fee should be charged on a monthly basis. In addition, the Application Fee will be charged once for each temporary period.

90. The Temporary Frequency Licence Fee is set based on the following formula:

$$\text{Temporary Frequency Licence Fee} = \text{Temporary Unit Price} \times \text{BW} \times \text{FREQ} \times \text{DF} \times \text{ACF}$$

91. The Temporary Unit Price = Unit Price  $\times$  1/12  $\times$  duration of temporary Frequency Licence (in number of months).
92. The values of parameters in the formula of the Temporary Frequency Licence Fee are the same as defined for Annual Frequency Licence Fees formula.
93. The minimum duration for a temporary assignment is one (01) calendar month and the maximum is eleven (11) calendar months non-renewable.
94. The Application Fee shall be paid at the beginning of each period of a temporary assignment within the eleven (11) calendar months.

## Public Consultation

### Part 5: Annex A – Draft Schedule of Fees

95. In case of any modification of the Licence within the temporary period, a Modification Fee of BD30 is charged. The Authorities reserve the right to reject a request for temporary Assignment/Allotment on the grounds of congestion and/or non-availability during the requested period.

#### 7.5 Minimum Fee

96. When the formula used to calculate the Annual or the Temporary Frequency Licence Fees provide a result, which is below the Minimum Fee, then the Minimum Fee applies for the Frequency Licence.
97. The Minimum Fee is set at the fixed value of 1% of the Unit Price per frequency assignment.

#### 7.6 Equipment-based Fees

98. The Annual Frequency Licence Fees for the below category of stations are set out as follows:

**Table 2: Schedule of Equipment-based Fees**

Category	Spectrum Usage Fee
Marine ship station private	BD10
Marine ship station commercial	BD100
Aircraft	BD100
Coast station	BD40
Amateur	BD10

99. The Annual Frequency Licence Fees for these category of stations are payable for the calendar year irrespective of the application date.

#### 7.7 Temporary Frequency Licence Fees for special events (Private Users)

100. The temporary Frequency Licence for special events is only available for private users and is applicable for a non-renewable maximum period of four (4) weeks. The corresponding Fee is set according to the following table:

**Table 3: Special events Temporary Frequency Licence Fees for private users**

Bandwidth	Fee
0 – 1 MHz	BD25 per Assignment/Allotment
> 1MHz	BD25 per MHz per Assignment/Allotment

## Public Consultation

### Part 5: Annex A – Draft Schedule of Fees

#### 7.8 Application Fee for Interference Investigation

101. An Application Fee of BD100 has been introduced when a spectrum user requests an investigation on alleged interference cases. This fee is called Application Fee for Interference Investigation and is non-refundable.

## 8 Numbering Fees

102. The numbering Fees structure is defined as follows:

- a. An Application Fee of BD25 shall be payable for each application made for a reservation or an assignment of a number block. The Application Fee covers the tasks associated with the creation and the deletion of a number block reservation or assignment. For the avoidance of doubt, any request for modification of a number block reservation or assignment is considered as an application;
- b. The Assignment Fee per 8 digit number is set at BD0.100 per annum. The Assignment Fee will be increased by a factor of 10 for each one digit reduction in length of the number. Hence, for a 4 digit short code number, the applicable Assignment Fee is BD1,000 per annum;
- c. The Reservation Fee is set at 80% of the Assignment Fee;
- d. Assignment Fees and Reservation Fees are currently payable in advance on a quarterly basis. However, the Authority reserves the right to modify the payment terms in the future;
- e. On-network numbers (i.e. short codes for services only accessible to subscribers of a specific network) are not subject to numbering Fees; and
- f. The Authority, at its sole discretion, may decide to exempt short codes used for public and social services from payment of numbering Fees (e.g. ambulance, fire and rescue, police, traffic incident, coast guards, child abuse, etc.).

**Table 4: Reservation Fees and Assignment Fees for reservation and assignment of numbers**

Type	Reservation Fee (BD)	Assignment Fee (BD)	Fee basis
Application	25	25	one-time per application
Per 8 digit number	0.080	0.100	Annually pro-rated per day (from the day of reservation/assignment)
7-digit	0.800	1.000	Annually pro-rated per day (from the day of reservation/assignment)
6-digit	8	10	Annually pro-rated per day (from the day of reservation/assignment)
5-digit	80	100	Annually pro-rated per day (from the day of reservation/assignment)
4-digit	800	1,000	Annually pro-rated per day (from the day of reservation/assignment)
3-digit	8,000	10,000	Annually pro-rated per day



**Public Consultation**  
Part 5: Annex A – Draft Schedule of Fees

			(from the day of reservation/assignment)
--	--	--	--

## 9 Type Approval Fees

103. The Type Approval Fee schedule is based on four (4) categories:

- a. Short Range Devices;
- b. Radiocommunications Equipment;
- c. Terminal Devices; and
- d. Passive Equipment.

**Table 5: Type Approval Fees**

Category	Application Fee	Renewal Fee	Modification Fee
Short Range Devices	50	10	40
Telecommunications Equipment (except Short Range Devices and Terminal Devices)	100	10	80
Terminal Devices	50	10	40
Passive Equipment	10	10	10

Note: All Fees in BD

104. The Application Fee covers the tasks associated with the process from the application up to the final decision of the Authorities;

105. The Modification Fee is charged in the event of any change made to an existing Equipment Approval within the applicable year;

106. The Renewal Fee is charged in the event if Equipment Approval needs to be renewed without any changes in equipment characteristics for new period;

107. The Non Objection Certificate (NOC) Fee is charged at BD10; and

108. If so needed for any devices operated for their personal use, individuals may obtain a Non-Objection Certificate (NOC) from the Authorities free of charge.

## 10 Domain Name Fees

109. The Fees for accreditation of the Registrar are indicated in the following table:

**Table 6: Fees for Registrar accreditation**

Type	Fee (in BD)	Occurrence
Application	250	one-time
Initial Deposit	3,400	one-time
Annual Accreditation	450	annually

## Public Consultation

### Part 5: Annex A – Draft Schedule of Fees

110. The Application Fee is set at BD250 per application for Registrar accreditation, The Application Fee covers the tasks associated with the process from the application up to the final decision of the Authority on the accreditation;
111. There is a Modification Fee that is also set at BD250 and is charged in the event of any change made to an existing Domain Name application within the applicable year;
112. Modifications related to naming, addresses etc. will be free of charge;
113. The Fee schedule for Domain Names is indicated in the following table:

**Table 7: Fees for Domain Name creation and renewal**

Fees for Domain Name creation and renewal (BD)					
2LDs	1 Year (BD)	2 Years (BD)	3 Years (BD)	4 Years (BD)	5 Years (BD)
.bh	30	45	63	82	98
.com.bh	20	30	42	55	66
.net.bh	15	23	32	41	49
.org.bh	15	23	32	41	49
.edu.bh	15	23	32	41	49
.biz.bh	15	23	32	41	49
.info.bh	15	23	32	41	49
.cc.bh	15	23	32	41	49
.name.bh	5	8	11	14	16

114. There are four categories of Fees:

- Fee for .bh
- Fee for .com.bh
- Fee for .net.bh, .org.bh, .edu.bh, .biz.bh, .info.bh and .cc.bh as well as
- Fee for .name.bh

115. The Authority may at any time introduce additional Second-Level Domain Names and assign a corresponding Fee to this new category or assign it to an existing Fee category.

## 11 Fees for Radiocommunication Station (Mast and Towers) Sites

116. In the event that the Authority becomes the entity responsible for the issuance of permits for Radiocommunication Stations, the following Fees shall become applicable:

**Table 12: Fees for Radiocommunication Station (Mast and Tower) Sites**

Nature of Site	Fee (BD)	Application Fee (BD)
Lattice Tower	750 /Annum	750
Roof Top Mast	750 /Annum	750

## Public Consultation

### Part 5: Annex A – Draft Schedule of Fees

Monopole (greenfield)	500 /Annum	500
Pole (rooftop)	350 /Annum	350
Camouflaged	250 /Annum	250
Wall Mounting	150 /Annum	150
Mobile Cell Unit	25/Day	25
IBS	150 /Annum	150

**Public Consultation**

Part 5: Annex A – Draft Schedule of Fees

**12 Appendix 1: Value of parameters in the formula**

117. The present Appendix 1 describes the parameters of the formula for determining the amount of Annual and Temporary Frequency Licence Fees in accordance with section 7 of the Draft Schedule of Fees; the Fees are payable per link (unidirectional).

118. The Unit Price (“Unit Price”) is set at BD7,000 per MHz of bandwidth (unidirectional) per year.

119. The Bandwidth (“BW”) is the size of the Frequency Assignment/Allotment expressed in MHz (unidirectional).

120. The Frequency Factor (“FREQ”) differs according to the frequency band in which the Frequency Assignment/Allotment is requested:

**Table 8: Frequency Factors**

From frequency (in kHz)	To frequency (in kHz)	Value of Frequency Factor (“FREQ”)
3	3,000	1.20
3,000	30,000	1.00
30,000	300,000	0.80
300,000	1,000,000	0.50
1,000,000	3,000,000	0.40
3,000,000	5,000,000	0.30
5,000,000	10,000,000	0.25
10,000,000	20,000,000	0.18
20,000,000	30,000,000	0.10
30,000,000	60,000,000	0.05
60,000,000		0.01

121. The Demand Factor (“DF”) is determined according to the following table:

**Table 9: Demand Factor**

Applicable sub-bands, kHz		
From (in kHz)	to (in kHz)	Demand Factor
137,000	144,000	1.50
146,000	149,900	1.50
150,050	156,490	1.50
156,560	156,760	1.50
156,840	174,000	1.50
230,000	312,000	1.50
312,000	328,600	2.00
335,400	470,000	2.00
21,200,000	23,600,000	1.50

## Public Consultation

### Part 5: Annex A – Draft Schedule of Fees

24,500,000	26,500,000	1.50
37,000,000	39,500,000	2.90
40,500,000	43,500,000	2.90
74,000,000	76,000,000	0.33
84,000,000	86,000,000	0.33

- a. The Demand Factor reflects the demand for a particular spectrum band; the default value is 1 and is not indicated in the table.
  - b. The values specified in the table refer to the sub bands in which the Demand Factor is other than 1. For all other bands not listed in the table, the default value of 1 will apply.
122. The Authorities may at their own discretion amend the values of the tables above differently.

The Area Coverage Factor (“ACF”) takes the value of 0.05 for Assignment used for point-to-point communications (per direction), and the value of one (1) in all other cases.

## **Public Consultation**

### **Part 5: Annex A – Draft Schedule of Fees**

#### **13 Appendix 2: Calculations examples**

123. The present section provides examples on how the Annual and Temporary Frequency Licence Fees are calculated based on the formulas.

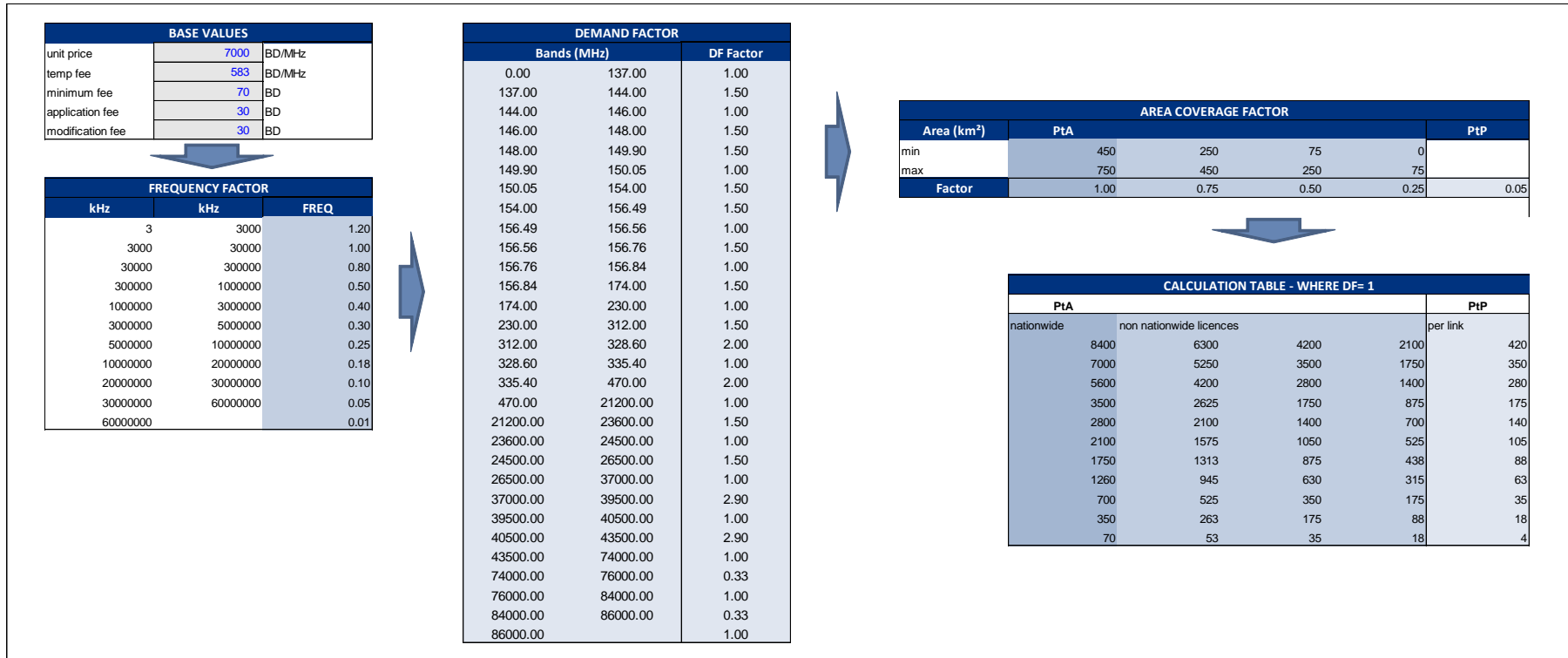
##### **13.1 Standard parameter of a calculation**

124. The table below provides an example of the standard calculation using the highlighted parameters, with the look-up calculation table indicating the annual Fee per MHz per frequency Assignment/Allotted (unidirectional) for all spectrum bands and areas, for Point to Area (PtA) and Point to Point (PtP) where the Demand Factor = 1.

## Public Consultation

### Part 5: Annex A – Draft Schedule of Fees

**Figure 2: Schedule of Fees in BD based on Unit Price BD7,000 and DF = 1**



## Public Consultation

### Part 5: Annex A – Draft Schedule of Fees

#### 13.2 Calculation example 1 (PtP Assignment)

125. For a PtP Assignment of 1MHz bandwidth in the 38GHz range with high demand, the Annual Frequency Licence Fee is calculated as follows:

- a. Formula = Unit Price × BW × FREQ × DF × ACF
- b. Unit Price=BD7,000; BW=1MHz; FREQ=0.05; DF=2.9; ACF=0.05
- c. Fee= BD7,000 × 1 × 0.05 × 2.9 × 0.05 = BD50.75
- d. For a bi-directional link, the applicable Fee would be BD 50.75 × 2
- e. For the present example, the Minimum Fee of BD70 would apply per Assignment, which is 1% of the Unit Price. The total Fee for the bi-directional link would thus be BD140.

#### 13.3 Calculation example 2 (PtP Assignment)

126. Variation of example 1: It is assumed that the 38GHz range is a band with normal demand, i.e., it is none of the sub bands listed in the Table of Demand Factor presented in the Schedule of Fees, the Annual Frequency Licence Fee is calculated as follows:

- a. Formula = Unit Price × BW × FREQ × DF × ACF
- b. Unit Price=BD7,000; BW=1MHz; FREQ=0,05; DF=1; ACF=0,05
- c. Fee= BD7,000 × 1 × 0.05 × 1 × 0.05 = BD17.5
- d. For a bi-directional link, the applicable Fee would be BD 17.5 × 2
- e. For the present example, the Minimum Fee of BD70 would apply per Assignment, which is 1% of the Unit Price. The total Fee for the bi-directional link would thus be BD140.

#### 13.4 Calculation example 3 (PtA Nationwide Allotment)

127. A nationwide Allotment of 5MHz bandwidth in the 2100MHz range with normal demand (in none of the sub bands listed in the table presented in the Schedule of Fees), the Annual Frequency Licence Fee is calculated as follows:

- a. Formula = Unit Price × BW × FREQ × DF × ACF
- b. Unit Price=BD7,000; BW=5MHz; FREQ=0.40; DF=1; ACF=1
- c. Fee= BD7,000 × 5 × 0.40 × 1 × 1 = BD14,000

#### 13.5 Calculation example 4 (Temporary PtA Nationwide Allotment)

128. An interested user applies for the same Allotment as in the example 3 above, the difference being that it is only for a period of 7 months (temporary Allotment);

129. In this case, the interested user would have to pay an Application Fee and a Temporary Frequency Licence Fee;

130. The Application Fee is BD30;



## Public Consultation

### Part 5: Annex A – Draft Schedule of Fees

131. The Temporary Frequency Licence Fee is calculated as follows:

- a. Formula = Temporary Unit Price × BW × FREQ × DF × ACF
- b. The Temporary Unit Price would be the total of 7/12 of Unit Price used for the Annual Frequency Licence Fee;
- c. Fee= (BD7,000 × 7/12) × 5 × 0.40 × 1 × 1 = BD8,166.67

## Public Consultation

### Part 5: Annex A – Draft Schedule of Fees

#### 14 Appendix 3: Exemptions and reductions (section 4 of the Schedule of Fees)

##### 14.1 Scope

132. The Schedule of Fees shall not apply with regard to Radio frequency spectrum, telecommunications networks and services used by the Bahrain Defence Forces and all security organs in the Kingdom pursuant to the Second Article of Legislative Decree No, 48 of 2002 promulgating the Telecommunications Law.

##### 14.2 Exemptions pursuant to section 4 of the Schedule of Fees

133. Following activities and services are exempted from the payment of Frequency Licence Fees:

- a. Certain categories of wireless systems as listed below:
  - i. Public Services Receive-only Equipment, including, but not limited to terrestrial and satellite TV and Radio receivers, GPS, etc.;
  - ii. Short Range Devices (SRDs);
  - iii. Frequencies used by Amateur, standard marine channels, exclusive frequencies for Radio Location service & exclusive frequencies for Radio Navigation service.
- b. Any other activities, systems or spectrum use as might be determined by the Authorities from time to time according to general policy imperatives.

134. Individuals entering the Kingdom are exempted from Type Approval Fees with condition that such devices conform with applicable regulations in the kingdom with regard to any of the Equipment listed in the table below, provided that the Equipment are designed to his personal use and the number (units) of Equipment does not exceed five (05) per individual:

Equipment exempted from Type Approval Fees	
Designation	Regulatory and technical requirements
Cellular mobile handheld	as per national type approval requirements
Electronic gadgets	as per national type approval requirements
SRDs	As per national SRD regulation
Personal computing devices with embedded SRDs	As per national SRD regulation

135. The list of exemptions might be adjusted from time to time by the Authorities according to country's policy imperatives.

## **Public Consultation**

### **Part 5: Annex A – Draft Schedule of Fees**

#### **14.3 Reductions pursuant to section 4 of the Schedule of Fees**

136. Fee for certain activities, systems or spectrum uses shall be reduced by a certain percentage (%) for certain users, the applicable percentage (%) of reduction will be determined by the Authorities according to policy imperatives;
137. The list of reductions might be adjusted from time to time by the Authorities according to country's policy imperatives;
138. A list of activities, systems or spectrum uses that shall benefit from a reduction will be adopted once the Authorities have considered it necessary or required to do so.