



**EXPLANATORY MEMORANDUM ISSUED BY THE
INFO-COMMUNICATIONS DEVELOPMENT AUTHORITY OF SINGAPORE**

**PROPOSED AMENDMENTS TO THE TELECOMMUNICATIONS (RADIO-
COMMUNICATION) REGULATIONS**

7 March 2016

- PART I: INTRODUCTION**
- PART II: PRICING FRAMEWORKS FOR RADIO FREQUENCIES**
- PART III: SHARED USE OF RADIO FREQUENCIES**
- PART IV: AMENDMENTS FOR CONSISTENCY AND TO REDUCE REGULATIONS**
- PART V: SUMMARY OF IDA'S DECISION**

PART I: INTRODUCTION

1. The Telecommunications (Radio-Communication) Regulations (“**the Regulations**”) set out, amongst other things, the procedures and conditions under which radio frequencies in Singapore are allocated for use. There are broadly two main instruments by which radio frequencies are allocated – through the grant of spectrum rights or through the grant of station or network licences. The Regulations also include provisions on the conditions of use of radio frequencies, and the fees payable for such use – these include the fees for station and network licences, the application and processing fees for radio frequency allocation and the annual fees for radio frequency use. Provisions relating to the penalties applicable for breaches of conditions of the spectrum rights and station or network licences are also included.

2. With consumers and businesses becoming increasingly reliant on wireless and mobile communications, the demand for radio frequencies is expected to rise exponentially. The International Telecommunication Union (“**ITU**”) had earlier reported that the demand for mobile data services has grown significantly, and that this growth is estimated to continue to be strong, with an increase of two to four times between 2015 and 2020¹. IDA has also seen a growing demand for Singapore’s radio frequency resources, and estimates that between 1GHz and 2GHz of radio frequencies may be required to deliver commercial mobile broadband services by 2020. Therefore, it is timely and essential to review and update the existing radio frequency allocation and governing frameworks, to ensure that scarce radio frequency resources continue to be allocated efficiently, used optimally to meet the growing and competing demands, and also be protected from interference.

3. As part of IDA’s review of the Regulations, IDA had proposed amendments to the following areas:

- a) Pricing frameworks for radio frequencies;
- b) Shared use of radio frequencies; and
- c) Amendments for consistency and to reduce regulations.

4. On 18 December 2014, IDA issued a public consultation on its proposed amendments to the Regulations (“**Consultation**”). Views were sought on the above three areas.

5. By the close of the Consultation on 2 February 2015, IDA received comments and feedback from MediaCorp Pte Ltd, Qualcomm Incorporated, and Singapore Telecommunications Limited. IDA thanks all respondents for their inputs. The respondents were broadly supportive of the proposed amendments, while making suggestions for changes to certain aspects.

6. IDA has given careful consideration to the comments received and this explanatory memorandum sets out the key issues raised in the Consultation and IDA’s responses and decision on these issues.

¹ According to the ITU M.2290-0 report, ITU estimates that the total spectrum requirement for International Mobile Telecommunications ranges between 1340 and 1960 MHz for the year 2020.

PART II: PRICING FRAMEWORKS FOR RADIO FREQUENCIES

Administrative Cost-based Pricing Framework

Background

7. The majority of radio frequencies in Singapore is currently allocated on an administrative basis, and the cost-based prices for such administrative allocation are prescribed within the Regulations, under the Administrative Cost-based Pricing (“**ACP**”) framework. Under IDA’s existing ACP framework, licensees to whom radio frequencies are assigned are required to pay a fee comprising (i) an Annual Frequency Management Fee (“**AFM fee**”), and (ii) a one-time Application & Processing Fee (“**A&P fee**”)². The current ACP framework has remained largely unchanged for more than 10 years and the fees are varied broadly based on the amount of spectrum allocated and whether the spectrum is for shared or exclusive use³. However, the current fees are no longer reflective of the characteristics and reusability of the spectrum as well as the regulatory costs incurred in managing the spectrum⁴. IDA had therefore identified several areas of adjustment during the review and proposed that the fees within the ACP framework be fine-tuned based on the following key considerations:

- a) The fees charged will be proportionate to the quantity of spectrum allocated to licensees. For instance, the smaller the spectrum bandwidth allocated, the lower the fees;
- b) The fees will reflect the level of reusability of the spectrum, which in turn reflects the efficiency in the use of spectrum. For example, lower fees will be charged for spectrum bands that could be shared, such as spectrum allocated for localised use that allows other users to use the same spectrum at another geographical location; and
- c) The fees will reflect the different characteristics of the spectrum, such as the propagation range and coverage area, which result in differences in resources needed to manage issues such as radio frequency interference.

Summary of Responses

8. Most respondents welcomed the timely review of regulations governing pricing, recognising that radio frequencies are a scarce resource, and acknowledged the need for efficient allocation of this resource. While the respondents were generally supportive of radio frequency sharing and the differentiation of radio frequency fees between exclusive and shared radio frequency usage, it was submitted that IDA would have to continually ensure that the re-use and sharing of radio frequencies did not

² AFM fees are payable upon issue or annual renewal of licences, while A&P fees are payable upon application or modification of technical operational parameters.

³ For the avoidance of doubt, where IDA allocates radio frequency bands for “exclusive use”, this means that the radio frequency bands may only be used by the relevant licensees whom such radio frequency bands are allocated to, subject always to regulatory requirements that such licensees must share all or part of the radio frequency bands as IDA may impose from time to time.

⁴ These include costs for general spectrum management activities such as planning, regional and international coordination sessions, participating in international meetings, technical assessments and monitoring activities to plan and manage the relevant part of the spectrum assignments.

cause adverse impact to current incumbent operations. To further encourage radio frequency sharing, there was a suggestion for IDA to consider adopting the Authorised Shared Access (“**ASA**”) or Licensed Shared Access (“**LSA**”) regime. This mechanism would permit an incumbent licensed radio frequency user to share its radio frequency with other users on a geographical or time-share basis.

9. Although the proposed fees were developed based on the technical characteristics of the utilised radio frequencies (e.g. reusability, propagation range, bandwidth, etc.), one respondent submitted that IDA should also take into consideration the type of service provided. For example, should a company use the radio frequency resource to deploy free public service, the fees levied on this company should reflect the value of the free service that was brought to the public.

IDA’s Views and Decision

10. The shared use of radio frequency is a continuing practice that has been adopted by IDA since 1994, and most allocated radio frequencies are already operating on a shared basis. Before allocating such radio frequencies, careful consideration and assessment will be made by IDA on the prevention of interference and impact to incumbent users. The interference risk is mitigated either through regulating the equipment transmission power limits (e.g., in the case of the licence-exempt operation of equipment at specified bands)⁵ or licence conditions (e.g., to restrict the location of use in the case of licensed shared use)⁶. The revised ACP framework maintains the concept of shared radio frequency use, but also introduces finer tiers into the shared radio frequency fees structure. These finer tiers provide additional options and flexibility for radio frequency users. On the suggested ASA/LSA approach, IDA notes that it is largely still new and yet to be implemented⁷, and further study may be required to assess the feasibility of adopting such a concept in Singapore. With regard to the adjustment of fees for radio frequency users that are providing free wireless services such as Free-to-Air broadcasting, IDA recognises that such services are important. However, IDA is of the view that an equitable and consistent fee policy should be adopted for all radio frequency users, given that the primary basis of the ACP framework is to allow IDA to recover the costs of managing radio frequencies, and it would be fair and reasonable for such a cost-recovery approach to be applied to all radio frequency users consistently. Furthermore, with regard to radio frequencies which are used for the provision of public services such as Free-to-Air broadcast services, IDA has already taken into account the important functions of such services by not subjecting these radio frequencies to auction currently.

11. In view of the above and with the clarifications provided, IDA will adopt the revised ACP framework which consists of the following:

⁵ For example, the installation and operation of White Space devices are exempt from licensing, subject to the conditions of operation stipulated by IDA such as operating at specified radio frequency bands and within specified power limits.

⁶ For example, IDA currently specifies in certain station/network licences for administratively assigned radio frequencies that the radio frequencies assigned are on a shared use basis.

⁷ While there have been reports on the ASA/LSA such as the one by the European Conference of Postal and Telecommunications Administrations, and the Federal Communications Commission has also considered similar approaches, it is observed that the ASA/LSA have not been adopted by any jurisdictions.

- a) a one-time A&P fee set at a flat rate of \$300 per application or modification of technical operational parameters; and
- b) an AFM fee to cover spectrum management costs, based on the key components as set out in paragraph 7.

The fees under the revised ACP framework are in **Annex 1**.

12. IDA will continue to conduct timely reviews to ensure that the ACP framework remains relevant in Singapore's infocomm environment.

Administrative Incentive Pricing

Background

13. Administrative Incentive Pricing (“AIP”) is a radio frequency pricing methodology that aims to encourage more efficient use of certain radio frequency bands. Under this scheme, administratively assigned radio frequencies in these bands may be priced more closely to their market value. In the Consultation, IDA has proposed to apply the AIP to frequency bands where (i) demand would exceed or would likely exceed the supply of spectrum; (ii) spectrum would not be appropriate for market-based allocation via an auction; and (iii) users would not be severely constrained in their use of spectrum. The AIP values could be established using three main methods, namely market benchmarks (national/international), least cost alternative or discounted cash flow.

Summary of Responses

14. The respondents were generally supportive of the proposed AIP framework. There was a suggestion from one respondent that AIP not be applied to Free-to-Air broadcast terrestrial services.

IDA's Views and Decision

15. Radio frequency is a limited resource and IDA's role is to ensure that it is efficiently and effectively managed. Today, with increasing demand for some of the radio frequency that is administratively assigned, it is timely and appropriate that IDA reviews the pricing of such radio frequency to reflect its market value more closely. This will help minimise hoarding of radio frequency and provide incentives for efficient radio frequency use. Hence, IDA will adopt the AIP as an additional pricing framework.

16. In terms of implementation, IDA will conduct separate studies to identify the radio frequency bands that fulfil the criteria for AIP application. A separate consultation will be conducted before applying AIP to any radio frequency bands, and IDA will provide further information and details of the proposed AIP framework, such as AIP fees.

PART III: SHARED USE OF RADIO FREQUENCIES

Background

17. With the increasing demand for radio frequency, there have been more instances in which radio frequencies are required on a shared-use basis. As mentioned in the section above, IDA has already implemented a shared use framework under which users are allowed to operate in the same radio frequency bands without interfering with each other (e.g., Wi-Fi and TV White Space). In relation to the grant of spectrum rights, the spectrum right conditions also indicate that a person granted a spectrum right shall allow the shared use of the radio frequency assigned to him, with another person, for up to 90 days during national events, including the suspension and/or cessation of his operations during such events to enable such shared use, where requested/directed by IDA.

18. Since the shared use of radio frequencies is already implemented in practice, IDA has proposed to update the Regulations to provide greater clarity that IDA could require that radio frequencies assigned under spectrum rights, station/network licences or temporary use permits be shared with another person for up to 90 days⁸. Such requirements would only be imposed by IDA after careful consideration and assessment, to ensure that any impact to existing users, if at all, would be kept to a minimum.

19. With regard to spectrum sharing, the Regulations also state that a person granted a spectrum right may share or trade the allocated radio frequency spectrum, subject to conditions as may be imposed by IDA. Regulation 12 states that a person granted a spectrum right may authorise another person to use the spectrum assigned, subject to conditions and requirements that may be imposed by IDA⁹. For greater clarity and consistency with Regulation 13(2)¹⁰ where IDA's approval is expressly required before a person granted a spectrum right engages in spectrum trading¹¹, IDA has proposed to amend the Regulations to make it clearer that a person granted a spectrum right will need to seek and obtain IDA's prior approval before sharing spectrum with another person.

Summary of Responses

20. While one respondent was encouraged by IDA's support for radio frequency sharing, a few respondents expressed concern that the requirement for radio frequency sharing might impact the quality of services provided by the operators. One respondent also requested IDA to take note of the following key considerations, in the event that radio frequency sharing was required:

⁸ For national events or where such use is in the public interest, and subject to that person obtaining the relevant station/network licence or temporary use permit, as the case may be.

⁹ Regulation 12 of the Regulations states that "(1) Subject to such conditions as the Authority may generally or specifically impose, a person granted a spectrum right may authorise another person to use the assigned radio frequency spectrum, in accordance with the conditions of the grant, for the purpose of operating a station or network subject to that person obtaining a station (spectrum) licence, a network (spectrum) licence or a station (spectrum) class licence, as the case may be. (2) Any person authorised by a person granted a spectrum right to use the assigned radio frequency spectrum under paragraph (1) shall comply with the Act, these Regulations and such other requirements as the Authority may specify".

¹⁰ Regulation 13(2) of the Regulations states that "No assignment of or dealing with the whole or any part of the rights and privileges granted under a spectrum right shall take effect until the Authority gives its approval in writing".

¹¹ For a person granted a spectrum right to assign or deal with the rights and privileges granted under a spectrum right.

- a) To ensure no adverse impact to the operators who were assigned the radio frequencies and were already using them to operate services;
- b) To recognise the impact on quality of service and apply waivers where necessary;
- c) In the event of any impact, to inform end-users that the operators were not responsible for such impact; and
- d) To consider fee rebates, as well as payment of costs from third party users for the shared radio frequency.

IDA's Views and Decision

21. IDA notes the concerns with regard to the radio frequency sharing requirement. A requirement for sharing during national events, or where such use is in the public interest, will only be imposed after careful consideration and assessment has been made by IDA to minimise any possibility of interference and impact to users on incumbent operators' networks. Interference risks (if any) will be minimised and managed (e.g. through conditions of use, such as power transmission limits or restriction on locations and duration of use). IDA has also observed that operators would usually not impose charges nor receive rebates as the radio frequency, if required by IDA for sharing, tends to be localised, temporary for a short period of time and justified only for national events, or where such use is in the public interest. Hence, IDA is of the view that this should continue. Furthermore, operators are currently not precluded, and indeed may be required if directed by IDA, to negotiate in good faith and in a commercially reasonable matter with another person for the purpose of entering into a spectrum sharing agreement.

22. In view of the above, IDA will amend the Regulations to clarify that:

- a) IDA may require that radio frequencies allocated under spectrum rights, station/network licences or temporary use permits be shared with another person for use during a national event or where such use is in the public interest, for not more than 90 days. The requirement will apply to all existing and future licensees/persons granted spectrum rights, and imposed only after careful consideration and assessment. IDA may also impose conditions of use to minimise and mitigate any interference and impact to incumbent users where appropriate. To facilitate sharing and minimise disruption to operations, IDA will give notice in writing before the effective date of sharing, unless IDA considers that it is not practicable or desirable to do so.
- b) A person granted a spectrum right will need to seek and obtain IDA's approval before sharing spectrum with another person. This will provide greater clarity and consistency as IDA's approval is already expressly required before a person granted a spectrum right may engage in spectrum trading.

PART IV: AMENDMENTS FOR CONSISTENCY AND TO REDUCE REGULATIONS

23. As part of IDA's efforts to reduce administrative and compliance costs for licensees and to allow more effective use of resources, IDA has proposed to further streamline the licensing processes for the Ship Station and Amateur Station Licences. In addition, IDA intends to better align the Regulations with the Telecommunications Act (Cap. 323) (the "**Act**") and to provide more clarity on existing regulations, such as clarifying the charging of fees for the use of radio frequency, decriminalisation of minor offences and alignment of financial penalty provisions in the Regulations with the Act.

Ship Station Licence

Background

24. Under the Regulations, a Ship Station Licence may be granted by IDA to Singapore-registered ships¹² for the operation of maritime radio-communication equipment if the following requirements are met:

- a) the ship on which the radio station is to be carried has a valid internationally-recognised Safety Radio Certificate¹³;
- b) the radio station is operated by an appropriate number and category of radio operators holding a Certificate of Competency¹⁴, except where the vessel is used solely or principally for pleasure;
- c) the ship has an Accounting Authority ("**AA**") acceptable to IDA; and
- d) the ship complies with such other requirements as may be determined by IDA from time to time.

25. In this regard, the Safety Radio Certificate and the Certificate of Competency are already required by the Maritime and Port Authority of Singapore ("**MPA**") for verification when ship owners apply for the Ship Registry Certificate. Thus, to streamline and simplify the licence application process for a Ship Station Licence, IDA has proposed to consider the licence application based on the Ship Registry Certificate issued by MPA.

26. With advances in technology, ships no longer require an AA for the settlement of their maritime communication bills, as such charges¹⁵ are settled directly between the satellite service providers and the ship owners. IDA has thus proposed to remove the requirement for ships to have an AA before the grant of a Ship Station Licence.

¹² Applicants of ship station licences need to submit to IDA the Ship Registry Certificate issued by the Maritime and Port Authority of Singapore.

¹³ Under the relevant requirements specified under the International Convention for the Safety of Life at Sea, the radio installation of all passenger ships and cargo ships of 300 gross tonnages and upwards must be surveyed and verified by officers of the flag State Administrations or Recognising organisations/surveyors nominated for the purpose in order to be issued certificates which establish their compliance with the requirements.

¹⁴ A certificate issued or recognised by IDA for a qualified person to operate the radio installation on board the vessel.

¹⁵ Based on the ITU recommendation for maritime communication billing, the charges for ship radio traffic can be billed to an AA, the ship owner directly, or a credit/charge card company designated by the telecommunication service provider.

Summary of Responses

27. The respondents did not comment on the proposal.

IDA's Views and Decision

28. In view of the above, IDA will remove, from the Regulations, the requirement for applicants to submit to IDA the Safety Radio Certificate and the Certificate of Competency in their applications for a Ship Station Licence. IDA will instead consider the licence application based on the Ship Registry Certificate issued by MPA, since the Safety Radio Certificate and the Certificate of Competency would already have been submitted to the MPA. IDA notes that this is also in line with the practice of other countries such as Australia, Canada, the UK and the US which do not require applicants to submit the Safety Radio Certificate and the Certificate of Competency for the application of a Ship Station Licence.

29. With advances in technology, there will also no longer be a need for ships to have an AA before the grant of a Ship Station Licence¹⁶, and the Regulations will also be updated to reflect this.

Amateur Station Licence

Background

30. Currently, the licence period for the Amateur Station Licence is one year and the licence fee is \$50 for General Class and \$25 for Restricted Class. IDA has proposed to extend the licence period to five years¹⁷. Existing one-year licences will be converted to five-year licences when they are due for renewal. This will streamline the administrative processes associated with licence renewals, and result in cost and time savings to licensees.

Summary of Responses

31. The respondents did not comment on the proposal.

IDA's Views and Decision

32. Currently, there are no requirements for regular updates to the information submitted for the Amateur Station Licence which does not require any further allocation of radio frequency as the amateur operation frequency bands are determined by the ITU, i.e., the use of such frequency bands is fixed and restricted to amateur usage. These licences are automatically renewed upon payment of licence fees. Therefore, the current licence period of one year can be extended. At the same time, however, IDA is not in favour of granting a licence with a perpetual licence validity period. This is because licensing records (such as equipment details, personal particulars, etc.) would still need to be maintained and updated¹⁸ as these licensees are operating at high transmission power of 200 Watts. Therefore, IDA considers that

¹⁶ Nevertheless, applicants with ships requiring an AA shall select the AA (which is registered with IDA) in the online application form.

¹⁷ This is in line with the conversion of the period of ship and aircraft station licences from one year to five years in 2006.

¹⁸ Licensees are required to update IDA immediately upon any change in particulars.

extending the licence period from one year to five years¹⁹ would strike the right balance.

33. In view of the above, IDA will update the Regulations to reflect the five-year licensing scheme and the licence fees as shown in **Table 1** below.

Table 1: Summary of Change – 5-year Licensing Scheme

		Existing	Proposed
1	Amateur Station –	-Annual licence -Frequency Fee: N.A	-5-year licence -Frequency Fee: N.A
	a) General Class	-Station Fee: S\$50 per year	-Station Fee: S\$100 for 5 years
	b) Restricted Class	-Station Fee: S\$25 per year	-Station Fee: S\$50 for 5 years

Decriminalisation of Minor Offences

Background

34. Under the Regulations, amongst others, a station or network licensee is required to inform IDA of any change in its particulars as specified in its licence within 14 days²⁰, and to ensure that information on its radio-communication station(s)/network(s)²¹ is up-to-date. For the full list of the relevant regulations, please refer to **Annex 2**. A licensee that fails to do so shall be guilty of an offence.

35. IDA has proposed for these requirements to be decriminalised and instead imposed as licence conditions, subject to administrative sanctions²² under Section 8 of the Act in the event of breaches of licence conditions.

Summary of Responses

36. The respondents did not comment on the proposal.

IDA’s Views and Decision

37. IDA has reviewed these requirements and is of the view that it would no longer be necessary to make it an offence where a station or network licensee fails to provide its updated particulars or maintain up-to-date information on its radio-communication station(s)/network(s). IDA will remove these requirements from the Regulations and include them in the licences as licence conditions instead.

¹⁹ Similar to the current arrangement, upon expiry, licences will be automatically renewed upon payment of the licence fees.

²⁰ Regulation 64 of the Regulations.

²¹ Regulations 24(2), 24(3), 57(1) and 57(2) of the Regulations.

²² Such as financial penalties or licence suspension or revocation.

Alignment of Financial Penalty Provision in the Regulations and the Telecommunications Act

Background

38. The Regulations provide that should a person granted a spectrum right be found to have contravened any provisions in the Act, the Regulations or any direction given by IDA, IDA may impose a financial penalty not exceeding S\$1 million. However, following the amendment of the Act in 2011, the Act now provides that the maximum financial penalty that can be imposed is either 10% of the annual turnover, or S\$1 million, whichever is higher²³. Therefore, for consistency and clarity, IDA has proposed to revise the maximum financial penalty provision in the Regulations, to align it with that in the Act.

Summary of Responses

39. The respondents did not comment on the proposal.

IDA's Views and Decision

40. IDA will proceed to align the maximum financial penalty provision in the Regulations with that in the Act to reflect that the maximum financial penalty that can be imposed is either 10% of the annual turnover, or S\$1 million, whichever is higher.

Clarifying the Charging of Fees for Use of Radio Frequency

Background

41. To provide certainty and clarity, IDA has proposed to clarify in the Regulations that, notwithstanding section 4(b) of the Act, any persons authorised by IDA to use radio frequencies would be required to pay fees for such use of radio frequencies as specified by IDA.

Summary of Responses

42. The respondents did not comment on the proposal.

IDA's Views and Decision

43. Currently, most users of radio frequencies are already required to pay IDA fees for radio frequency use, notwithstanding section 4(b) of the Act, as payment of fees for use of radio frequency and section 4(b) of the Act are not inconsistent. For certainty and clarity, IDA will clarify in the Regulations that, notwithstanding section 4(b) of the Act, any persons authorised by IDA to use radio frequencies would be required to pay fees for the use of radio frequencies as specified by IDA.

²³ Section 5A(9) of the Act states that the maximum financial penalty that can be imposed on a person granted a spectrum right is 10% of the annual turnover of that part of the person's business in respect of which the person is granted the spectrum right, as ascertained from the person's latest audited accounts, or S\$1 million, whichever is higher.

PART V: CONCLUSION

44. In summary, IDA has decided to proceed on the following:

- a) Amend the Regulations to adopt the revised ACP framework to ensure that it remains relevant in Singapore's infocomm environment. The revised ACP framework will consist of the following:
 - (i) AFM fees, which are applied per frequency per annum; and
 - (ii) A&P fees which are one-time fees applied per frequency per application. These fees will also be levied when a user requests for a change in its radio frequency technical operating parameters.
- b) Adopt AIP as an additional pricing framework, to encourage more efficient use of radio frequency bands. Separate public consultations will be conducted when radio frequency bands for AIP application are identified, where details of the proposed AIP framework, such as AIP fees, will be shared.
- c) Update the Regulations to clarify that:
 - (i) IDA may require that radio frequencies assigned under spectrum rights, station/network licences or temporary use permits be shared with another person for use during a national event or where such use is in the public interest, for not more than 90 days, and
 - (ii) Persons who are granted spectrum rights will need to seek and obtain IDA's approval before sharing spectrum with another person.
- d) Remove from the Regulations the requirement for applicants to submit to IDA the Safety Radio Certificate and the Certificate of Competency, and to have an AA, for the application of a Ship Station Licence.
- e) Update the Regulations to reflect the five-year licensing scheme and the licence fees (as shown in **Table 1** above) for the Amateur Station Licence. Existing one-year licences will be converted to five-year licences when they are due for renewal.
- f) Remove from the Regulations the requirements for station or network licensees to provide their updated particulars and maintain up-to-date information on their radio-communication station(s)/network(s). These requirements will be included in the licences as licence conditions instead.
- g) Align the maximum financial penalty provision in the Regulations with that in the Act to reflect that the maximum financial penalty that can be imposed is either 10% of the annual turnover, or S\$1 million, whichever is higher.

- h) Clarify in the Regulations that, notwithstanding section 4(b) of the Act, any persons authorised by IDA to use radio frequencies would be required to pay fees for such use of radio frequencies as specified by IDA.

45. The amendments to the Regulations are intended to take effect from 1 April 2016.

**FEES UNDER REVISED ADMINISTRATIVE COST-BASED PRICING
FRAMEWORK**

Annual Frequency Management Fee (“AFM Fee”)

1. Fees for the use of a radio frequency on an exclusive²⁴ basis

<i>Radiocommunication Service</i>	<i>Radio Frequency Bands</i>	<i>Occupied Bandwidth (X)</i>	<i>Fee payable per frequency per annum</i>
Broadcasting	All Frequency Bands	(i) $X \leq 25\text{kHz}$	\$400
		(ii) $25\text{kHz} < X \leq 500\text{kHz}$	\$800
		(iii) $500\text{kHz} < X \leq 10\text{MHz}$	\$12,100
Fixed	All Frequency Bands	(i) $X \leq 25\text{kHz}$	\$400
		(ii) $25\text{kHz} < X \leq 500\text{kHz}$	\$1,100
		(iii) $500\text{kHz} < X \leq 10\text{MHz}$	\$2,900
		(iv) $10\text{MHz} < X \leq 20\text{MHz}$	\$7,700
		(v) $X > 20\text{MHz}$	\$10,700
Private Mobile Radio	All Frequency Bands	(i) $X \leq 25\text{kHz}$	\$400
		(ii) $25\text{kHz} < X \leq 500\text{kHz}$	\$500
		(iii) $500\text{kHz} < X \leq 10\text{MHz}$	\$9,200
		(iv) $10\text{MHz} < X \leq 20\text{MHz}$	\$29,800
		(v) $X > 20\text{MHz}$	\$44,500
Public Mobile Radio	All Frequency Bands	per 5MHz of occupied bandwidth or part thereof	\$7,700
Others	All Frequency Bands	(i) $X \leq 25\text{kHz}$	\$400
		(ii) $25\text{kHz} < X \leq 500\text{kHz}$	\$1,100
		(iii) $500\text{kHz} < X \leq 10\text{MHz}$	\$15,100

²⁴ For the avoidance of doubt, where IDA allocates radio frequency bands for “exclusive use”, this means that the radio frequency bands may only be used by the relevant licensees whom such radio frequency bands are allocated to, subject always to regulatory requirements that such licensees must share all or part of the radio frequency bands as IDA may impose from time to time.

		(iv) 10MHz < X ≤ 20MHz	\$29,800
		(v) X > 20MHz	\$44,500

2. Fees for the use of a radio frequency on a shared basis (where the occupied bandwidth falls within two or more categories of radio frequency bands, the fees payable in respect of the lower radio frequency band will apply):

<i>Radiocommunication Service</i>	<i>Radio Frequency Bands</i>	<i>Occupied Bandwidth (X)</i>	<i>Fee payable per frequency per annum</i>
Fixed	Below 10GHz	(i) X ≤ 25kHz	\$300
		(ii) 25kHz < X ≤ 500kHz	\$400
		(iii) 500kHz < X ≤ 10MHz	\$800
		(iv) 10MHz < X ≤ 20MHz	\$1,800
		(v) X > 20MHz	\$2,400
	10GHz - 15.7GHz	(i) X ≤ 25kHz	\$300
		(ii) 25kHz < X ≤ 500kHz	\$400
		(iii) 500kHz < X ≤ 10MHz	\$500
		(iv) 10MHz < X ≤ 20MHz	\$900
		(v) X > 20MHz	\$1,200
	15.7GHz - 21.2GHz	(i) X ≤ 25kHz	\$300
		(ii) 25kHz < X ≤ 500kHz	\$400
		(iii) 500kHz < X ≤ 10MHz	\$500
		(iv) 10MHz < X ≤ 20MHz	\$700
		(v) X > 20MHz	\$900
	Above 21.2GHz	(i) X ≤ 25kHz	\$300
		(ii) 25kHz < X ≤ 500kHz	\$400
		(iii) 500kHz < X ≤ 10MHz	\$500
		(iv) 10MHz < X ≤ 20MHz	\$600
		(v) X > 20MHz	\$700

Radiodetermination (Non- Aeronautical)	Below 3GHz	(i) $X \leq 25\text{kHz}$	\$300
		(ii) $25\text{kHz} < X \leq 500\text{kHz}$	\$400
		(iii) $500\text{kHz} < X \leq 10\text{MHz}$	\$1,800
		(iv) $10\text{MHz} < X \leq 20\text{MHz}$	\$3,200
		(v) $X > 20\text{MHz}$	\$4,700
	3GHz - 5.85GHz	(i) $X \leq 25\text{kHz}$	\$300
		(ii) $25\text{kHz} < X \leq 500\text{kHz}$	\$400
		(iii) $500\text{kHz} < X \leq 10\text{MHz}$	\$1,000
		(iv) $10\text{MHz} < X \leq 20\text{MHz}$	\$1,800
		(v) $X > 20\text{MHz}$	\$2,500
	Above 5.85GHz	(i) $X \leq 25\text{kHz}$	\$300
		(ii) $25\text{kHz} < X \leq 500\text{kHz}$	\$400
		(iii) $500\text{kHz} < X \leq 10\text{MHz}$	\$700
		(iv) $10\text{MHz} < X \leq 20\text{MHz}$	\$1,000
		(v) $X > 20\text{MHz}$	\$1,400
Satellite (GeoStationary Orbit)	All Frequency Bands	(i) $X \leq 25\text{kHz}$	\$300
		(ii) $25\text{kHz} < X \leq 500\text{kHz}$	\$400
		(iii) $500\text{kHz} < X \leq 10\text{MHz}$	\$700
		(iv) $10\text{MHz} < X \leq 20\text{MHz}$	\$1,000
		(v) $X > 20\text{MHz}$	\$1,600
Satellite (Non- GeoStationary Orbit)	All Frequency Bands	(i) $X \leq 25\text{kHz}$	\$300
		(ii) $25\text{kHz} < X \leq 500\text{kHz}$	\$400
		(iii) $500\text{kHz} < X \leq 10\text{MHz}$	\$1,500
		(iv) $10\text{MHz} < X \leq 20\text{MHz}$	\$2,800
		(v) $X > 20\text{MHz}$	\$4,700
Private Mobile Radio	All Frequency	(i) $X \leq 25\text{kHz}$	\$300

	Bands	(ii) 25kHz < X ≤ 500kHz	\$400
		(iii) 500kHz < X ≤ 10MHz	\$2,500
		(iv) 10MHz < X ≤ 20MHz	\$7,600
		(v) X > 20MHz	\$11,300
Radiodetermination (Aeronautical)	All Frequency Bands	(i) X ≤ 25kHz	\$300
		(ii) 25kHz < X ≤ 500kHz	\$400
		(iii) 500kHz < X ≤ 10MHz	\$2,100
		(iv) 10MHz < X ≤ 20MHz	\$4,000
		(v) X > 20MHz	\$5,800
Others	All Frequency Bands	(i) X ≤ 25kHz	\$300
		(ii) 25kHz < X ≤ 500kHz	\$500
		(iii) 500kHz < X ≤ 10MHz	\$4,000
		(iv) 10MHz < X ≤ 20MHz	\$7,700
		(v) X > 20MHz	\$11,300

3. Common Frequencies for In-building or On-site Wireless Systems —	<i>ISM Band</i>	<i>Non ISM Band</i>
(a) bandwidth of 20 MHz or less	\$50	\$100
(b) bandwidth of more than 20 MHz but not exceeding 50 MHz	\$100	\$200
(c) bandwidth of more than 50 MHz	\$150	\$300
4. Block of Assigned Frequencies for Multi-channel Radio-communication Networks and Systems	\$15	

Application and Processing Fee (“A&P Fee”)

<i>Category</i>	<i>Fee payable per frequency</i>
1. Commonly Assigned Frequencies (for temporary or occasional use)	\$100
2. All Other Frequencies (including satellite downlink frequencies)	\$300

PROVISIONS IN REGULATIONS WHICH WOULD BE DECRIMINALISED

Particulars and records of station (spectrum) licences and network (spectrum) licences

Regulation 24 (2) of the Regulations – The licensee shall keep an up-to-date record of the radio-communication equipment comprised in the station or network.

Regulation 24 (3) of the Regulations – The record referred to in paragraph (2) shall (a) contain such information; (b) be kept in such form; and (c) be submitted to the Authority at such intervals, as the Authority may, from time to time, require.

Records

Regulation 57 (1) of the Regulations – A licensee of a network shall keep an up-to-date record of the radio-communication equipment comprised in the network.

Regulation 57 (2) of the Regulations – The record referred to in paragraph (1) shall (a) contain such information; (b) be kept in such form; and (c) be submitted to the Authority at such intervals, as the Authority may, from time to time, require.

Notification of change of particulars

Regulation 64 of the Regulations – A station (spectrum) licensee, network (spectrum) licensee, station licensee or network licensee, as the case may be, shall notify the Authority of any change in its particulars specified in a licence within 14 days of the change.

General penalties for the above offences (Telecommunications Act)

Section 65 of the Act – Any person guilty of an offence under this Act or any regulations made thereunder for which no penalty is expressly provided shall, in addition to the forfeiture of any article seized, be liable on conviction to a fine not exceeding \$10,000 or to imprisonment for a term not exceeding 3 years or to both and, in the case of a continuing offence, to a further fine not exceeding \$1,000 for every day or part thereof during which the offence continues after conviction.