



## **Grant of Spectrum Licences, Permits, and Exempted Frequencies**

Final Report

Final Decision and Order

Matter: 20200312

Date: December 16<sup>th</sup>, 2020

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## I. INTRODUCTION

1. The Regulatory Authority of Bermuda (the “RA”) hereby issues its Final Report, Decision and Order (the “Final Report”) defining the Spectrum Assignment Process. The Final Report contains:
  - Assessment of the responses to the Preliminary Report and the Preliminary Decisions and Orders (the “Preliminary Report”) published by the RA on 28 August 2020; and
  - Final Decision and Order in Appendix A adopting the RA’s General Determination (“GD”) on the Grant of Spectrum Licences, Permits, and Exempted Frequencies Licence (“SubCOL”) set out in Appendix B.
2. In 2014, the Minister responsible for electronic communications (the “Minister”) issued the Spectrum Policy Statement (the “Spectrum Policy”) in accordance with section 35 of the Electronic Communications Act 2011 (“ECA”). The purpose of the Spectrum Policy was to provide the RA with spectrum management policies with regard to spectrum allocations, spectrum assignments and spectrum related fees. The effective date of the Spectrum Policy was 22 September 2014.
3. In furtherance of the Spectrum Policy and the requirements set forth in the ECA, the purposes of this Final Report are for the RA to establish:
  - a) the basic provisions of spectrum licences;
  - b) the criteria and eligibility for any licence exemptions;
  - c) procedures, criteria and conditions for the award of individual spectrum licences;
  - d) procedures, criteria and conditions for the grant of permits for radio stations and apparatus; and
  - e) procedures, criteria and conditions for grant of permits for technical testing or non-commercial trials involving the use of spectrum.
4. This Final Report is structured as follows:
  - Section II outlines the background and consultation process;
  - Section III sets out the legislative context and framework;
  - Section IV summarises the responses to the Consultation Document;
  - Section V summarises the responses to the Preliminary Report;
  - Section VI provides the conclusion and proposed decision;
  - Appendix A sets forth the Decision and Order;

- Appendix B sets forth the GD;

## II. BACKGROUND AND CONSULTATION PROCEDURE

### II.A Background

5. The RA initiated the consultation by publishing the Grant of Spectrum Licences, Permits, and Exempted Frequencies Consultation Document, (the “Consultation Document”) on 12 March 2020 that invited responses from members of the public, including electronic communications sectoral participants and sectoral providers, as well as other interested parties.
6. The purpose of the RA’s Consultation Document was to initially present its Proposed Spectrum Assignment Process, associated Application Forms along with the draft terms and conditions of the proposed Spectrum Licences and Permits
7. The Consultation Document asked the following questions:
  - 1) Do you agree with the proposed process for the assignment of spectrum licences, permits, and exempted frequencies? If not, please specify why.
  - 2) Do you have any comments on the proposed Master Application Forms?
  - 3) Given the current form of the Master Application Form, are there any omissions that you believe will further assist the applicant to submit other relevant information? This submission can be for any/or all of the Master Applications Forms.
  - 4) Please comment on any issues involving the HDS certifying requirements, as proposed in paragraph 34.
  - 5) Please comment on any issues involving the NHDS certifying requirements, as proposed in paragraph 35.
  - 6) Do you agree with the eligibility requirements for the grant of new HDS and NHDS licences? Why or why not?
  - 7) Please comment on the assessment of demand and availability of requested HDS. Do you agree with the proposed assessment as presented? Why or why not?
  - 8) Do you have any comments on the proposed hybrid assignment process when supply exceeds demand for requested HDS?
  - 9) Do you have any comments on the comparative selection process when demand exceeds supply for requested HDS?
  - 10) Do you agree with the proposed assessment criteria for the comparative selection process? Why or why not?
  - 11) Do you have any comments on the proposed application fee for HDS set out in paragraph 51?
  - 12) Please comment on the award criteria and the proposed terms and conditions of new HDS and NHDS licences.

13) Do you have any comments regarding the proposed exempted frequencies, as presented?

8. The RA received five (5) written responses to the Consultation Document from:

- (1) Digicel;
- (2) Bermuda Electric Light Company (“BELCO”);
- (3) Tele Bermuda International Ltd. (“TBI”);
- (4) Wave Bermuda Ltd., trading as Horizon Communications (“Horizon”); and
- (5) World on Wireless (“WOW”).

9. On 28 August 2020, the Authority issued the Preliminary Report. The Authority invited responses from members of the public, including sectoral participants and sectoral providers, as well as other interested parties.

10. Public comments on the Preliminary Report were to be submitted by the deadline of 25 September 2020.

11. The Authority received two (2) written responses to the Preliminary Report from:

- (1) Bermuda Electric Light Company (“BELCO”); and
- (2) World on Wireless (“WOW”).

## **II.B Final Decision and Order**

12. Upon review and consideration of all responses, the RA hereby adopts the Order in Appendix A and make the General Determination set out in Appendix B to this Final Report.

### III. LEGISLATIVE CONTEXT

13. Section 5(1) of the ECA sets out the purposes of the act. These are:

- a) ensuring that the people of Bermuda are provided with reliable and affordable access to quality communications services;
- b) enhancing Bermuda's competitiveness in the electronic communications sector so that Bermuda is well-positioned to compete in the international business global tourism markets;
- c) encouraging the development of an electronic communications sector that is responsive to the requirements of users (both individuals and businesses) and provides them with choice, innovation, efficiency and affordability;
- d) encouraging the development and rapid migration of innovative electronic communications technologies in the electronic communications sector;
- e) promoting orderly development of Bermuda's electronic communications sector;
- f) encouraging sustainable competition and the creation of an invigorated electronic communications sector that will lay the groundwork for the further development of communications-reliant industries;
- g) encouraging the development and maintenance of resilient and fault-tolerant communications infrastructures;
- h) promoting investment in the electronic communications sector and in communications-reliant industries, thereby stimulating the economy and employment; and
- i) promoting Bermudian ownership and Bermudian employment at all levels of the electronic communications sector.

14. Section 9(1) of the ECA directs the RA to:

- a) implement the provisions of the ECA and the general policies and regulations made by the Minister; and
- b) supervise, monitor and regulate the electronic communications sector and enforce compliance with the applicable regulatory framework.

15. Section 35(1) of the ECA directs the Minister to establish general policies and, as necessary, regulations for the electronic communications sector with regard to:

- a) the management and allocation of radio spectrum frequencies for particular or liberalised uses in accordance with the ECA; and

- b) the procedures to be followed by the RA in the assignment of radio spectrum frequencies for use in connection with the provision of electronic communications, whether by means of the grant of an individual licence, the designation of a class licence, or the grant of a licence exemption.

16. Section 36(1) of the ECA requires the RA to implement the general policies and regulations made by the Minister in respect of radio frequencies comprising the electromagnetic spectrum which are, or are available to be, used to transmit or receive electronic communications.

17. Section 36(2) of the ECA empowers the RA to carry out the following functions in respect of radio spectrum, inter alia:

- a) maintaining and publishing the Bermuda Frequency Allocation Table which shall detail, among other things, the purposes and priorities for which the Minister has allocated the frequencies;
- b) specifying the criteria and procedures for the assignment of radio frequencies, awarding individual spectrum licences, establishing spectrum class licences and granting licence exemptions;
- c) establishing the applicable licence terms and conditions, including technical conditions and usage priorities and limitations;
- d) coordinating licensing procedures and conditions with associated operating licences for the provision of electronic communications; and
- e) conducting comparative selection processes, auctions, lotteries or hybrid processes for the award of spectrum licences in cases where demand for the right to use a specific portion of the radio spectrum is expected to exceed supply.
- f) establishing, maintaining and providing convenient access by the public to a frequency database and register which identifies spectrum licence holders, relevant technical conditions, priorities of use, and any additional information that the RA deems helpful to actual and potential users of spectrum;
- g) classifying the various types of radio stations and apparatus, issuing permits and establishing technical requirements and conditions for the same;
- h) conducting tests to monitor the use of frequencies and ensure compliance with technical requirements;
- i) conducting tests to check for harmful interference;
- j) conducting adjudications to consider -
  - i. the merits of complaints alleging harmful interference; and

ii. whether to order the release of spectrum in accordance with section 41 of the ECA.

k) conducting public consultations on its own initiative or at the request of the Minister, licence holders or consumers, and undertaking studies where appropriate, to evaluate the extent to which spectrum is available for use for radiocommunications in Bermuda, to assess current and potential demand, and to consider any other factors relevant to the Minister in formulating or modifying spectrum policies or regulations;

18. In performing their respective functions under Part 7 of the ECA, section 37(1) of the ECA requires the Minister and the RA to ensure that radio spectrum is managed in a manner that:

a) is objective, transparent and non-discriminatory;

b) is economically and technically efficient;

c) facilitates the introduction and evolution of new technologies and innovative electronic communications services;

d) gives due recognition to the level of investment in existing equipment configured for specific frequencies and the cost of migrating to other frequencies;

e) preserves or promotes effective and sustainable competition in the provision of electronic communications services;

f) is compatible with the Convention<sup>1</sup>; and

g) meets the radiocommunications needs of government departments and agencies.

19. Section 38(1)(a) of the ECA prohibits the use of electromagnetic spectrum within the territorial waters of Bermuda to transmit or receive any electronic communications without first obtaining a spectrum licence, unless the RA has granted a specific exemption to such spectrum use by administrative determination.

20. Section 38(2) of the ECA requires the holder of a spectrum licence or permit to conform to the conditions and standards specified in such licence or permit, including:

a) the frequencies assigned to that licence or permit holder;

b) the location, type and specifications of radio stations and apparatus;

c) the geographical area covered by the licence; and

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<sup>1</sup> As defined in the Electronic Communications Act 2011

- d) any other technical conditions that may assist in the efficient and effective use of radio spectrum.

21. Section 38(5)(a) of the ECA allows the RA to impose for a limited or indefinite period, proportionate and non-discriminatory service or technology restrictions in a spectrum licence if the RA determines that such restrictions are necessary to:

- a) avoid harmful interference;
- b) protect public health against electromagnetic fields;
- c) ensure technical service quality standards;
- d) maximise radio frequency sharing;
- e) provide for the efficient use of spectrum;
- f) promote or protect effective competition in the provision of electronic communications services;
- g) promote investment in new or innovative technologies or electronic communications services; or
- h) protect the environment and sites of historical or cultural significance; or
- i) otherwise advance the public interest.

22. Section 38(6) of the ECA requires the RA to make general determinations establishing:

- a) the basic provisions of spectrum licences and permits for radio stations and apparatus;
- b) the criteria and eligibility for any exemptions, which may be granted in cases where no Regulatory Authority or Government authorization fees are to be collected and the RA determines that—
  - (i) there is no reasonable probability of harmful interference; and
  - (ii) the level of demand for use of the relevant spectrum frequency band or bands is not expected to exceed the spectrum available;
- c) procedures, criteria and conditions for the award of individual spectrum licences and the grant of permits for radio stations and apparatus, including competitive bidding procedures and comparative selection procedures;
- d) procedures, criteria and conditions for obtaining class licences for the use of specified frequencies or radio stations and apparatus; and
- e) procedures, criteria and conditions for obtaining temporary licences or permits for technical testing or non-commercial trials involving the use of spectrum.

23. Section 48(2) of the RAA directs the RA to establish, by general determination, the procedures and criteria pursuant to which it will grant individual licences, class licences or licence exemptions by general determination.
24. Section 48(4)(a) of the RAA requires the RA to establish, by general determination, the process for obtaining an individual class licence, including whether a sectoral provider must notify the RA in advance as to whether it intends to offer a service for which a class license is required.
25. Additionally, section 48(4)(b) of the RAA states that the RA must, in establishing the process outlined under section 48(4)(a): (a) specify any information that must be provided by the applicant and the standards; (b) the criteria that will be used to consider any application; and (c) the process for granting or terminating a licence exemption.
26. Section 49(1) of the RAA directs the RA to establish, by general determination, the procedures to be followed by applicants seeking to obtain, assign or transfer control of a licence, including:
  - a) any application form used;
  - b) any supporting information that must be provided;
  - c) the criteria the RA will use to assess the request (in addition to any criteria specified by a Minister);
  - d) the time frame within which the RA will act on the application; and
  - e) any additional standards or procedures specified in sectoral legislation.
27. Section 49(2) of the RAA requires that in any instance in which an application is filed with the RA for an individual spectrum licence, the RA shall:
  - a) conduct a public consultation;
  - b) conduct an investigative hearing (if requested by the applicant); and
  - c) issue a decision and order.
28. Section 50 of the RAA addresses the conditions that the RA may include in licences.

## **IV. SUMMARY & DISCUSSION OF RESPONSES TO CONSULTATION**

### **IV.A Respondents**

29. The Consultation Document invited operators and the public to submit responses commenting on the Proposed Spectrum Assignment Process, associated Application Forms and Draft Licences and to respond to the consultation questions. Written responses to the Consultation Document were received from five (5) parties:

- (1) Digicel;
- (2) Bermuda Electric Light Company (“BELCO”);
- (3) Tele Bermuda International Ltd. (“TBI”);
- (4) Wave Bermuda Ltd., trading as Horizon Communications (“Horizon”); and
- (5) World on Wireless (“WOW”).

### **IV.B Summary of Responses**

30. Section IV of the Preliminary Report provided a summary of responses to the Consultation Document and a subsequent commentary from the RA. Therefore, to avoid repetition this will not be included in the Final Report and interested parties can review the Preliminary Report for details on the RA’s response.

## V. SUMMARY & DISCUSSION OF RESPONSES TO PRELIMINARY REPORT

### V.A Respondents

31. The Preliminary Report invited operators and the public to submit responses commenting on the Proposed Spectrum Assignment Process, associated Draft Application Forms and Draft Licences to respond to the consultation questions. Written responses to the Preliminary Report were received from two (2) parties:

- (1) Bermuda Electric Light Company (“BELCO”); and
- (2) World on Wireless (“WOW”).

### V.B Summary of Responses

32. This section provides a summary of responses and then a subsequent commentary from the RA. The proposed final decision, taking into consideration the public responses, is in the subsequent section VI.
33. The RA thanks all respondents and will address relevant comments accordingly based on the respondent and issue raised.

#### (1) BELCO

34. BELCO outlined various issues it wished to comment on in regard to the Preliminary Report. All issues are outlined below, and each includes the RA’s response accordingly.
35. **BELCO states that based on their interpretation of section 38 of the ECA, permits should only be issued for the purposes set out in section 38(2) of the ECA; this includes “import, install, place in operation, repair, or maintain any radio station or radio apparatus [...]”. BELCO does not believe that permits can be issued as authorization for the use of spectrum. BELCO goes on to query, why, if the RA takes this position, it does not lengthen the term of this authorization, as set out in 38(7) of the ECA which allows up to 10 year terms for a spectrum licence or permit for radio stations and apparatus as opposed to the 3 year term it is currently proposing.**

#### RA Response

36. The RA notes that at paragraph 57 of its Preliminary Report as follows:

*“[A spectrum applicant generally] could utilize the Spectrum Permit by selecting Permit in section A.1. Alternatively, in the event that an applicant is unsure as to which category their respective system might fall under, they could utilize the “Other” section and give a narrative in section A.2. As stated in paragraph 56 of the Consultation Document, the RA intends for permits to be used for reasons other than commercial use.”*

37. The RA reiterates that section 38(1) of the ECA prohibits the use of electromagnetic spectrum within the territorial waters of Bermuda to transmit or receive any electronic communications without first obtaining a spectrum licence, unless the RA has granted a specific exemption to such spectrum use by administrative determination. Section 38(2)

similarly prohibits the importation, installation, placing in operation, repairing, or maintaining of any radio station or radio apparatus without a permit, unless the RA has granted a specific exemption to such spectrum use by administrative determination.

38. On further revision of the relevant statutory provisions, the RA accepts BELCO's interpretation that section 38(1)(b) of the ECA does not contemplate that a permit shall authorize its holder to use spectrum. To that end, the RA will revise the provisions of the GD accordingly, creating new categories of licence and allowing for persons to apply for a non-commercial NHDS Spectrum Licence pursuant to sections 38(1)(a) and 38(6)(e) of the ECA.
39. To reiterate, the RA believes that the proposed process for the issuance of non-commercial NHDS Licences will allow the RA, and potential applicants, to avoid the licence terms and conditions associated with HDS and commercial NHDS licences issued for electronic communications services.
40. An HDS or NHDS spectrum licence may be granted for a period of up to ten (10) years, pursuant to section 38(7) of the ECA. Temporal limitations may be imposed on non-commercial NHDS Licences where these are sought for temporary uses.
41. The RA notes also that pursuant to section 38(1) of the ECA, it has the ability to grant a specific exemption for the requirement for a spectrum licence or permit by administrative determination. The proposed complement of spectrum licences (HDS, commercial NHDS and non-commercial NHDS) should be broad and versatile enough to cover nearly all situations of spectrum use in Bermuda. While it reserves for itself the ability to grant exemptions in future, the RA expects the use of such exemptions to be exceptional.
42. **BELCO states that they do not believe the RA has discharged its obligations under sections 38(6) and 38(c) through (e) of the ECA. BELCO states that in their view the RA has not addressed these provisions either at all or adequately.**

#### **RA Response**

43. The RA notes the concerns made by BELCO. The GD proposed in this final report does contemplate the process for the granting of NHDS spectrum licences, and the RA feels that it has adequately provided for the process and criteria involved. Furthermore, we note the additional revisions made in respect of non-commercial NHDS Licences covering technical testing, non-commercial trials and non-commercial use of spectrum.

#### **Issue 4**

44. **BELCO states that the contemplated licence categories remain too narrow, given the legal obligations of spectrum users set out in the ECA. BELCO further reiterates its concerns regarding the legislative basis upon which the RA proposes to grant permits that allow the use of spectrum other than in connection with importing, installing, placing in operating, repairing or maintaining radio stations or radio apparatus or for spectrum use for technical testing or non-commercial trials.**

### **RA Response**

45. The RA has included additional revisions made in respect of non-commercial NHDS Licences covering technical testing, non-commercial trials and non-commercial use of spectrum, and we believe that this adequately addresses BELCO's concerns in this respect.
46. The RA further notes BELCO's comments with respect to radio apparatus permits. On a detailed review of section 38, it is clear that Part 7 contemplates two forms of authorizations that must be kept conceptually distinct from one another:
- (a) Spectrum Licences – allowing the use of electromagnetic spectrum within the territorial waters of Bermuda to transmit or receive any electronic communications, pursuant to section 38(1)(b) of the ECA; and
  - (b) Permits for radio stations and apparatus – allowing a person to import, install, place in operation, repair, or maintain any radio station or radio apparatus, pursuant to section 38(2)(b).
47. Separate provision for such permits will be made, and the annexed General Determination will recognize that any person who is qualified to obtain an any form of Spectrum Licence will be entitled to a permit pursuant to section 38(1)(b) of the ECA, the term of which would not last longer than the corresponding spectrum licence.
48. Similarly any person who is granted a licence exemption pursuant to section 38(1) of the ECA will be granted an exemption from the requirement to obtain a permit for radio stations and apparatus, which will be limited in scope and duration to the extent of the licence exemption.

### **Issue 5**

49. **BELCO queried the extent to which any users of non-commercial spectrum would be required to obtain a COL in order to receive the relevant spectrum authorization.**

### **RA Response**

50. The RA thanks BELCO for its position with respect to the legislative position surrounding spectrum and welcomes this opportunity to provide clarity.
51. Any receipt of a spectrum licence will require a COL, unless they qualify for a COL exemption. This is the effect of sections 38(4) & (7) of the ECA:

*"[...] (4) Nothing in this section shall be construed to allow a communications provider to engage in any of the activities specified in section 12 without holding a duly authorized COL or qualifying for a COL exemption.*

*[...]*

*(7) The term of a spectrum licence or a permit for radio stations and apparatus shall not exceed 10 years and shall in any event not exceed the remainder of the term of the associated COL.”*

52. With respect to non-commercial spectrum use, the resulting General Determination will exempt any holder of a non-commercial NHDS Licence from the requirement to hold a COL pursuant to section 16(2)(c) and (d) of the ECA. This will accordingly allow that person to establish, construct or operate an electronic communications network or provide an electronic communications service pursuant to section 12 of the ECA.

### **Issue 6**

53. **BELCO has raised various drafting and legislative reference concerns.**
54. The RA notes the various drafting and legislative reference concerns, and changes have been made to the language accordingly.

### **(2) WOW**

55. WOW reiterated the same issue it raised in its response to the Consultation Document in that the RA should compare information supplied by applicants against existing deployed networks to ensure no disruption to services already being provided to customers by ICOL's occurs as a consequence of new networks being introduced.

The RA originally stated that it understands and will, “conduct a general assessment which will identify potential issues that may arise,” before issuing any additional spectrum licences. However, WOW still stated in their response to the Preliminary Report that they still have, “grave concerns about the scope and nature of assessment criteria which will be utilized by the RA as it remains undefined... [and] whether the RA intends to publish the results.” WOW specifically referenced the RA's assessment in regard to the rollout of additional networks in 2017 and the impact it had on WOW's customer base.

### **RA Response**

56. The RA has chosen not to specify the specifics of such an assessment in order to allow for flexibility and adaptability depending on the specific nature of each spectrum application and potential interference issue. Ultimately, the RA reiterates its commitment to ensure that as part of the review of any spectrum request (HDS or NHDS), the RA will conduct a general assessment which will identify any potential issues.

## **VI. DECISION**

57. The RA hereby adopts the Order set forth in Appendix A to this Final Report and the GD set forth in Appendix B.
58. The following sections outline the RA's decision regarding the process for the assignment of spectrum licences, permits, and exempted frequencies.

### **VI.A Procedures for Grant of New Commercial HDS and NHDS Licences; and for exemptions**

#### **VI.A.1 Use of Master Application Form and the Company Eligibility Requirements Application Form**

59. The RA proposes to use a Master Application Form and the Company Eligibility Requirement Form for all spectrum applications (including exemptions), to be set by separate supplemental Administrative Determinations in accordance with sections 65 and 63 of the RAA.
60. The RA included the templates of Master Application Forms and the Company Eligibility Requirements Form in the Preliminary Report to provide sectoral providers with the opportunity to publicly comment on their form and content. Having considered the public comments received in response, the RA will set the Master Application Forms and Company Eligibility Requirements Form through a supplemental Administrative Determination, through the enactment of a Decision and Order, in accordance with sections 63 and 65 of the RAA.
61. The purpose of setting the various forms through a separate supplemental Administrative Determination, is so that as technical, legal and financial developments occur in the electronic communications sector of Bermuda, the RA will be afforded the administrative flexibility to amend the Master Application Form and the Company Eligibility Requirements Form as required.

#### **VI.A.2 Proposed Assessment Criteria for Comparative Selection Process**

62. Recognizing that specific radio spectrum frequencies are intended for very specific commercial and technical considerations (e.g. Commercial Mobile Radio, Point-to-Point Microwave, Fixed Wireless Access, Other Mobile Radio, etc.), the RA has established a set of specific criteria to be analysed as part of the Comparative Selection Process.
63. A list of the specific criteria proposed by the RA is outlined in Section 4 in Annex 1 to the GD and as set forth in Appendix B to this Final Report. The RA proposes to utilise any or all of the specific criteria listed as part of the Comparative Selection Process.

#### **VI.A.3 Proposed Terms and Conditions of New HDS and NHDS Licences**

64. In accordance with section 38(6)(c) of the ECA, the RA shall make a general determination establishing the applicable procedures, licence criteria and conditions for obtaining individual HDS and NHDS licences or permits for technical testing or non-commercial trials involving the use of spectrum. In addition to establishing the applicable procedures,

licence terms and conditions, the RA has the power to establish the technical conditions, usage priorities and limitations for each individual HDS and NHDS licence pursuant to section 36(2)(c) of the ECA. Furthermore, section 36(2)(d) of the ECA empowers the RA to coordinate licensing procedures and conditions.

65. The RA has considered its experience with the existing HDS and NHDS licences, and that of the existing ICOL and COL licences issued on April 29, 2013. This experience suggests that the current HDS and NHDS licences, and the terms and conditions contained therein, were not unduly burdensome and have provided licensees with adequate flexibility to conduct and operate radio spectrum-based electronic communications services. The RA was not burdened by disputes involving the terms of the HDS and NHDS licences or requests for waivers or modification of the HDS and NHDS terms and conditions.
66. Furthermore, the RA is of the view that the existing HDS and NHDS licences were effectively coordinated with the existing licensing procedures and conditions currently contained in the existing ICOLs and COLs.
67. Therefore, the RA has decided that the existing form of HDS and NHDS licence shall remain unchanged, with limited exceptions discussed below. The RA also decides that newly awarded HDS and NHDS licences should provide new licensees with the same flexibility as current licensees to provide radio spectrum-based services on a retail basis to end users.
68. A set of template Licences were set out in Appendix E to the Preliminary Report to provide sectoral providers with the opportunity to publicly comment on their form and content.
69. Having considered the public comments received in response, the RA will set the terms and conditions of the Licences and Permit through a separate supplementary Administrative Determination, pursuant to sections 65 and 63 of the RAA.

## **VI.B Procedures for Grant of non-commercial NHDS Licences for Radio Spectrum**

70. Based on its experience managing spectrum, the RA has identified a need for NHDS licences to be used for reasons other than commercial use. Given the potentially broad, specialised use of spectrum in non-commercial circumstances, the RA deems it necessary to have non-commercial NHDS Licences that contain terms and conditions that are more suited for, and less complex than, the proposed commercial use licence templates of which were set out in Appendix E to the Preliminary Report.
71. The RA previously proposed a form of permit in the proposed form set forth in Appendix E to the Preliminary Report. Taking on board the results of consultation on that Report, the RA accepts that 'permits' under Part 7 to the importation, installation, placement in operation, repair, or maintenance of any radio station or radio apparatus in connection with spectrum, pursuant to section 38(1)(b) of the ECA. The RA accordingly has decided to create a new class of "non-commercial NHDS Licence" that cover the processes and provisions previously pertaining to permits, and which will complement the existing HDS and commercial NHDS Licence categories.
72. A non-commercial NHDS Licence will be granted pursuant to the annexed General Determination as envisaged by section 38(1)(a) of the ECA.

73. The RA has decided that non-commercial NHDS Licences shall have a maximum term of ten years and be renewable at the RA's discretion. Non-commercial NHDS licences will be used for what was envisaged previously by the various consultation documents for permits, namely the following:

- temporary use for special events;
- technical testing;
- non-commercial trials; and
- non-commercial use.

74. The RA notes also that pursuant to section 38(1) of the ECA, it has the ability to grant a specific exemption to spectrum use and/or to the importation, installation, placing in operation, repairing, or maintaining of any radio station or radio apparatus by administrative determination. The proposed complement of spectrum licences (HDS, commercial NHDS and non-commercial NHDS) should be broad and versatile enough to cover nearly all situations of spectrum use in Bermuda. While it reserves for itself the ability to grant exemptions in future, the RA expects the use of such exemptions to be exceptional.

75. Any use of Spectrum contemplated outside of these circumstances will require an associated HDS or commercial NHDS licence.

76. The RA proposes to use a Master Application Form for all non-commercial NHDS Licence applications.

77. Section 12 of the ECA provides as follows:

*“12 No person may establish, construct or operate an electronic communications network or provide an electronic communications service within the territorial limits of Bermuda or between Bermuda and another country, without a valid COL authorizing such activities, unless the Authority has made a general determination expressly authorizing a licence exemption for the provision of the particular type or types of electronic communications that the person is operating or providing, in accordance with section 16(2)(c).” (emphasis added)*

78. Section 16 of the ECA, insofar as is relevant, provides as follows:

*“16 (1) The Authority, in accordance with this section and the general policies and regulations made by the Minister may grant— [...] (c) exemptions from the requirements to hold a COL.*

*[...]*

*(2) The Authority shall, by general determination, specify the criteria, conditions, requirements and procedures that shall apply to the grant of individual COLs, class COLs and licence exemptions, in accordance with the following principles—*

*[...]*

*(c) a licence exemption may be authorized by the Authority if—*

*(i) no conditions, or only limited conditions, need apply to the exempted group of communications providers or the provision of the exempted type or types of electronic communications; and*

*(ii) no Regulatory Authority fees or Government authorization fees are required in respect of the exempted providers of electronic communications;*

*(d) a class COL or licence exemption may be authorized in any or all of the following circumstances, as determined and defined by the Authority—*

*(i) cases in which electronic communications are provided on a private rather than a public basis;*

*(ii) cases in which electronic communications are provided on other than a commercial basis;*

*(iii) cases in which electronic communications are self-provided by a natural person or legal entity whose principal line of business does not include the provision of electronic communications; or*

*(iv) any other circumstances in which the Authority deems the authorization of a class licence or the grant of a licence exemption to be appropriate and administratively efficient, in accordance with paragraphs (b) and (c).”*

79. The RA believes that the non-commercial uses of Spectrum contemplated above for which a non-commercial NHDS Licence may be granted come within these provisions outlining the circumstances for which an exemption from the requirement to hold a COL may be granted.

80. For the avoidance of doubt, the General Determination will also explicitly state that applicants for non-commercial NHDS licence must additionally meet one of sub-paragraphs (i), (ii) and (iii) of section 16(2)(d) of the ECA. The RA has opted not to legislate for the provision of exemptions pursuant to sub-paragraph (iv) at this time.

81. The Annexed General Determination will accordingly exempt any holder of a non-commercial NHDS Licence from the requirement to hold a COL, thereby allowing that person to establish, construct or operate an electronic communications network or provide an electronic communications service pursuant to section 12 of the ECA.

## **VI.C Radio apparatus permits**

82. As noted above, the RA took on board the results of consultation on the Preliminary Report and accepts that ‘permits’ under Part 7 of the ECA refer to the importation, installation,

placement in operation, repair, or maintenance of any radio station or radio apparatus in connection with Spectrum. On a detailed review of section 38, it is clear that Part 7 contemplates two forms of authorizations that must be kept conceptually distinct from one another:

- (a) Spectrum Licences – allowing the use of electromagnetic spectrum within the territorial waters of Bermuda to transmit or receive any electronic communications, pursuant to section 38(1)(b) of the ECA; and
- (b) Permits for radio stations and apparatus – allowing a person to import, install, place in operation, repair, or maintain any radio station or radio apparatus, pursuant to section 38(2)(b).

- 83. The remaining language of Part 7 of the ECA reinforces this conceptual distinction. For example, sections 38(6), 38(7), 38(9) and section 40 specifically refer to permits for a radio station or apparatus.
- 84. The proviso to section 38 also allows the RA to make an administrative determination granting a specific exemption from requiring (a) a licence for spectrum use, and (b) a permit for radio station or apparatus.
- 85. The RA recognizes that spectrum use will require the importation, installation, placement in operation, repair, or maintenance of any radio station or radio apparatus. Accordingly, the annexed General Determination will recognize that any person who is qualified to obtain any form of Spectrum Licence will be entitled to a permit pursuant to section 38(1)(b) of the ECA, the term of which not being longer than the corresponding spectrum licence.
- 86. Similarly any person who is granted a licence exemption pursuant to section 38(1) of the ECA will be granted an exemption from the requirement to obtain a permit for radio stations and apparatus, which will be limited in scope and duration to the extent of the licence exemption.

#### **VI.D Exempted Frequencies**

- 87. The RA identifies exempted frequencies and outlines how these shall be handled as outlined in Annex 1 to the GD as set forth in Appendix B to this Final Report.

**APPENDIX A: ORDER**



**Order:**

**Grant of Spectrum Licences, Permits, and Exempted Frequencies**

Matter: 20200312

Date: December 16<sup>th</sup>, 2020

- I The Regulatory Authority, pursuant to sections 4, 5, 7, 9, 12, 13, 48, 49, 50 and 62 of the Regulatory Authority Act 2011 and sections 5, 9, 35, 36 and 38 of the Electronic Communications Act 2011, hereby:
- (a) Adopts the General Determination attached hereto;
  - (b) Directs the Chief Executive of the Regulatory Authority of Bermuda to forward the General Determination to the Cabinet Secretary; and
  - (c) Authorises the General Determination to be effected on the date of its publication in the Official Gazette.
- II So Ordered this 16<sup>th</sup> day of December, 2020.

## APPENDIX B: GENERAL DETERMINATION

### Regulatory Authority (Grant of Spectrum Licences, Permits, and Exempted Frequencies)

#### General Determination 2020

BR / 2020

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The Regulatory Authority, in the exercise of the power conferred by section 62 of the Regulatory Authority Act 2011, as read with sections 12, 13, 48, 49 and 50 of that Act and sections 5, 9, 35, 36 and 38 of the Electronic Communications Act 2011, makes the following General Determination:

#### Citation

- 1 This General Determination may be cited as the Regulatory Authority of Bermuda (Grant of Spectrum Licences, Permits, and Exempted Frequencies) General Determination 2020.

#### Interpretation

- 2 In this General Determination, unless the context otherwise requires, terms shall have the meaning given in the Regulatory Authority Act 2011 and the Electronic Communications Act 2011.

#### General purpose

- 3 This General Determination establishes the spectrum assignment and licensing framework for the electronic communications sector.

#### Determination

- 4 (1) This General Determination is made pursuant to the Consultation Document entitled "Grant of Spectrum Licences, Permits, and Exempted Frequencies" dated 18 March 2020 and the Regulatory Authority's Decision on it.

(2) Taking into account the received responses to the Consultation Document and for the reasons given in the Decision, the Authority determines that the Grant of Spectrum Licences, Permits, and Exempted Frequencies regulatory framework, set out in the Schedule, shall apply

**Terms and conditions of General Determination**

5 (1) The Schedule to this General Determination has effect.

(2) The Schedule is published on the Regulatory Authority's website ([www.ra.bm](http://www.ra.bm)) and is also available for inspection at the offices of the Authority (1st Floor, Craig Appin House, 8 Wesley Street, Hamilton HM 11) during ordinary business hours.

**Effective date of General Determination**

6 This General Determination shall become effective on the day it is published in the Official Gazette.



**Schedule to the Regulatory Authority of  
Bermuda (Grant of Spectrum Licences,  
Permits, and Exempted Frequencies)  
General Determination**

Matter: 20200312

Date: December , 2020

## 1 INTERPETATION

(1) In this Schedule, unless the context otherwise requires—

“**Affiliate**” means any entity that owns, is owned by, or shares common ownership with another entity, as evidenced by the ownership of 25 per cent of more of the shares, stock or other securities or voting rights of the owned entity, including through an agreement or arrangement of any type;

“**Authority**” means the Regulatory Authority of Bermuda;

“**Basic Eligibility Requirements**” means the submission of a complete application;

“**COL**” means a Communications Operating Licence granted pursuant to section 16 of the ECA and, for the avoidance of doubt, includes and ICOL;

“**Consultation Document**” means the Consultation Document entitled “Grant of Spectrum Licences, Permits, and Exempted Frequencies” issued by the Authority on 18 March 2020;

“**ECA**” means the Electronic Communications Act 2011;

“**Electronic Communications Network**” means as defined in section 2(1) of the ECA;

“**Electronic Communications Service**” means as defined in section 2(1) of the ECA;

“**Final Report**” means the Final Report, Decision and Order on the Grant of Spectrum Licences, Permits, and Exempted Frequencies issued by the Authority on 3 December 2020;

“**GD**” means this General Determination;

“**HDS**” means high demand spectrum frequencies;

“**ICOL**” means an Integrated Communications Operating Licence granted pursuant to section 18 of the ECA;

“**Master Application Form**” means the application for HDS radio frequency licences, which shall be published on the Authority’s website;

“**Minister**” means the Minister responsible for electronic communications;

“**NHDS**” means spectrum frequencies which are not in high demand;

“**Preliminary Report**” means the Preliminary Report, Decision and Order on the Grant of Spectrum Licences, Permits, and Exempted Frequencies issued by the Authority on 28 August 2020;

**“Qualifying Application”** means an application that the Authority has determined meets: (1) the basic eligibility requirements (as set by the Minister); (2) the minimum necessary thresholds in relation to financial resources, technical experience, qualifications, business plan and financial plan;

**“RAA”** means the Regulatory Authority Act 2011.

- (2) For purposes of interpreting this Schedule—
- (a) unless a term is defined in this Schedule or the context otherwise requires, words or expressions shall have the meaning assigned to them by the RAA and the ECA;
  - (b) where there is any conflict between the provisions of this Schedule and the ECA or RAA, the provisions of the ECA or RAA, as the case may be, shall prevail;
  - (c) terms defined herein and in the ECA and RAA have been capitalised;
  - (d) headings and titles used herein are for reference only and shall not affect the interpretation or construction of this Schedule;
  - (e) references to any law or statutory instrument include any modification, re-enactment or legislative provisions substituted for the same;
  - (f) a document referred to herein shall be incorporated into and form part of this Schedule and a reference to such document is to the document as modified from time to time;
  - (g) expressions cognate with those used herein shall be construed accordingly;
  - (h) use of the word "include" or "including" is to be construed as being without limitation; and
  - (i) words importing the singular shall include the plural and vice versa, and words importing the whole shall be treated as including a reference to any part unless explicitly limited.

## **2 APPLICATION**

- (1) Annex 1 sets out the procedure for, applies to, the granting of new Spectrum Licences, Permits, and Exempted Frequencies.
- (2) The Master Application Form, which will require certain information as set out in Annex 2 to the Schedule, shall be used by all applicants for HDS and NHDS radio spectrum frequencies (of any frequency bands that pending approval on, or submitted to the Authority following the effective date of this GD) subject to any amendments that the Authority may make by administrative determination from time to time.
- (3) The General Company Eligibility Requirements, which will require certain information as set out in Annex 3 to the Schedule, shall be used by all applicants for HDS and NHDS radio spectrum frequencies (of any frequency bands that pending approval on, or submitted to the Authority following the effective date of this GD) subject to any amendments that the Authority may make by administrative determination from time to time.

- (4) The general terms and conditions of Spectrum Licences and Permits shall be—
- (a) specified by the Authority in any applicable Administrative Determination, including any and all of the terms and conditions set out in section 36(2)(d) and 36(2)(c) of the ECA; and
  - (b) used by all applicants for HDS and NHDS radio spectrum frequencies (of any frequency bands that pending approval on, or submitted to the Authority following the effective date of this GD) subject to any amendments that the Authority may make by administrative determination from time to time.

# **Annex 1 – Procedure for Grant of New HDS/NHDS Licences, Permits & Exemptions**

## **1 Proposed Procedure for Grant of Commercial HDS and NHDS**

### **1.1 Qualifying Application Process**

- (1) As spectrum is a limited resource that acts as an essential input into the supply of many electronic communications services, spectrum assignments have a fundamental impact on ensuring effective competition in the electronic communications sector.
- (2) Based on the eligibility requirements set out below, the Authority proposes to determine whether each application is a Qualifying Application.
- (3) A Qualifying Application is one that meets:
  - a) the Basic Eligibility Requirements; and
  - b) the international best practice standards with respect to the Applicant's proposed services
  - c) the necessary financial resources, experience, qualifications to successfully execute the Applicant's business plan and financial plan.

### **1.2 General Assessment Criteria for Comparative Selection Process**

- (4) Upon receipt of a Qualified Application for NHDS the Authority shall determine the availability of the requested spectrum and if available the Authority will assess the application based on the following criteria:
  - a) Local presence in Bermuda: applicants must either have, or make the greatest overall commitment to maintain a presence in Bermuda;
  - b) Eligibility to hold an ICOL, a COL or an exemption issued by the Authority;
  - c) Financial Position: The applicant must demonstrate that it has the necessary financial resources to provide the retail services and meet all roll-out and other commitments contained in the Qualified Application and the NHDS licence;
  - d) Technical Capability: The applicant must put forward a sound technical plan for coverage and service provision using the spectrum and demonstrate that it has the technical resources and expertise to implement it;
  - e) Spectral Efficiency: The applicant would be required to justify the quantity of spectrum for which it is applying; and

- f) Other Benefits: Any commitments that will promote the Authority's regulatory functions set forth in section 12 of the RAA (e.g. promotion of Bermudian ownership and Bermudian employment, enhance competition, etc.).
- (5) Once the Authority has determined that the NHDS application meets the assessment criteria above the Authority will issue the appropriate NHDS licence.
- (6) If the Authority determines that the requested NHDS spectrum is not available or the applicant does not meet the assessment criteria above, the Authority will notify the applicant that their request has been denied.

### **1.3 Assessment of Demand and Availability of Requested HDS**

- (7) Upon receipt of a Qualified Application for HDS, the Authority shall assess the availability of the requested HDS spectrum against overall demand by publishing a Notice of Interest ("Notice") on its website and in the Official Gazette.
- (8) The purpose of the Notice is to assess demand for the requested spectrum by communicating that an applicant has expressed interest in HDS spectrum to the general public. The Notice subsequently allows interested sectoral providers to express their own interest in the radio spectrum frequency disclosed in the Notice. The Notice shall outline all relevant details and the way in which interested sectoral providers may formally submit written communication expressing their interest in the spectrum frequencies identified in the Notice.

### **1.4 Hybrid Assignment Process when Supply Exceeds Demand for Requested HDS**

- (9) In circumstances where the Authority fails to receive any additional Qualified Applications in response to the published Notice, the Authority will confirm that supply for the requested spectrum exceeds demand.
- (10) Subsequently, the Authority can assign the requested HDS spectrum on a FCFS basis and will evaluate the sole Qualified Application against the spectrum specific qualifying criteria outlined below in paragraph 13. Subsequently, the costs associated with assessing the applicant's request for a specific radio spectrum frequency band may be reduced since the Authority will only have to review one application.

### **1.5 Comparative Selection Process when Demand Exceeds Supply for Requested HDS**

- (11) If additional sectoral providers communicate an interest in the spectrum specified in the Notice, through the submission of a Qualified Application, the Spectrum Policy requires the Authority to conduct a comparative selection process, where the Authority will evaluate all Qualified Applications against specified eligibility criteria.

- (12) The Spectrum Policy requires the Authority to provide all applicants with advance notice of the criteria and weightings to be used as part of the comparative selection process in order to ensure transparency and objectiveness of the assessment process.
- (13) The comparative selection process enables the Authority to assign spectrum to existing and/or prospective sectoral providers that can demonstrate a genuine need for additional spectrum and in a manner that allows the Authority to promote further competition and technical advancement and efficiency in the electronic communications sector. Ultimately, an effective and efficient comparative selection process allows the Authority to assign spectrum in a manner that is consistent with the purposes of section 37 of the ECA and the Authority's general functions outlined under section 12 of the RAA.
- (14) The costs associated with the comparative selection process are expected to be recovered from a refundable fee submitted with a Qualified Application in response to the published Notice. Further details on the proposed fee are outlined in paragraph 14 below.

#### **1.6 General Assessment Criteria for HDS Comparative Selection Process**

- (15) The Authority proposes the following general criteria to be adopted as part of the Comparative Selection Process:
  - a) Local presence in Bermuda: applicants must either have, or make the greatest overall commitment to maintain a presence in Bermuda;
  - b) Eligibility to hold an ICOL under Bermuda law;
  - c) Promotion of Spectrum Management Objectives: whether the applicant's Qualified Application proposes to provide electronic communications services of a quality/coverage and price that would promote the spectrum management objectives. Matters to be considered would include:
    - i Existing spectrum assignments (in particular, sub 1-GHz assignments);
    - ii Access to new technologies;
    - iii Enhanced services;
    - iv Reduction in prices; and
    - v Increased competition in the electronic communications sector.
  - d) Financial Position: The applicant must demonstrate that it has the necessary financial resources to provide the retail services and meet all roll-out and other commitments contained in the Qualified Application and the HDS licence;
  - e) Technical Capability: The applicant must put forward a sound technical plan for coverage and service provision using the spectrum and

demonstrate that it has the technical resources and expertise to implement it;

- f) Spectral Efficiency: The applicant would be required to justify the quantity of spectrum for which it is applying; and
- g) Other Benefits: Any commitments that will promote the Authority's regulatory functions set forth in section 12 of the RAA (e.g. promotion of Bermudian ownership and Bermudian employment, enhance competition, etc.).

**1.7 Proposed Technical Assessment Criteria for HDS Comparative Selection Process**

- (16) Recognizing that specific radio spectrum frequencies are intended for very specific commercial and technical considerations (e.g. Commercial Mobile Radio, Point-to-Point Microwave, Fixed Wireless Access, Other Mobile Radio, etc.), the Authority proposes to utilise any or all of the specific criteria listed below as part of the HDS Comparative Selection Process, at the discretion of the Authority :

<b>Proposed Technical Criteria for HDS Comparative Selection Process</b>		
1. Network/ Technology	1.1	Technology/standard proposed
	1.2	Version of standard proposed (e.g. 3GPP release numbers) and deployment dates
	1.3	Network design and means of delivering capacity
	1.4	Interconnection with other networks in Bermuda
	1.5	Approach to the provision of backhaul
2. Coverage	2.1	Link budgets showing the maximum permissible path loss to support the minimum download user rate.
	2.2	Details of path loss model used for coverage prediction
	2.3	Clutter assumptions (propagation losses and standard deviations)
	2.4	Coverage prediction maps on 8 ½" x 11" and/or 11" x 17" paper at a resolution of 50-meter grid or better for 6-, 9-, 12- and 18-month time periods following issuance of HDS licence. Prediction should be based on a local area probability of coverage of 90%.
3. Roll-out timetable	3.1	Network deployment timetable including a GAANT chart depicting project sequencing, scheduling and resource allocation.
	3.2	Approach to construction and logistics management and project management.
	3.3	Planned project activities including communication and key stakeholder engagement.
	3.4	Perceived key risks and approach to resolving project issues.
4. Quality of Service	4.1	Minimum Average Download User Data Rate in Megabytes per second ("Mbps") to be provided to subscribers by the network using HDS frequencies.
	4.2	Approach to technology choice that will ensure capability to deliver the Minimum Average Download User Data Rate.

	4.3	Approach to network dimensioning that will ensure compliance with the mandatory requirements and the Applicant's quality of service commitments. The Applicant should detail the traffic volume that their network is expected to deliver over the term of the HDS licence.
	4.4	Evidence that the network support systems can generate quarterly reports to be submitted to the Authority.
5. Needs and prioritization	5.1	Explanation of: <ul style="list-style-type: none"> <li>· The need for each HDS spectrum frequency applied for;</li> <li>· The minimum bandwidth with which the Technical Solution may be implemented; and</li> <li>· Why the requirement cannot be met using existing spectrum holdings.</li> </ul>
	5.2	Explanation for the Alternative Request position within the overall ranking of Alternative Requests; in particular, the ideal or optimal HDS Lot or HDS Package for realisation of the Applicant's proposal in line with the HDS and ICOL terms and conditions. <sup>2</sup>
6. Efficient Use	6.1	Description of how the proposed Technical Solution constitutes efficient use of each HDS frequency band applied for, considering combined use with: (1) other HDS frequency bands; and (2) existing HDS frequencies assigned to the applicant.
7. Infrastructure Sharing	7.1	A plan for sharing towers, masts and other passive infrastructure with other holders of Spectrum Licences where feasible and an explanation of how the proposed network design and site plan will minimize the duplication of towers, masts, and other passive infrastructure to limit any potential negative impact on the environment, tourism, health and safety or the public interest.
8. Site plan for each technology and HDS frequency band used	8.1	Site information including for each site: <ul style="list-style-type: none"> <li>· The site name, address and ID;</li> <li>· Site coordinates in latitude and longitude (accurate to 4 decimal places);</li> <li>· Ground height above sea level;</li> <li>· Description of the nature of the facilities (e.g. lattice tower, rooftop or monopole).</li> </ul> <p>The Site Plan must be sufficiently detailed to demonstrate each of the factors discussed above.</p>
	8.2	Sector information, including: <ul style="list-style-type: none"> <li>· Sector and site ID;</li> <li>· Antenna type, gain and radiation pattern;</li> <li>· Supplier datasheets for antennas should also be included;</li> <li>· Antenna height above ground level; and</li> <li>· Azimuth and down tilt.</li> </ul>

<sup>2</sup> An Alternative Request is when the Authority initiates a Request for Applications and multiple bands are made available to respondents. This give respondents the ability to communicate to the Authority their 1st and 2nd choices with regards to spectrum options.

	8.3	Equipment configuration including for each sector: <ul style="list-style-type: none"> <li>· Sector ID;</li> <li>· Technology and version/revision number;</li> <li>· Frequency band;</li> </ul>
		<ul style="list-style-type: none"> <li>· Carrier frequencies and channels;</li> <li>· Total transmitted power (EIRP);</li> <li>· Channel power (EIRP); and</li> <li>· Bandwidth</li> </ul>
	8.4	<ul style="list-style-type: none"> <li>· Whether new sites are located close to the existing sites of any ICOL holder;</li> <li>· The nature of upgrades required; and</li> <li>· Whether all necessary leases, permissions and approvals have been sought and/or granted.</li> </ul>
	8.5	Demonstration on how the Applicant plans to comply with ICOL Condition 7.2, namely: <i>“The Licensee shall, where technically feasible, share with other Licensees that may be designated by the Authority, Masts and other support structures suitable for the placement of Radiocommunications Equipment in an efficient manner that allow for the sharing of such facilities on terms and conditions that are fair, reasonable and transparent...The Licensee shall provide the Authority with advance notice of its intent to construct new Masts or other support structures and such information as the Authority may require to determine the Licensee’s compliance with this Condition.”</i>
	8.6	Explanation of how the Applicant intends to comply with any applicable environmental or planning legislation.
9. ICOL Licence Conditions	9.1	Confirmation that the Applicant intends to comply with ICOL Condition A.5.1 in deploying its new facilities,
10. Additional Spectrum	10.1	Details of any additional spectrum requirements that are not HDS frequencies (e.g. for backhaul and supplemental links).
11. Network Capacity	11.1	A statement showing that the network to be provided will meet the capacity requirements of the Applicant’s traffic forecast for the next five years. The traffic forecast should be supplied with a description of how the access network and the backhaul network will be provided to deliver a system that will handle the traffic at a high quality of service. The Applicant should specify key parameters including the design of quality of service targets for the system and the overhead ratio for catering to system traffic peaks (i.e. the peak to mean design traffic ratio). The Applicant should also describe its policy for capacity upgrades.
12. Backhaul deployment	12.1	A description of the Applicant’s strategy for backhaul including the mechanisms to be used to provide it (radio or fixed connections) and the dimensioning rules it intends to follow. A description of the backhaul roadmap should be provided.
13. Sub-sea cable capacity	13.1	A description of the Applicant’s approach to provision of sub-sea cable capacity in order to meet the demand likely to be driven by content and applications and how that approach is likely to change over time.

14. Use of small cells	14.1	A strategy for the introduction and use of small cells in more dense traffic areas, which must include a strategy for the use of small cells in indoor areas.
15. Network resilience	15.1	A description of the Applicant's approach to network resilience. The description should include how the Applicant handles network failures (including power failures), the likely impact on users, and the mitigation measures that the Applicant intends to deploy. The description should also include both the access and core network elements and resilience of other systems essential to the proper functioning of the system (e.g. Home Location Registers ("HLRs")) and the Applicant's planned resilience measures for severe weather events.

### 1.8 Proposed Application Fee for New HDS and NHDS Licence Applications

- (17) As part of its upcoming 2021/22 Work Plan and Budget, the RA has recommended a new fee structure<sup>3</sup> to cover costs incurred by the RA for an HDS licence, including any consultancy costs expended for the purposes of assessing an applicant's application. This would take effect on 1 April 2021.
- (18) Recognizing that there is presently strong new interest in obtaining HDS spectrum, the RA wishes to proceed with haste and will accordingly seek retroactive effect for the fee structure to cover the period from publication of this GD through to the date that any Ministerial regulations become operative. This will allow the RA to receive and process applications as soon as possible.
- (19) With respect to NHDS licence applications, the RA proposes that there be no fee for the submission of an application for an NHDS licence.
- (20) Any such new fees will ultimately be subject to Ministerial and legislative approval.

## 2 Procedures for Grant of non-commercial NHDS Licences for Radio Spectrum

- (1) Any person who seeks to use spectrum for—
- (i) temporary special events,
  - (ii) technical testing,
  - (iii) non-commercial trials, or
  - (iv) any other non-commercial purposes,
- provided that any such use is limited to—
- (a) cases in which electronic communications are provided on a private rather than a public basis,

<sup>3</sup> See *Preliminary Report Work Plan and Budget for Fiscal Year 2021/22, table 4 of section 9 ("Service Fees")*.

- (b) cases in which electronic communications are provided on other than a commercial basis, or
- (c) cases in which electronic communications are self-provided by a natural person or legal entity whose principal line of business does not include the provision of electronic communications,

may apply for a non-commercial NHDS Licence pursuant to section 38(1)(a) of the ECA, and paragraphs 1.1 to 1.8 shall apply with any necessary modifications.

- (2) A non-commercial NHDS Licence will have a maximum term of ten years and be renewable at the Authority's discretion.
- (3) An application for a non-commercial NHDS Licence must be made using the Master Application Form set out in Annex 2.
- (4) Pursuant to section 16(2) of the ECA, any person who obtains a non-commercial NHDS Licence is exempted from the requirement to hold a COL as required by section 12 of the ECA only to the extent that the licence holder seeks to establish, construct or operate an electronic communications network or provide an electronic communications service for the purposes set out in sub-paragraph (1).

### **3 Radio apparatus permits**

- (1) Any person who is qualified to obtain any form of spectrum licence will be entitled to a radio apparatus permit pursuant to section 38(1)(b) of the ECA.
- (2) The length of such a radio apparatus permit shall be equal in length to the corresponding spectrum licence.

### **4 Exempted Frequencies**

- (1) In the Spectrum Policy, the Minister stated that it was in the best interest of Bermuda to continue to follow the frequency allocations and band plans set by the Federal Communications Commission ("FCC") as much as practicable, so that Bermuda may benefit from the interoperability of communications equipment, including potential economies of scale.
- (2) The Minister found this approach to be consistent with the requirements of ECA section 37(1), which requires that radio spectrum is managed in a manner that:
  - a) is objective, transparent and non-discriminatory;
  - b) is economically and technically efficient; and
  - c) facilitates the introduction and evolution of new technologies and innovative electronic communications services.

- (3) As such, the Authority proposes to follow the FCC's Industrial, Scientific, and Medical Equipment ("ISM") Code of Federal Regulations 47 rules for licence exempt frequencies, to the extent that they are applicable.<sup>4</sup> Users of such frequencies would not require a spectrum licence from the Authority as long as they are compliant with the associated rules.
- (4) This proposed exemption shall not relieve an ICOL or COL holder of the obligation to comply with any other requirement of law or practice to obtain additional consents, permissions, authorizations, licences or permits as may be necessary to operate radio apparatus or radio stations, establish, construct and operate an electronic communications network, or provide electronic communications services on a commercial basis.

## **5 Savings for previous licences and permits**

- (1) Any previous permit granted by the RA allowing the use of HDS and NHDS wireless spectrum shall be deemed for the purposes of this GD to respectively have been HDS and commercial NHDS licences granted pursuant to section 38(1)(a) of the ECA.
- (2) Any such previous permit granted in circumstances that would have qualified for a non-commercial NHDS licence had this GD been in place shall be deemed to have been such a licence granted pursuant to section 38(1)(a) of the ECA.
- (3) The purported remaining duration of any permit referred to in sub-paragraphs (1) and (2) as at the time of this GD coming into force shall be construed as the remaining duration of the relevant licence.
- (4) Any such previous permit shall be deemed to have been granted with a coterminous radio apparatus permit pursuant to section 38(1)(b) of the ECA.
- (5) Where any person is deemed to have received a non-commercial NHDS licence as a result of sub-paragraph (2) shall be deemed to have been exempted from the requirement to hold a COL as required by section 12 of the ECA only to the extent that the deemed licence holder had sought, or will seek, to establish, construct or operate an electronic communications network or provide an electronic communications service for the purposes set out in sub-paragraph (1) of paragraph 2 ("Procedures for Grant of non-commercial NHDS Licences for Radio Spectrum").

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<sup>4</sup> See FCC Code of Federal Regulations 47 [https://www.ecfr.gov/cgi-bin/text-idx?SID=a84d3c0eced379f7cfa35f77b618c590&mc=true&node=se47.1.18\\_1301&rgn=div8spspectrum](https://www.ecfr.gov/cgi-bin/text-idx?SID=a84d3c0eced379f7cfa35f77b618c590&mc=true&node=se47.1.18_1301&rgn=div8spspectrum)

# Annex 2 – Master Application Forms

Any applicant that seeks to apply for a Spectrum Licence (commercial or non-commercial) shall comply with such requirements which may be set out by the Authority in any applicable Administrative Determination, which shall include the submission of a Master Application Form and the requirements set therein, including those set forth in sections 1-8 below.

## **1 LICENCE DETAILS**

Applicants will be required to submit general information, including the nature of their application (i.e. new application, licence variation, other), the purpose of their application (i.e. fixed wireless access, commercial mobile radio, point-to-point microwave, wireless cable service, other mobile radio service, permit), whether the application is for high-demand spectrum or non-high demand spectrum, and the duration for which the requested spectrum radio frequency shall be held by the applicant (i.e. less than 12 months, greater than 12 months).

## **2 APPLICATION DETAILS**

Applicants will be required to submit identifying information for the applicant, including the applicant's licence number (if applicable), information identifying the applicant (i.e. ICOL holder, Government Ministry, Government Department, other), the applicant's contact details (i.e. name of key contact, legal name of the applicant, the applicant's trade name (if applicable) the applicant's physical address, telephone number(s), e-mail address.

## **3 FIXED WIRELESS ACCESS**

In the event that the applicant has applied for a Fixed Wireless Access spectrum licence, the applicant will be required to specify various technical details including: the requested frequencies (MHz), the TDD's lower and upper frequency and the FDD's uplink and downlink requirements and block size.

In addition to providing various technical details, the applicant will be required to provide various details regarding the site of the applicant's network, including: site locations and antenna height.

## **4 POINT-TO-POINT MICROWAVE**

In the event that the applicant has applied for a Point-To-Point spectrum licence, the applicant will be required to specify various technical details including: the requested frequencies (GHz), the lower and upper frequencies (MHz) and the polarization.

In addition to providing various technical details, the applicant will be required to provide various details regarding the site of the applicant's network, including: site locations and antenna height.

## **5 COMMERCIAL MOBILE RADIO SERVICE**

In the event that the applicant has applied for a Commercial Mobile Radio Service spectrum licence, the applicant will be required to specify various technical details including: the requested frequencies (MHz) and their respective mobile frequency band names.

In addition to providing various technical details, the applicant will be required to provide various details regarding the requested spectrum frequencies, including: TDD band details and FDD band details

## **6 OTHER MOBILE RADIO SERVICE**

In the event that the applicant has applied for an Other Mobile Radio Service spectrum licence, the applicant will be required to specify various technical details including: the requested frequencies (MHz) and the lower and upper frequencies (MHz).

In addition to providing various technical details, the applicant will be required to provide various details regarding the site of the applicant's network, including: site locations, assigned frequencies, base/repeater location, base/repeater station latitude and longitude to four decimal places and antenna height above ground level for base station.

## **7 WIRELESS CABLE SERVICE**

In the event that the applicant has applied for a Wireless Cable Service spectrum licence, the applicant will be required to specify various technical details including: the requested frequencies (MHz) and the lower and upper frequencies (MHz).

In addition to providing various technical details, the applicant will be required to provide various details regarding the site of the applicant's network, including: site locations, assigned frequencies, base station location, base station latitude and longitude to four decimal places, repeater station location, repeater station GPD and antenna higher above ground level for base station.

## **8 NON-COMMERCIAL NHDS LICENCE**

In the event that the applicant has applied for a non-commercial NHDS Licence, the applicant will be required to specify various technical details including: the requested frequencies (MHz) and the lower and upper frequencies (MHz).

In addition to providing various technical details, the applicant will be required to provide various details regarding the site of the applicant's network, including: site locations, assigned frequencies, base/repeater location, base/repeater station latitude and longitude to four decimal places and antenna height above ground level for base station.

## **Annex 3 – Company Eligibility Requirements Form**

Any applicant that seeks to apply for a Spectrum Licence or Permit shall comply with such requirements which may be set out by the Authority in any applicable Administrative Determination, which shall include the submission of a Company Eligibility Requirements Form and the requirements set therein, including those set forth below.

### **1 HDS APPLICATION**

In order to qualify for a new HDS licence, the applicant will be required to submit information verifying that the applicant:

- a) is a company that is duly incorporated under the laws of Bermuda;
- b) is eligible to engage in business in Bermuda;
- c) has a certificate of compliance under the Companies Act 1981; and
- d) is in possession of an ICOL issued by the Authority pursuant to section 16 of the ECA.

### **2 NHDS APPLICATION**

In order to qualify for a new NHDS licence, the applicant will be required to submit information verifying that the applicant:

- a) is a company that is duly incorporated under the laws of Bermuda ;
- b) is eligible to engage in business in Bermuda;
- c) has a certificate of compliance under the Companies Act 1981; and
- d) is in possession of an ICOL or a COL issued by the Authority.

### **3 APPLICATION FOR NON-COMMERCIAL NHDS LICENCE**

In order to qualify for a non-commercial NHDS Licence, the applicant will be required to submit information verifying that the applicant:

- a) is a company that is duly incorporated under the laws of Bermuda ;
- b) is eligible to engage in business in Bermuda;
- c) has a certificate of compliance under the Companies Act 1981.