

CABLE & WIRELESS

Response to TRC Consultation on
Spectrum Management Framework
Review 2017
Including Addendum

November 24, 2017

COVER SHEET FOR RESPONSE TO A COMMISSION CONSULTATION

BASIC DETAILS

Consultation title: Spectrum Management Framework Review 2017

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Organisation: Cable & Wireless (BVI) Limited

CONFIDENTIALITY

Please tick below which part of your response you consider is confidential, giving your reasons why

Nothing

Whole response

Part of the response

Details of Confidential Information

If you want part of your response, your name or your organisation not to be published, we can still publish a reference to the contents of your response (including, for any confidential parts, a general summary that does not disclose the specific information or enable you to be identified)?

DECLARATION

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The Commission seeks to publish responses on receipt. If your response is non-confidential (in whole or in part), and you would prefer us to publish your response only once the consultation has ended, please tick here.

Name: Colin MacDonald

Signed (if hard copy)

1. INTRODUCTION

1.1 Cable and Wireless (BVI) Limited dba as Flow is pleased to provide the following answers to the Commission's questions set out in the '*Spectrum Management Framework Review 2017*' (the Consultation Document) published 1 September 2017 and the Addendum to the Consultation published 31 October 2017.

1.2 Flow expressly states that failure to address any issue raised in the Consultation Documents does not necessarily signify its agreement in whole or in part with any position taken on the matter by the TRC/ Commission or respondents. Flow reserves the right to comment on any issue raised in the Consultation Documents at a later date.

1.3 Flow places on record that it is good and visionary for the Commission to propose and consult on the Spectrum Management Framework at realistic intervals for it allows both the Commission and the industry to plan. Too often appropriate, fit for purpose, transparent spectrum frameworks are lacking in the Caribbean region.

1.4 Please send all responses to this Consultation Document and any matters arising to Colin MacDonald at colin.macdonald@cw.com and Melesia Sutherland at melesia.campbell@cw.com .

2. FLOW'S RESPONSES TO TRC'S QUESTIONS

Flow's responses to the Commission's questions are as follows:

Question 1

Do you agree with the Commission's overview of the key developments in the Virgin Islands communications markets and international trends in spectrum management? If not, please elaborate on any further, relevant developments which need to be considered in this review and how these should be taken into account?

Flow's Response

Flow agrees with the Commission's understanding of spectrum evolution internationally and how BVI is likely to be impacted.

Question 2

Do you agree with the stated objectives of this SMF? If not, please explain which further objectives should be considered and why?

Flow's Response

Flow supports the review of the Spectrum Management Framework (SMF) in accordance with Section 2 of the Consultation Document.

Question 3

Do you agree with the Commission's position on promoting efficient use of spectrum and how this is reflected in this SMF? If not, please explain why not and what alternative approaches to promote efficient use of spectrum should be adopted.

Flow's Response

Flow supports efficient use of spectrum resources.

Question 4

Do you agree with the Commission's proposals (i) to follow, in principle, US band plans and (ii) to complete spectrum agreements with the US Virgin Islands? If not, please provide further information as to your reasoning for disagreement.

Flow's Response

- (i) Generally, most of the equipment and handsets used in the Caribbean are based on the US band plan. The US and most of the Caribbean are in ITU Region 2 for spectrum allocation so the US band plan and the Caribbean band plans have many commonalities. Because much of our equipment is supplied through the US, the region tends to harmonise with changes in the US band plans even if these changes are not embraced internationally. So Flow agrees that where necessary, BVI align with the US band plan.
- (ii) A formal agreement with the US Virgin Islands (USVI) to minimise and manage spectrum interference is essential. In this regard the Commission's intent to ensure that

'...¹deployment of systems in the in the US Virgin Islands does not block opportunities for the Virgin Islands to use spectrum' is a fundamental premise. Flow anticipates that the Commission will reach out to the industry for supporting in negotiating an agreement with USVI.

Question 5

Do you have a view on the band plans that should be adopted in specific frequency bands? Please explain your response?

Flow's Response

In general, we agree with the Commission approach to follow the US band plan unless there are more spectrum and devices to be had on a different band plan for each specific range. Accordingly we disagree with the Commission's conclusion on band 7 versus band 41 because although band 7 has more device support, band 41 gives more flexibility and continuous spectrum thanks to the TDD configuration. In this regards band 41 is actually more spectrally efficient.

Bands above 2GHz have the possibility to deliver 100 MHz or more to a single provider in a continuous fashion, a TDD configuration would make use of all the spectrum; these bands are interesting for fixed-wireless internet service where the nature of TDD makes higher download speeds possible compared to FDD, resulting in a similar to copper-based fixed solutions speeds to the customers.

With 50 MHz more spectrum in the TDD versus the FDD configuration, the possibility of more continuous spectrum for providers and better possible speeds make band 41 more attractive than band 7. Even when the range of supported devices isn't as wide as for band 7, the main brands in smartphones have band 41 support which gives flexibility of services. We hope then that the Commission will be persuaded to favour band 41 along with band 7.

Question 6

Do you agree with the Commission's proposal on licence exempt bands? If not, please propose an alternative to licence exempt bands, and set out why you consider the alternative to be preferable to the Commission's proposals.

¹ Pg.29, Consultation Document

Flow's Response

Flow has no objections to licence exempt bands provided, as the Commission plans to ensure, that there is no interference with licensed bands. Flow will provide further comments on the Commission's proposal when the planned consultation document is issued.

Question 7

Do you agree with the spectrum bands the Commission proposes to release in Phase 1 of its spectrum release plan? If so, please comment on whether the three bands should be offered at the same time or sequentially? If not at the same time, in which sequence should they be released? Please also comment on the importance of including the (entire) 2300 MHz band within Phase 1 and how cross-border interference can be best managed within this band.

Flow's Response

We agree on the bands to release on phase 1 which should also include band 41, which due to its TDD nature and the extra 50 MHz of spectrum it brings enables the possibility of fixed-wireless services together with traditional mobile services. Also, band 41 uses spectrum more efficiently to reach higher downlink speeds, the nature of FDD makes uplink spectrum inflexible, while TDD allows more time to the downlink channel, which is much more relevant in a fixed-wireless setting.

Even as the phased approach is one way, Flow is conscious that as technology progresses it may not be feasible to release the spectrum in phases so we counsel that the Commission should be flexible and stand ready to assign the spectrum concurrently, if that is what the market requires.

2300 MHz is indeed a popular band. That a portion of the band has been assigned to satellite radio systems in USVI should not deprive the BVI of the use of the band. Clearly this is a challenging situation and should be included in the spectrum management agreement between BVI and USVI as is the stated intent of the Commission.

Question 8

Do you agree with the proposed spectrum bands the Commission proposes to release in Phase 2 of its spectrum release plan? If so, please comment on whether the three bands should be offered at the same time or sequentially? If not at the same time, in which sequence should they be released?

Flow's Response

Flow agrees with the Commission's release plan. At the same time Flow's counsel is that the Commission should be flexible, standing ready to release the frequencies concurrently if that is what is required by the market.

Question 9

Do you have any views on which band plan the Commission should prescribe for the 3.4 – 3.8 GHz band? Explain why. Also, in your view, when would this spectrum be required?

Flow's Response

We recommend utilizing band 42 for the 3.4GHz to 3.6GHz range, which Flow sees as feasible band to be deployed in the medium term. Higher than 3.6GHz spectrums are harder to define now because of market conditions, but Flow recommends to follow the 3GPP band plans. This spectrum is expected to be required from 2018 as a Pre-5G trial / deployments and then in 2020 as 5G deployments.

Question 10

What position should the Commission take with respect to the deployment of LTE (and later possibly 5G technology) in the 5 GHz band? Would any specific measures be required to protect other license exempt use in the 5 GHz band? In your view, when would this 5 GHz spectrum be required?

Flow's Response

Flow recommends that the Commission follows the FCC position on bands. This band is expected to be utilized by 5G which should be ready for testing in 2019/ 2020.

Question 11

In your views, are there any further spectrum bands beyond those specified in Phases 1 to 3 of the spectrum release plan which should be released for mobile services within the relevant period? Please elaborate on the requirement justifying early release of other bands for mobile services.

Flow's Response

For assignment within the next five (5) years, the Commission's spectrum release plan is comprehensive, provided band 41 is included.

Question 12

Do you agree with the Commission's preliminary view as to how it will assign spectrum under this SMF? If not, please explain what alternative you would suggest.

Flow's Response

The Commission must have a view on how it will assign spectrum under the SMF with the caveat that the Commission be somewhat flexible about its time frames for releasing spectrum. These timeframes should be indicative and not hinder the Commission from responding to the needs of the market. If operators need the spectrum earlier than the Commission should respond and likewise if the industry needs the spectrum later than indicated. In the same way if the industry needs the spectrum concurrently rather than consecutively then the Commission must also respond to that demand. Flow notes the Commission's proposal to remove the global cap and to replace the global cap with a cap on sub 1 GHz band and the Commission's proposal to increase the cap on sub 1 GHz to 2x37 MHz, then 2 x 40 MHz and finally 2 x 50 MHz over the five (5) year period of the spectrum release plan. Flow notes too the various approaches for spectrum assignment considered by the Commission and urges the Commission to keep the cost of acquiring spectrum, even under competitive assignment processes, reasonable so that operators will consider it attractive to acquire spectrum to improve service availability and quality.

Question 13

Do you agree with the Commission's proposals to assign contiguous mobile spectrum in new assignment rounds? If not, please explain why you disagree.

Flow's Response

Flow agrees that it is cost efficient to have relatively large contiguous block of spectrum. Just as important is the fact that data intensive services which are increasing exponentially require large contiguous blocks of spectrum. So it is necessary for spectrum to be assigned in larger, contiguous blocks.

Question 14

Do you agree with the Commission's preliminary proposals to revise the existing spectrum caps (including the removal of the global spectrum cap)?

Flow's Response

Flow does not disagree with the revision of the existing spectrum plan.

Question 15

Do you agree with the Commission's plan to issue frequency authorizations for all government use of spectrum?

Flow's Response

As a matter of good governance, frequency authorizations are to be issued to all users of spectrum.

Question 16

Would you be interested in test and development licenses, and if so, what tests and in which bands?

Flow's Response

Test and development licenses are useful for exploring and developing new services, even if at this time Flow cannot definitively say what tests it would conduct and in which bands. Where such licences are awarded it should be a clear condition that award of a test licence does not entitle the holder to any

preferential treatment or advantage for frequency assignment for the service being tested or any other service in the test frequency or any other frequency.

Question 17

Do you agree with the Commission's proposal to introduce spectrum trading formally in the Virgin Islands? If not, please explain why you disagree with this proposal.

Flow's Response

In principle, Flow agrees with the concept of spectrum trading. A fundamental issue for Flow is that where an operator is not using spectrum, prime or otherwise, the spectrum is to be returned to the Commission. Spectrum is not to be acquired or retained simply for speculative purposes nor should an operator be forced to trade for spectrum which could have been had from the regulator were it simply returned because it is not being used. There is no doubt that spectrum trading encourages speculation and inflates the price of spectrum.

Question 18

Do you agree with the Commission's preliminary proposal for the review process of spectrum trading applications? If not, please provide detailed comments on how the Commission's proposal can be improved.

Flow's Response

The Commission's process is heavy-handed, intrusive and extensive. Since the Commission is concerned about impact on competition of any spectrum trading, it may be useful for the Commission to establish upfront those competition concerns so that the operators can address those or at least evaluate the likelihood of a successful spectrum trade without having to first commit to the Commission's elaborate process.

Question 19

Do you agree with the Commission's preliminary position to impose coverage obligations, minimum speed and other quality of service requirements and "use it or lose it" clauses in future spectrum licenses?

Flow's Response

Flow has no dissenting view on this matter provided the industry is afforded an opportunity to agree the coverage obligations, minimum speed and quality of service standard and timeframe for 'use it or lose it'.

Question 20

Do you agree with the Commission's preliminary position to retain the current provisions for license renewal, revocation or suspensions?

Flow's Response

The Commission may do all such things as it is empowered to by the Act.

Question 21

Do you agree with the Commission's preliminary intention on the need to apply annual license fees to fixed wireless licenses, fixed satellite service licenses and public sector users of spectrum/radio frequency going forward? Do you agree with the Commission's preliminary intention to apply annual fees on all current mobile spectrum authorizations (i.e., including those awarded before 2016)? If you disagree, please provide a clear justification for your objection.

Flow's Response

Any charges for spectrum usage should be administrative charges only, which charges sufficiently cover the costs of administering the use of the spectrum. In this regard Royalty Fees paid by Flow and other providers should already cover these administrative costs.

Question 22

Do you agree with the Commission's preliminary view on the need for and approach to incentive spectrum pricing for existing high value spectrum holdings? If not, please provide reasons and alternative methods of encouraging efficient use of spectrum.

Flow's Response

Flow agrees that there has to be an approach to assigning spectrum where demand is greater than supply. One approach to this is to use a Beauty Contest as the Commission did in the award of 700MHz

and AWS spectrum, where interested providers distinguished their proposals on the basis of how much value they would be bringing to BVI in terms of, among other things, investment, range of services to be offered, quality of service, coverage and time to market. So deciding who to assign scarce spectrum does not have to be driven by price.

The Incentive Pricing Principle that the Commission favours will be difficult to administer and its complexity suggest that there may be need for highly specialised and expensive consultants to develop, not to mention the level of contention that it will provoke and lengthy delays in spectrum assignment. The proportionality of this approach seems questionable to Flow in light of BVI's small market size.

It seems too that the Commission is planning to re-value annually any spectrum assigned which could force an operator to relinquish spectrum due to unaffordability rather than lack of need to use the spectrum. This is a dangerous proposal and would wreak havoc on any company's business plans.

Should the Commission be successful in implementing the levy, Flow would be paying as much as 10% of its revenues to the Commission in fees and with this spectrum proposal, how much of the Company's revenues will be distributed as fees to the Commission?

Notwithstanding the Commission's protestation, the Incentive Pricing Principle to spectrum assignment will result in '².increasing the overall fee burden on the mobile network operators...' and is unacceptable.

Question 23

Do you agree with the Commission's preliminary view to complete a frequency coordination agreement with the US Virgin Islands on mobile communications in the short term? Do you see the necessity of completing frequency coordination agreements with neighbouring countries on frequency bands for other uses?

Flow's Response

The Commission should pursue a Frequency Coordination Agreement with USVI and where necessary, with any other country irrespective of the frequencies affected.

² Pg.81, Consultation Document

Question 24

In your view, is the interference issue with the unauthorized use of European DECT systems sufficiently resolved at the moment? If not, what additional measures should be taken? Are you currently confronted with any other interference issues? If so, please specify exactly which bands and/or users or uses your issues relate to. Would you agree with the Commission restricting the ISM 902 – 928 MHz to 915 – 928 MHz? If not, why?

Flow's Response

The Commission should do all such things as are necessary to eliminate unauthorized and unlicensed spectrum usage in BVI especially where there is interference with licensed services.

Question 25

25. Do you agree with the proposed implementation plan for the revised SMF, including the proposed timing? If not, please explain and justify what amendments you propose to the current plan.

Flow's Response

It is good that the Commission has a plan to deploy new spectrum into the market. This makes new assignments ordered and manageable for the Commission and even for the industry. As Flow has repeated elsewhere the Commission, despite its excellent approach to managing the spectrum framework, must retain flexibility to respond to the market whether or not the market is on the timetable it has developed.

ADDENDUM - Additional Consultation Questions**Question 1**

Taking into account your current service offerings and network restoration plan, please clearly identify the areas (in terms of network deployment and/or service delivery) where more spectrum would be required or desirable. As part of your response, please set out clearly and specifically any incremental benefits to you and consumers in terms of, for example, expedited network deployment and/or wider network coverage resulting from an expedited spectrum release.

Flow's Response

Throughout its response to the Commission, Flow has commended the Commission on its foresight in developing the SMF. At the same time Flow has cautioned the Commission to be responsive to the market while keeping an eye on its timetable. In light of the devastating Hurricane Irma, Flow applied for frequencies to provide Fixed Wireless Access, particularly to restore broadband service quickly to get businesses working again.

Flow is not so much applying for more spectrum as it is that it has applied for the spectrum, which it does not have, that is capable of restoring service as quickly as possible via the mobile network. Flow has applied for similar spectrum in other Caribbean countries and has been assigned the frequencies requested. BVI has been hardest hit by Hurricane Irma and it seems to defy all logic that instead of assigning the spectrum, the Commission's concern is preserving its spectrum release timetable. The operators did not expedite the Commission's schedule, rather Hurricane Irma did.

Question 2

Taking into account your current spectrum holdings and the spectrum release plan set out in the draft SMF, please specify which spectrum bands, if any, should form part of an expedited release to facilitate the restoration of your communications services in the Virgin Islands. Based upon recent requests, the Commission understands that service providers see a particular need for an expedited spectrum release especially in the 2.3GHz, 2.5GHz and 3.5 GHz bands to facilitate the provisioning of telecommunications services. Do you agree? If not, please explain why not and which alternative bands should be covered in any expedited spectrum release. As part of your response please expressly comment on (including supporting evidence, where available): a. whether you see, in general, a need for any additional spectrum and expedited release thereof to restore the services currently provided in Virgin Islands; and if so

- i. whether any expedited spectrum release should focus on the 2.3GHz, 2.5GHz and 3.5GHz bands;*
- ii. the minimum amount of spectrum to be made available to as part of an expedited spectrum release;*
- iii. the need for contiguous spectrum holdings within the bands to be awarded as part of an expedited spectrum release; and*

iv. your preference, if any, for specific locations of the spectrum blocks to be made available within any bands to be released.

Flow's Response

i. Flow would like to see bands releases in the following order of priority:

Band 41, 2500 MHz TDD

Band 40, 2300 MHz TDD

Band 42, 3500 MHz TDD

ii. In order to achieve a satisfactory Fixed Wireless service with VDSL-like average speeds and capacity, 100 MHz per operator is required.

iii. Continuous spectrum is critical to reach fast speed for the customers and expedite service. intra-band carrier aggregation is required to achieve greater speeds, which will be difficult to achieve if there is more than one band involved. Obtaining spectrum in different bands will require extra hardware resources to deploy multiple new bands which could delay deployment of service.

iv. Flow has no preference, at this time, for specific locations of the spectrum blocks.

Question 3

Taking into account your responses to Question 1 and 2 above, please indicate: a. whether you would be interesting in participating in any expedited award for spectrum authorisations in the frequency bands covered by the spectrum release plan; b. the anticipated timing and geographic coverage of your fixed wireless network roll-out and service provisioning once the spectrum authorisation has been awarded; and c. where relevant, the impact from any expedited spectrum release on your current or planned roll-out of fixed (or other) networks across the Virgin Islands. In particular, please clearly set out and evidence:

i. The expected incremental benefits from being awarded any additional spectrum as part of an expedited spectrum release (i.e. in terms of any time difference between the rollout of your fixed wireless network and any of your other networks and whether the planned fixed wireless network coverage would exceed that of the current or planned fixed (or other) network coverage).

ii. The expected impact on the scope of your fixed (or other) network roll-out and timing thereof.

iii. Whether you will plan to continue operating the fixed wireless network once your fixed (or other) network roll-out is complete. d. any potential concerns of an expedited spectrum release, in terms of the competitive dynamics in the communications sector going forward.

Flow's Response

Flow, as evidenced by its application to the Commission, is interested in an expedited award of the referenced frequencies.

Flow, along with the other operators in BVI, met with the Commission three (3) days per week immediately after Hurricane Irma and now are meeting with the Commission once per week. At those meetings, Flow is transparent with its plans for network restoration and has submitted same to the Commission in writing. We remain an applicant for the spectrum bands requested of the Commission and are happy to respond to any queries that the Commission may have arising from the application process.

END