

# ACS

Telecommunication Consultants

## **Response to Pan-Channel Island Consultation on 800 MHz and 2600 MHz Spectrum Awards**

**5 September 2013**

## Introduction

The distribution of this important spectrum necessary for the development of LTE and/or WiMax type services in the islands is long overdue. CICRA first proposed this consultation in 2012 but it was held up while the Guernsey States Department of Commerce and Economics investigated the options for deriving revenue from the allocation of licenses. Although it was clear that under the current legal arrangements with the UK concerning the management of the islands' spectrum the local authorities have no avenue through which an auction process could be carried out, considerable cost was spent on a consultants report that concluded that the only option was a local tax. This is an option that could have been foreseen without engaging expert advice.

ACS is of the view that the current proposal for deriving additional revenue from telecommunications providers in Guernsey is likely to cause consumer harm and in the long term damage to the Guernsey economy through creating additional barriers to market entry, this is further discussed below.

ACS has responded to the consultation using the questions as set out in the consultation.

## Response to Consultation

**Q1. Respondents' views are sought on the above objectives. In particular, CICRA seeks views on the balance it should strike between these objectives and what that might mean in practice for potential applicants and users of the spectrum. These views are intended to inform what services CICRA should give greater priority to facilitating for the islands and what obligations should be imposed on potential applicants in allocating the 800 MHz and 2.6 GHz spectrum.**

The authorities' requirements in both Guernsey and Jersey regarding the use of competition as a means of promoting the best interest of consumers are enacted in very different ways. In Guernsey this requirement is enacted through the overarching *The Regulation of Utilities (Bailiwick of Guernsey) Law 2001, Article 2*, while in Jersey such requirements are enacted under the sector specific laws, in the case of telecommunications under *The Telecommunications (Jersey) Law 2002, Article 7*.

Under the Guernsey Law there is an implied element of regulatory market management in the opening section of *Article 2*:

"In exercising their respective functions and powers, the States and the Director General shall each have a duty to promote (and, where they conflict, to balance) the following objectives."

While under the Jersey law *Article 7(a)* there is a distinct requirement to promote competition which implies letting the market provide the most cost effective benefits to the consumer.

Consequently, there is a conflict between the island' laws and regulatory requirements that may impinge on the way that the market is addressed which could lead to difference in the way that the process is dealt with. Therefore it is not necessarily the case that the same allocation

processes will be applicable to the two jurisdictions. It is the view of ACS that competition should be the overriding objective and that this should take priority over any attempt to "balance the market" which as an artificial construct in itself could be detrimental to both consumers and potential new entrants into the telecommunications market should it not be carefully defined.

Historically the OUR (now GCRA) in Guernsey has used technology specific licensing to manage the usage of spectrum within the Bailiwick, however, given that Ofcom, the responsible authority for allocating spectrum licenses in the Channel Islands, now promotes a technology-neutral policy it is difficult to see how this solution can be used going forward.

Any allocations should be made with a view to the benefits to each local community. While it may be convenient to both operators, particularly existing operators, and the regulator to make simultaneous allocations in both islands, such allocations may not fully address the needs of consumers in each market. It is acknowledged that there is currently almost a congruency between the operators on each island, but that fact should not blind the authority to the possibility that a new entrant may offer the best consumer benefit using this valuable limited asset.

In general the islands are spectrum rich, approximately the same bandwidth is available locally to serve a population between the islands that is little more than a small UK town that is available to serve the entire UK. In addition, there is considerably less demand across spectrum than is the case in other jurisdictions because of the demography of the islands. The bandwidth available would therefore be able to serve possibly more operators than may be the case in other jurisdictions since careful spectrum planning will maximize its utility.

CICRA should ensure that operators that receive allocations of spectrum in these bands utilize that allocation as soon as possible. It may be pertinent to publish guidelines on the expected timescale of deployment prior to the final issue of licenses. ACS understands that under the current arrangement for spectrum management in the Channel Islands there is little possibility of introducing a "use it or lose it" clause into licenses.

**Q2. Respondents' views are sought on the above issues, namely:**

- **Commercial decisions based on the JCRA recommendation**
- **Developments since the JCRA recommendation**
- **Benefits of a pan-Channel Island approach**
- **Scale of the available 2.6 GHz spectrum.**

This consultation is dealing with the same spectrum packages that were recently the subject of the Ofcom auction. It would be within Ofcom's mandate to have included the local spectrum packages within this auction, but Ofcom has chosen (rightly in the opinion of ACS) not to do so but to revert the process of this allocation to the local regulators.

With regard to the previous allocation of the 2600MHz spectrum made only by the JCRA in Jersey in 2009. This allocation was made following a public consultation and the JCRA allocated

spectrum packages in commercially usable lots that also ensured that the available resource did not exceed demand from the operators. It should also be noted that not all the spectrum packages were in fact allocated since no allocations of the TDD portion of the package were made, although it later became clear that the operators themselves were not clear what part of the spectrum they actually needed for their network development. This allocation was made with a bias towards those operators (including a new entrant, Clear Mobitel) that had indicated a quick move to market<sup>1</sup>. The JCRA subsequently unilaterally withdrew these allocations following petitioning from some of the operators, indeed operators that already had substantial licensed allocations of frequency packages elsewhere in the spectrum band, including, in some cases, spectrum suitable for fixed wireless broadband services. It is ACS's understanding that only one operator has thus far chosen to utilize this spectrum.

The JCRA's unilateral decision to withdraw the allocations was made in a letter sent to all the operators in March 2011. This move was challenged by Clear Mobitel through the Royal Court in Jersey. It is the understanding of ACS, having read the judgment in the Clear Mobitel (Jersey) Limited ('CMJ') v Jersey Competition Regulatory Authority<sup>2</sup> case, that the current allocation to CMJ stands, subject to discussions with the JCRA on the way forward. It is also clear from the reading of the judgment that heavy reliance was made on an unsigned letter from Ofcom dated 16 October 2009 to former the JCRA's Executive Director which indicated certain concerns over the recommendations, however, these points do not seem to have been carried forward to subsequent meetings and discussions with the JCRA up to and including the unilateral decision letter of March 2011. Whether Ofcom's concerns regarding excess demand of the available packages would have been expressed by resorting to another competitive process is unclear, since as outlined above such scenarios are disproportionate in small jurisdictions. In this respect ACS is surprised that JCRA (then OUR) contemplated such a process in Guernsey, albeit that it appears to have parked any decision in this matter since 2009.

The allocations recommended by the JCRA in the 2600MHz spectrum have failed to mature to licensing as a consequence, among other things, of technical problems subsequently identified by Ofcom, namely the potential interference between services deployed on 2600MHz and legacy airport radar systems utilizing the 2700MHz band. It is the understanding of ACS that this has indeed been resolved after research recommended the installation of special filters in old radar systems. Nevertheless, Ofcom was moved to allocate a test license to CMJ to enable scoping of network services on this band.

#### *Commercial decisions*

It would appear to be the case that only one operator has thus far made any commercial decisions based on the Jersey 2009 allocation and that is CMJ. As a new entrant in the local market it necessarily needed to make progress towards rolling out a network and it would appear to have had genuine expectations of receiving a spectrum license. In the case of the existing Class II licensed operators, ACS would be surprised if any serious investment had been made absent secure spectrum licenses.

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<sup>1</sup> See: [http://www.jerseylaw.je/Judgments/UnreportedJudgments/Documents/Display.aspx?url=2011/11-09-22\\_Clear\\_Mobitel-v-JCRA\\_181.htm](http://www.jerseylaw.je/Judgments/UnreportedJudgments/Documents/Display.aspx?url=2011/11-09-22_Clear_Mobitel-v-JCRA_181.htm)

<sup>2</sup> See: *ibid*

#### *Developments since the original JCRA recommendation*

There are two possible solutions for the deployment of wireless broadband: fixed and mobile. The ITU changed its definition of the so-called 4G (that is to day the next evolutionary step in mobile network technology) in December 2010<sup>3</sup> permitting the 3G advanced HSDPA+ standard to be described as 4G. In the US telecom operators have deployed alternative technologies, in particular WiMax<sup>4</sup> which has been deployed since 2006 as fixed wireless broadband. This technology can therefore be considered mature although under continuous development. It should be noted that it has also been considered for deployment as a mobile standard. WiMax and alternative LTE solutions have been developed (OFDMA / SC-FDMA) that can be deployed on 800MHz, 900MHz, 1800 MHz, 2600MHz and other spectrum allocations. There appears to be no technical problems in co-locating WiMax and 2G/3G on the same mast sites which would seem to give existing mobile operators an advantage in network deployment. While the actual LTE technology deployed will be determined by the available equipment at the time of deployment, it may be necessary for operators to decide whether to deploy fixed broadband, mobile broadband or both. The market will eventually determine which technology gains supremacy, however at this time WiMax technologies are available and proven. ACS is of the view that as technology is constantly changing, deployment decisions must be made more with regard to market entry and availability of equipment rather than waiting for the "best" solution.

#### *Benefits of a pan-CI approach*

Historically, Ofcom has allocated spectrum at different times and in different way in the two Bailiwicks. For example the 900MHz<sup>5</sup> licensing was made at a time when a monopoly existed in each island thus the incumbent operators Guernsey Telecom (now Cable & Wireless (Guernsey) Limited) ('CWG') and Jersey Telecoms (now JT Limited) ('JT') each received considerable allocations which they retain today. Further allocations in the 1800MHz and 1900MHz, 2100MHz, 3400MHz and 3600MHz bands were also made separately in each island. It was only later with the issues surrounding the 2600MHz and later the 800MHz bands that Ofcom saw merit in coordinating the allocations in order to increase spectrum utility and efficiency.

However, this now a difficult issue since operators, particularly the former incumbents with large allocations, are reluctant to make any efficiency changes because of the potential competitive effects on their business. This matter will be addressed further later in this paper.

It is the view of ACS that while there is considerable benefit arising from coordination of allocations between the islands and ensuring that similar size allocations are managed across the two jurisdictions, it is not necessary for the islands' regulators to make the allocations simultaneously, nor indeed equitably between operators that have networks on both islands. The coordination of spectrum will nevertheless be considered by Ofcom as this is the most efficient way of allocation. Even if each island deploys its spectrum at different stages, there will nevertheless be efficient usage through coordinating both between the islands and the adjacent French coast where necessary.

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<sup>3</sup> See: [http://www.itu.int/net/pressoffice/press\\_releases/2010/48.aspx](http://www.itu.int/net/pressoffice/press_releases/2010/48.aspx)

<sup>4</sup> See: [http://www.wimaxforum.org/sites/wimaxforum.org/files/document\\_library/wimax\\_802.16m.pdf](http://www.wimaxforum.org/sites/wimaxforum.org/files/document_library/wimax_802.16m.pdf)

<sup>5</sup> In the UK 900MHz and 1800MHz spectrum was allocated to operators prior to the introduction of the Communications Act 2003 and the Wireless Telegraphy Act 2006.

### *Scale of the available 2600MHz spectrum*

The 2600MHz spectrum allocation has, as far as deployment of wireless networks is concerned, limited utility. This particular spot in the waveband is not ideal for wide area coverage because of its performance footprint and building penetration characteristics. In addition it is likely that networks using this spectrum will require a large number of smaller cells which may be better suited to urban environments than rural areas. Thus for ideal urban/rural performance sub 1000MHz spectrum is better suited. Given the size of the islands and the coverage requirements for effective wireless broadband coverage, lower frequency spectrum would be far better for overall deployment, this is part of the logic behind Ofcom's decision to auction the 800MHz concurrently with the 2600MHz spectrum. Further given the amount of this spectrum available (albeit somewhat unfairly allocated at present) the 2600MHz spectrum is of little consequence in the overall deployment of wireless broadband in Jersey. It is therefore the view of ACS that the JCRA should follow the court's judgment and engage with CMJ in order to release the current stalemate and to ensure the best choices for consumers in the island at the earliest possible time.

### **Q3. Views are also sought on any other relevant factors respondents believe CICRA should take into account regarding existing recommendations to the extent they are relevant to future spectrum awards.**

The recommendations made by the JCRA in 2009 were made on the basis of promoting competition in the telecommunications sector in Jersey, which is a main part of its duties under the Telecommunications (Jersey) Law 2002. The delays so far have not produced any clear alternative for Jersey consumers which remain at the mercy of JT, the only wholesale provider of broadband over its fixed network. Only recently has an alternative operator, Y-tel, entered the market with an alternative broadband offer over both fibre (in parts of Jersey) and wireless. Jersey consumers have one of the most costly broadband services in Europe<sup>6</sup> which is as a direct result of this continuing monopoly supply position. Current mobile broadband technologies do not provide a robust alternative to fixed services.

Given the proposed packages that Ofcom is willing to release to operators that already hold substantial amounts of sub-1000MHz spectrum<sup>7</sup>, the allocations made by the JCRA in 2009 seem entirely consistent with those limits. Ofcom's reasoning for withholding further allocations for those operators is to ensure competition utilizing the newly available spectrum. This policy makes Ofcom's letter of October 2009<sup>8</sup> all the more puzzling since this proposal is entirely in line with the reasoning of the JCRA's recommendation of September 2009, i.e. to promote consumer welfare via competition. It is therefore ACS's view that given the arguments outlined here and as

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<sup>6</sup> See:

[http://www.cicra.gg/\\_files/100514%202009%20Telecom%20stats%20in%20Jersey%20REVISED%20.pdf](http://www.cicra.gg/_files/100514%202009%20Telecom%20stats%20in%20Jersey%20REVISED%20.pdf)

<sup>7</sup> See: <http://stakeholders.ofcom.org.uk/binaries/consultations/combined-award/summary/combined-award.pdf>

<sup>8</sup> See Royal Court judgment re: Mobitel v JCRA

[http://www.jerseylaw.je/Judgments/UnreportedJudgments/Documents/Display.aspx?url=2011/11-09-22\\_Clear\\_Mobitel-v-JCRA\\_181.htm](http://www.jerseylaw.je/Judgments/UnreportedJudgments/Documents/Display.aspx?url=2011/11-09-22_Clear_Mobitel-v-JCRA_181.htm)

discussed in the response to Q2 above, that CMJ should be given the opportunity to introduce competitive services to Jersey consumers as soon as practicable.

**Q4. Respondents' views are sought on the above aspects and on any other which respondents consider relevant. Views are also sought on the weight that should be given to each of these in any decision around spectrum awards and what these mean in practice for the construction of any award process.**

As already noted above there is still a considerable reliance on both islands' incumbents' fixed networks. It is the understanding of ACS that CICRA is currently reviewing wholesale access to these networks. This reliance will impact on the deployment of fixed and mobile wireless broadband as given the limited utility of point-point microwave systems, operators will come to rely upon fixed line backhaul to service their base stations.

JT is currently deploying an all-fibre network across the island, a project partly underwritten by the Jersey taxpayer. ACS is dismayed that this project was allowed to proceed without the regulator resolving wholesale access issues before hand. The matter of wholesale access remains unresolved even though JT is now over two years into the project. ACS is also concerned that there is a possible competition issue in that the process of taxpayer funding was not open and transparent. JT has stated that it proposes to recover its copper network after this roll-out is complete. ACS is of the view that this is a waste of asset that still has utility. This asset should be sold or leased to alternative network suppliers in order to stimulate competition in both fixed and wireless markets. An alternative to this proposal would be to compel JT to lease its duct space to other operators since after the recovery of the copper there will be considerable empty duct space. It is the view of ACS that managed wholesale broadband services is a poor substitute for dark fibre, which would be available to operators should the infrastructure be opened to rival operators. A hybrid solution across both these possibilities should also be considered. JT already subcontracts its underground network operations to a trusted supplier (Frontline CH2M Hill) and thus there would be no security issues with regard to alternative network operator access to facilities.

It is noted that both islands' incumbent operators hold large quantities of sub - 1000 MHz spectrum. This arises from their former monopoly positions under which this spectrum was distributed in the last century. Since then the market has been liberalized but this holding of highly desirable spectrum has skewed the competitive market towards these former monopolies. This should be considered carefully when new licenses are distributed.

On both islands there have been issues with regard to mast sites. Current operators already have access to their own sites while a few are shared. it is likely that some operators could utilize existing sites and thus the environmental issues would be somewhat less critical. This could be a potential problem for new entrants although much of the health issue that caused protestation in the instance of 3G operator entry to the local market has been reduced by the

latest findings from the International Agency Research on Cancer report<sup>9</sup> which has reduced the risk to "possible". Another Danish report<sup>10</sup> further indicates that the risks are low.

For new entrants using 800MHz the problem may not be so difficult because of the larger propagation footprint available from mast sites. With 2600MHz it is likely that deployment will be a mix of mast sites and femtocells for deployment in built up areas and within buildings.

ACS is of the view that the allocation of the spectrum should ideally be concurrent with other jurisdictions but that should be tempered with an approach suitable to the local market. That means that there should not be any headlong rush to meet deadlines set in other larger jurisdictions. While there is under Guernsey law an option to "balance the market" in Jersey this is not the case. The market and consumer benefit should be the deciding factors.

Management of spectrum allocation in the islands is a difficult matter. The current arrangements of UK and local laws do not give the islands' governments' or regulatory authorities sufficient latitude to manage spectrum which must be done in accordance with Ofcom's mandate. Consequently there is no easy or inexpensive solution to running an auction to resolve potential issues of spectrum allocation, this matter is discussed further below.

**Q5. CICRA seeks views on whether it should structure its work so as to encourage a fourth telecommunication operator to provide mobile services in the Channel Islands.**

The islands currently each have three operators providing services. However, following the 2005 distribution of 3G spectrum four licences were issued. The fourth licence is currently held by Marathon Telecom Limited but thus far it has not entered the local market.

The current three operator configuration prevents the formation of a duopoly between the two islands' former incumbents and can only be good for consumer benefit through both competition and innovation.

Given the overall size of the Channel Islands market and that there is opportunity for a fourth entrant already in place, it is difficult to see that any other small operator would be willing to risk the considerable investment needed for entry. However, there is the possibility of an international operator making a bid and this could seriously affect the market given the overall market power of such an entrant. CICRA would need to carefully consider this position should it arise.

Nevertheless, judicious allocation of spectrum would indicate that an opportunity for a new entrant should be considered if future market conditions change. Given the relative availability of spectrum in the islands, there should be an opportunity for the preservation of some spectrum for this eventuality.

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<sup>9</sup> See: [http://www.iarc.fr/en/media-centre/pr/2011/pdfs/pr208\\_E.pdf](http://www.iarc.fr/en/media-centre/pr/2011/pdfs/pr208_E.pdf)

<sup>10</sup> Use of mobile phones and risk of brain tumours: update of Danish cohort study  
<http://www.ncbi.nlm.nih.gov/pubmed/22016439>

While there may not be an interest for a traditional mobile operator, it is possible that a fixed wireless broadband supplier may wish to enter the market. Such an operator could also provide voice services and other data related mobile type alternatives.

**Q6. CICRA seeks views on whether spectrum caps should apply as part of any award process and to what extent the issue of contiguity of any existing or new allocation is material to any decision process. If caps are seen to be appropriate or the need for contiguity of spectrum is important, respondents are asked to set out their preferred approach to dealing with these areas and reasons.**

Currently there is a disproportionate allocation of sub-1000MHz spectrum in both jurisdictions. As noted earlier this is an historic situation whereby the former local state-owned monopoly providers were given perpetual licenses for the entire 900MHz (GSM) spectrum (except the EGSM portion). There is, however, a distinct difference in that in Guernsey the OUR managed to persuade CWG (Sure) to part with 5MHz of non-contiguous spectrum in order to permit the entry of a third competitive mobile operator. This was not the case in Jersey and only the EGSM portion was available for competitive mobile entry.

Spectrum caps have been proposed by Ofcom and other regulators as a means of addressing similar issues in other jurisdictions. However, in the UK O2 (now Everything Everywhere) threatened Ofcom with judicial review should this be the case. Ofcom was able to head off this threat by bring forward its plans to permit technology neutral usage of the 1800MHz license held by O2<sup>11</sup>. Ofcom has now concluded that the other spectrum currently used for 2G and 3G networks should also be liberalized<sup>12</sup>. This will enable the development of LTE and other broadband wireless services to be developed in the UK. The distinct difference between the islands and the UK is that the majority, or in the case of Jersey, all the available 900MHz spectrum and much of the 1800 MHz spectrum is held by a single operator. To permit technology neutrality on this spectrum early would be totally disproportionate and would seriously skew the market in favour of the former incumbents. Unless the regulators can resolve this issue the further distribution of spectrum may be seriously impeded.

Capping the amount of spectrum available to each applicant is a fair way to distribute this scarce resource and would be the most favourable outcome in order to stimulate competition in this market. ACS agrees that contiguous packages should be made available where practicable since this gives the greatest utility and efficiency for operators. A further problem may be the interworking of the 800MHz spectrum with the French authorities because of the Channel Islands' proximity to France. ACS understands that there is a Memorandum of Understanding between the French and UK with regard to this matter.

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<sup>11</sup> <http://media.ofcom.org.uk/2012/08/21/ofcom-allows-everything-everywhere-to-use-existing-spectrum-for-4g/>

<sup>12</sup> <http://stakeholders.ofcom.org.uk/binaries/consultations/variation-900-1800-2100/statement/statement.pdf>

**Q7. Views are sought on whether a sub 1 GHz spectrum cap is appropriate as a criterion for making any award, and the appropriate level of such a cap, if any.**

As noted above, the former incumbents currently hold considerable amounts of sub – 1000 MHz spectrum. In addition, these operators also hold a disproportionate quantity of 1800 MHz spectrum. In the view of ACS it would be desirable to ensure that any newly available sub – 1000 MHz spectrum should be distributed to operators or new entrants that currently hold none or little of this valuable resource.

While such a cap would be desirable to limit the ability of operators holding existing allocations to receive large amounts of this important segment of spectrum in order to equalize the distribution, ACS is of the view that the current legal position of the islands with regard to applying caps is entirely uncertain and is almost certainly open to challenge through the courts either in the islands or the UK. It is therefore difficult to see how the local regulators can make any arrangements to limit spectrum packages in order to permit an equitable distribution among those operators that wish to provide wireless broadband services.

This position is likely to be exacerbated given the recent decision by Ofcom with regard to permitting early adoption of technology neutrality on 1800MHz<sup>13</sup> and its more recent statement<sup>14</sup> on its intentions on the 900 MHz and 2100 MHz bands. This precedent could be seen by litigious operators with large allocations of this spectrum as an opportunity to leverage the market in their favour.

ACS would propose that operators that hold more than 50% of the available sub – 1000 MHz should be excluded from bidding for the new licenses unless they are prepared to release equivalent quantities of their existing allocation. Consideration of holdings in the 1800 MHz band should also be given.

**Q8. Do you agree that CICRA should use the opportunity provided by the allocation of new spectrum to rationalise other parts of the spectrum?**

ACS agrees that a full rationalization of the existing spectrum allocations would be desirable in order to increase the efficiency and utility of these scarce resources.

However, as noted above, the current allocations are heavily skewed toward the former incumbents and this would indicate that there would be little appetite among them to enter into any process that would reduce their dominant positions. To what extent the use of spectrum caps as suggested above could prove to be an incentive remains to be seen. From the commercial viewpoint these operators have considerable market advantage which they would be unlikely to give up without a fight. In reality 800 MHz spectrum has only minor advantages over 900 MHz spectrum in a technology neutral network.

As outlined above, ACS is of the view that while it would be in the best interest of consumer welfare to rationalize all spectrum across the islands, the position of the former incumbents is

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<sup>13</sup> See: <http://stakeholders.ofcom.org.uk/consultations/variation-1800mhz-lte-wimax/>

<sup>14</sup> See: <http://stakeholders.ofcom.org.uk/consultations/variation-900-1800-2100/statement>

likely to impede any such initiative. It would be, therefore, a waste of regulatory time and resource to pursue this avenue at this time. The distribution of the current spectrum packages is likely to create more beneficial results in the short term, and this should be the regulatory goal.

**Q9. Views are sought on whether the charge proposed by the States of Guernsey raises special issues for CICRA in determining an appropriate allocation of spectrum in Guernsey or in the Channel Islands.**

The ownership of spectrum within the Bailiwicks is in the gift of the islands' States', however licensing of spectrum in the Channel Islands is the responsibility Ofcom under the Wireless Telegraphy Act 2006 and the Communications Act 2003 as extended to the islands by Order in Council. This means that the UK regulator, Ofcom, has the powers to determine the processes involved in licensing spectrum to telecommunications operators within the islands. It does, however, consult with the local regulators with regard to this process, taking into account any local requirements such as competition and specific operator licensing matters. In this matter it would be unusual for a UK authority to impose its will over and above that of the local authorities.

The relevant laws outlined above place certain requirements on Ofcom with regard to the management of scarce resources such as wireless spectrum. These requirements are, however, somewhat onerous and would appear to be designed for a large jurisdiction (such as the UK) and to comply with the requirements of the EC. It should, however, be noted that these EC requirements, such as auctioning of resources where demand exceeds supply, are expensive operations and would be entirely disproportionate to small jurisdictions like the Channel Islands (which are not EC member states in any case) where the value of the auctioned resource would likely not cover the costs of the process.

While telecommunications operators would prefer not to have to spend the sums of money that inevitably results from auctions, it is seen as an inevitable consequence of conducting business that needs access to scarce resources. However, for the operators the auction process is at least a calculable element in developing a business plan and is, of course, a one-off expense. In large densely populated jurisdictions, such as the UK, the available spectrum holds a higher premium because the more spectrum that the operator holds the easier it is to develop a network. On the other hand in a small jurisdiction, regardless of the population density, the lower traffic levels means that there is less demand on spectrum and consequently any auction would likely not raise the pro rata equivalent of the UK's recent 4G auction<sup>15</sup>.

The essential tenet of the C&E proposal is that telecommunications operators should make a contribution to the States for the use of the spectrum in the island. In order to do this C&E is proposing a 5% tax on the usage of spectrum in Guernsey using a proxy of the mobile operators' revenues. However, from the information given in this proposal it is not clear how this levy is to be determined.

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<sup>15</sup> Ofcom 4G auction results: <http://media.ofcom.org.uk/2013/02/20/ofcom-announces-winners-of-the-4gmobile-auction/>

First of all mobile operators in Guernsey do not all have equal shares of the available spectrum. How would this proposal take into account this disparity? The essential technical issue is that the traffic density of each network is similar although some use the spectrum more efficiently than others, yet it would seem that an equal tax would be recovered from the usage of spectrum disregarding the efficiency of the network operator. This would appear to be somewhat unfair on efficient operators. It would also appear to put an additional administrative burden on operators because a system of determining actual air-time activity and revenue would need to be developed. This is likely to be time consuming and expensive to implement and these costs would necessarily be passed on to consumers.

In the second case, not all mobile activity uses local spectrum. For example handset sales and roaming charges make up a significant part of the operators' revenue. There would be further difficulties with Pay-As-You-Go mobiles since the islands' networks are effectively homogeneous it would be difficult to separate revenue from calls made on Guernsey mobiles in Jersey which do obviously not use Guernsey spectrum.

Thirdly, there is no indication in the proposal as to whether this levy would be a windfall tax or whether it would continue indefinitely. If the latter is the case then this is contrary to spectrum levies in other jurisdictions where the charge is a once-and-for-all up front cost to the operators. Should the levy continue indefinitely, then the equivalent revenue over time would far outweigh any auction revenues. This would therefore seem to be a regressive tax.

This proposal also has the potential for consumer harm in the long term, particularly if it is operated as an annual tax. Since it is a tax on mobile operators, they are fully entitled to pass this on to users in the form of additional costs as with any other States imposed tax. Since the proposal is unclear on the term of the levy, then it may be assumed that this will permanently increase costs to Guernsey consumers. This may effect overall revenues and therefore have an unintended consequence on the total tax recovered from mobile telephony.

A further consideration is the effect that it may have on consumer behaviour. Since the Channel Islands are effectively a single zone for mobile charges (there is no roaming charge currently operated by any of the providers) it does not matter where a mobile phone is registered. In the case of large corporate companies, which generate a significant proportion of the mobile revenue, it would thus be easy for them to move all their services to Jersey where no such tax is imposed. Large organizations are able to recoup GST on their business activities and thus it would be cheaper for them to operate. This could have a serious effect on Guernsey mobile operators' revenue streams and would further increase the burden on local residential users and small businesses. Reduction in the overall turnover of the mobile operators would ultimately have a detrimental effect on competition and innovation in this sector. A tax on turnover is likely to deter new entrants into the market since the costs of entry will be increased in line with the necessary growth in subscriber revenue. This would be a significant disincentive to investors.

Having reviewed this proposal ACS has formed the view that it is a regressive tax that would have unknown effects on the performance of operators and tax revenues in the long term. If a levy is to be considered at all, then it should be in the accepted form of a one-off cost or windfall tax on operators based on spectrum distribution. Such a tax should be calculated on the total spectrum held by each operator, rather than turnover, and taxed *pro-rata*. This would simulate

the effects of an auction process and give the operators certainty for the development of their future business plans.

**Q10. Views are sought on the benefits of these two areas in which spectrum can be deployed and to what extent.**

Fixed infrastructure competition is seriously lacking in the Channel Islands save for a limited offering that is business oriented. Residential access to broadband services is therefore almost entirely reliant on the former monopoly providers' infrastructure and the traditional pricing of this has resulted in some of the highest costs in the EU<sup>16</sup>. Furthermore wholesale access to this infrastructure is not currently cost oriented (albeit under review by the regulators) and management of the wholesale services remains with the incumbents which further restricts the ability of new entrants to differentiate services.

Elsewhere in Europe and also in Jersey there appears to be a trend towards 'mobile only' for certain groups of users<sup>17</sup> there is no real alternative service provision for consumers that do not require a fixed line service with broadband. Changes in technology have created a group of users that no longer requires a traditional fixed line service. Such users now rely either on mobile or VOIP services such as Skype<sup>18</sup> for their telephony needs.

There is little likelihood that any new entrant would deploy fixed infrastructure in order to address the residential market in the islands since this would be enormously expensive. Access to incumbents' infrastructure could possibly permit some competition in the fixed residential market in urban areas but even this may not be attractive given the expected return on investment from such users. This is why there is a strong possibility that some new entrants would wish to invest in fixed wireless services in order to address this market segment as is the case with the existing local operator Newtel with its Y-tel network.

However, it should be noted that certain technologies can provide hybrid fixed/mobile networks and this would be an alternative for any new entrant. Existing mobile operators are more likely to deliver mobile wireless services given the existing network structures. It is unlikely that any fixed incumbent would wish to dilute its market by offering an alternative fixed wireless solution.

Having regard for the fact that the broadband sector is growing rapidly, ACS however, is unaware of any definitive market research locally that would give clear guidance to the provision of services. It is not known, for example, what services local consumers expect or would use on broadband. Further, given the degree of penetration of satellite television in the Channel Islands (in particular in Jersey) and the fact that consumers are willing to pay more for

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<sup>16</sup> See:

[http://www.cicra.gg/\\_files/100514%202009%20Telecom%20stats%20in%20Jersey%20REVISED%20.pdf](http://www.cicra.gg/_files/100514%202009%20Telecom%20stats%20in%20Jersey%20REVISED%20.pdf)

<sup>17</sup> ibid

<sup>18</sup> See: <http://www.telegeography.com/products/commsupdate/articles/2012/01/10/international-call-traffic-growth-slows-as-skypes-volumes-soar/>

prime televisual services than communications including internet<sup>19</sup> it is difficult to see what added value services can be sold to broadband consumers that will repay the investment in new technologies. Indeed, there seems to be a general reluctance for consumers to take higher rate fixed broadband for which there is a premium added by the providers. Currently in Jersey more than 75% of consumers remain with 2Mb/s broadband<sup>20</sup> while in other jurisdictions the average speed is nearer 8Mb/s, but entry level speeds are generally higher and entry level pricing is considerably lower than in the islands. This premium does not appear to exist within mobile services since mobile operators have continually increased speeds of mobile broadband without significantly changing the costs to the end user. Pricing, therefore, will be a key component of future broadband services.

There is a general supposition among providers that Video on Demand ('VOD') will drive future revenues, however while this may currently be the case in the US which has a tradition of cable based television, thus far Europe has not followed so closely<sup>21</sup>. The provision of VOD services (except those that are free to access such as BBC iPlayer) in the islands is also in question since prime content licensing<sup>22</sup> is not easily scalable to small jurisdictions. ACS is of the view that more research into the requirements of the market is necessary before operators will be able to make a value judgment on what kind of services that they wish to offer over the newly available spectrum.

A further consideration for new entrants will be the cost of backhaul to transceivers. Microwave links have limited utility as this increases the latency of the network which in turn affects streaming services. The lack of cost oriented wholesale services, dark fibre or infrastructure (duct) wholesale access in the islands is a considerable impediment to the deployment of new mobile and fixed wireless services.

**Q11. Respondents' views are sought on the issues in this section and, where additional considerations are identified, they are invited to set these b out also. In particular, CICRA seeks views on the environmental factors – including actions in which telecommunication companies should engage – that might inform the construction of any award process and the weights or priorities it should give these factors in deciding on awards.**

Environmental concerns regarding deployment of wireless services is a factor that may affect new entrants or providers using higher frequency allocations where footprints are smaller. While, as noted previously, there is a greater onus under Jersey legislation for competition to be used as a means of maximizing consumer benefit, the same is not true of Guernsey. This disparity could impact upon operators working in both islands' in particular new entrants, since the environmental constraints applied in each island may be interpreted differently by the regulator. Thus concurrent allocation of spectrum may not optimize consumer welfare if different operators adopt different network configurations.

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<sup>19</sup> See:

<http://www.gov.je/SiteCollectionDocuments/Government%20and%20administration/R%20HouseholdSpending%20110729%20SU.pdf>

<sup>20</sup> See: JT presentation to the British Computer Society 16/05/2012 <http://bit.ly/JOQPtT>

<sup>21</sup> See: [http://ec.europa.eu/avpolicy/docs/other\\_actions/eao/forecasts.pdf](http://ec.europa.eu/avpolicy/docs/other_actions/eao/forecasts.pdf)

<sup>22</sup> <http://www.theguardian.com/media/2012/jun/13/premier-league-tv-rights-3-billion-sky-bt>

With the introduction of 3G services in the islands considerable negotiation between the operators and the planning authorities was undertaken to find acceptable solutions for mast deployment. This resulted in a compromise solution using relatively short mobile transceiver masts which do, nevertheless, provide a reasonable coverage. There is a shortage of suitable lattice mast structures that can be shared and thus it is likely that any new development will be along the lines adopted by the 3G deployment.

Again, environmental considerations may favour existing operators over new entrants since existing sites can be upgraded with far less visibility. Consequently, ACS is of the view that entirely different weighting factors may be necessary for each jurisdiction making the determination of allocations concurrently considerably more difficult.

**Q12. Respondents' views are sought on the above issues and, in particular, what specific combinations of 800 MHz and 2.6 GHz spectrum should be made available, or whether spectrum in these two bands should be made available as separate awards. Operators that intend to seek spectrum awards are requested to set out, in as detailed a manner as possible, what spectrum is sought and to what purpose.**

Ofcom determined the principles of the UK auction packages and published<sup>23</sup> these prior to the auction. In its document it made distinction between the 800 MHz and the 2600 MHz spectrum but allowed bidders to make simultaneous bids for lots within each band.

Since CICRA has proposed spectrum caps (see comments above) then it would seem perverse to then bundle the spectrum in lots containing packages from each band. ACS would propose that after consultation with Ofcom to determine the available bandwidth in each band a similar division of packages to that in the Ofcom document is followed.

It should, however, be noted that there is already an allocation to Clear Mobitel that needs to be addressed by CICRA prior to the offering of any packages.

ACS agrees that operators should provide a comprehensive proposal for the use of any award so as the regulator can determine the timescales for deployment, the proposed technology, the types of service being offered and also an indication of proposed revenue streams. It is important that any operators taking up spectrum should get to market in a timely and efficient manner. It is also important that consumer welfare is considered. Bearing in mind the current monopoly positions in the islands with regard to fixed broadband, CICRA should seek to ensure that services on this valuable asset are introduced as quickly as possible.

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<sup>23</sup> <http://stakeholders.ofcom.org.uk/binaries/consultations/award-800mhz/statement/IM.pdf>

**Q13. Views are therefore sought on whether this approach is desirable and what CICRA might need to ensure is in place to give effect to any such approach.**

At this moment no licence trading legislation is in operation in the Channel Islands, indeed this aspect of the Communications Act 2003 and the Wireless Telegraphy Act 2006 was specifically excluded under previous Orders in Council.

Spectrum licence trading is meant to ensure that scarce resources are not unnecessarily withheld from use by the holders of such licenses deciding to not use them for commercial or other reasons, after having received them in competitive tendering. By trading licences with other operators for financial gain or by agreeing to exchange licenses in different bands, consumer welfare can be served as operators work with technologies best suited to their network structures. ACS understands that few jurisdictions have any experience of such trading even though the appropriate legislation is in place. Spectrum is a valuable asset and in some circumstances it is in the commercial interest of holders not to utilize the spectrum, or not to use the available licensed spectrum efficiently if releasing it would enable competitors to erode their business.

In cases where substantial quantities of spectrum are held by operators there would seem to be little incentive to trade licenses as the likely revenue would not outweigh the competitive advantages of holding the asset. It would appear that spectrum trading is likely only to be viable in markets where operators have similar allocations<sup>24</sup> which is clearly not the case in the Channel Islands.

In order to introduce spectrum trading changes to the relevant laws would need to be made and this clearly implies considerable costs to the States. ACS is therefore sceptical that in the Channel Islands spectrum trading would be worthwhile unless other means were used to ensure equitable distribution of these assets beforehand.

**Q14. Views are sought on whether responsibility, if any, for the cost of filters for the Jersey airport radars should be on telecommunication operators in Jersey only.**

The EU announced that 2600 MHz spectrum would be reallocated from military use to Long Term Evolution (LTE) services in 2008. The potential for interference with airport radar was known as early as 2009 and Ofcom commissioned an investigation<sup>25</sup> into the possible effects. ACS understands that since then the radar at Jersey airport has been replaced with a more modern system and that the airport authorities had been alerted to this issue by Ofcom. It is therefore somewhat surprising that the necessary filters were not included in the specification for the new system.

Since there is a chance of such interference occurring from LTE networks deployed on the adjacent coast of France the potential for this problem could exist even if no services were

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<sup>24</sup> The Viability of Spectrum Trading Market [http://d-scholarship.pitt.edu/5834/1/IEEE\\_CM\\_Caicedo\\_Weiss\\_spectrum\\_trading\\_2011.pdf](http://d-scholarship.pitt.edu/5834/1/IEEE_CM_Caicedo_Weiss_spectrum_trading_2011.pdf)

<sup>25</sup> [http://stakeholders.ofcom.org.uk/binaries/spectrum/spectrum-awards/awards-in-preparation/757738/589\\_Radiated\\_Out-of-Band\\_Wal.pdf](http://stakeholders.ofcom.org.uk/binaries/spectrum/spectrum-awards/awards-in-preparation/757738/589_Radiated_Out-of-Band_Wal.pdf)

deployed in the Channel Islands. ACS can see no justifiable reason for compelling local telecommunications operators to fund this upgrade.

**Q15. Views are sought on how the cost of installing filters at Jersey Airport should be shared among telecommunication operators, whether it should be the operators active in the 2.6 GHz band only, or those operating in all the bands that could be substituted for the 2.6 GHz band, or those offering 4G services, or operators using other spectrum also.**

The decision to require operators to underwrite these cost would seem to be more political than technical as outlined above. Should the decision be made that such funding is necessary then the costs should be borne only by those operators utilizing the 2600 MHz spectrum.

**Q16. Respondents' views are sought on all five points above: value of forecasting model, KPIs, survey of existing DTT services, the setting up of a central delivery service, and the allocation of DTT mitigation costs.**

The Ofcom consultation referred to in this section was completed in 2011 and a subsequent consultation was published on 12 January 2012<sup>26</sup> following up from the responses to the 2011 document. It closed on 19 April 2012 and as yet the results have not been published. Since the 2 June 2011 consultation the issues identified by Ofcom's earlier study have been considered and in the UK Department of Culture, Media and sport has agreed to set up a joint venture of the mobile operators (Digital Mobile Spectrum Limited<sup>27</sup> marketed as "at800") to oversee the management of interference issues that may arise from the deployment of broadband technologies in the 800MHz band. at800 will be regulated by the Department and Ofcom.

The Ofcom technical report showed that there was a potential for interference between broadband and television transmissions in the 800MHz band. The likelihood of this interference was increased in television receivers that had a broadband transmitter within 1km range of the receiving aerial. Given the small scale of the islands it is likely that a large number of broadband transmitters will be within 1km of a significant proportion of all DTT receivers. The report noted that in some cases the problem could be reduced by the inclusion of simple filters in the television receiving system. These filters could be retro-fitted by the end user. However, in other cases this would not be sufficient, especially in localities very close to a broadband transmitter. In these cases expensive engineer fitted equipment would be required which could be expensive. This is the reason for the establishment of at800 which will assist funding of the necessary upgrades for the vast majority DTT viewers that are affected.

It is not known how many islanders rely on DTT for some or all of their television reception, although it is known that a high number of islanders use satellite services, particularly in Jersey. DTT in the islands is also a limited service that supports only the free-to-air channels provided by

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<sup>26</sup> See: <http://stakeholders.ofcom.org.uk/binaries/consultations/949731/summary/condoc.pdf>

<sup>27</sup> At800 <https://at800.tv/>

the UK terrestrial broadcasters. Nevertheless there is still likely to be a number of affected consumers among the approximately 70,000 households across the islands.

In France and other jurisdictions the regulators have applied specific licensing conditions in addition to the general EC technical requirements agreed by member national regulatory authorities. In France this onus is placed on the broadband licensee and could include cessation of broadband transmissions in areas of complaint until all the television problems have been resolved.

Should similar conditions be included in the local licenses the effect of the additional cost of resolving interference on DTT could be a considerable disincentive to operators to bring the services to market early, particularly if these operators were left to pick up the bill for rectifying television interference from their operating profits.

Given the positions adopted by both the UK and France, then it is not unreasonable for the same criteria to be applied in the Channel Islands. Therefore the operators that gain access to 800MHz spectrum should fund the mitigation of any interference caused by their telecommunications services on DTT.

With regard to a technical survey of the likely effects, since the Ofcom report indicates that this problem is by no means universal, a more inexpensive solution may be to deal with each case as it arises, rather than spend a large amount on a survey that may prove to be inconclusive. Experience with at800 in the UK indicates that instances of interference are rare<sup>28</sup>. ACS would propose that all 800MHz operators should contribute to a fund that would enable instances of such interference to be addressed. It is not clear who would be responsible in the islands for the resolution of such interference. Radio interference duties are currently assigned to the BBC in the UK and is funded from the TV licence fee, while interference caused specifically by telecommunications networks using 800MHz are underwritten by at800. As the expertise for investigation is with the BBC rather than locally provided, some arrangement between the parties needs to be negotiated prior to the deployment of 800MHz telecommunications services within the islands. Whether this is the responsibility of the regulator or the States is not clear.

**Q17. Views are sought on an appropriate competitive or comparative selection process and how best it might be structured to achieve the benefits sought.**

ACS understands that there are already Memoranda of Understanding between Ofcom and the neighbouring French authorities with regard to both the 800MHz and 2600MHz spectrum packages. The timescales for deployment of the 2600MHz spectrum may be affected depending on the proposed Effective Radiated Power ('ERP') deployed by operators. In urban areas the ERP necessary in this frequency band is unlikely to cause any problems with the continuing French services given the distance from the French mainland. It is possible that there could be some interference between French transmissions and low power services within Jersey, particularly on

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[http://www.mobiletoday.co.uk/News/24867/4G\\_barely\\_interfering\\_with\\_television\\_signals\\_says\\_operator\\_JV.aspx](http://www.mobiletoday.co.uk/News/24867/4G_barely_interfering_with_television_signals_says_operator_JV.aspx)

French facing coastal areas. Nevertheless, ACS sees no difficulties for an early deployment in this band provided ERP is kept within limits agreed between Ofcom and the French regulator.

Given the proposed timescales for the awards, it is likely that not all operators will be ready to deploy commercial services before the French have cleared residual legacy services from the 2600MHz band by the end of 2013. There may be some ERP issues with the sharing of the 800MHz spectrum with the French. The French authorities deploy more DTT services within range of the islands than is the case the other way around. Therefore limits on ERP within certain packages on the 800MHz band may be a permanent feature. Nevertheless, ACS is of the view that these matters should not unduly delay deployment.

The States of Jersey has publicly stated that it intends to make no profit from the distribution of this spectrum and that any funds raised will only be used to cover the costs of allocation. ACS applauds this policy as it is of the view that the islands are too small a jurisdiction for operators to spend financial resources that could otherwise be used for investment in infrastructure and/or services. With this in mind it is difficult to see how an auction could fit this criteria.

As noted in the consultation an auction would be an expensive and lengthy process since under the current arrangements of the Communications Act 2003 and the Wireless Telegraphy Act 2006 any such auction would need to be run by Ofcom and the resources required to do so, given the statement above on cost recovery, would far outweigh any revenues from the process. Indeed, given this position Ofcom may be reluctant to run such an auction given the UK government's expectations on its funding management.

One possible approach to this issue would be to review the terms of the Orders in Council extending the relevant UK legislation to the islands. This could result in a clearer demarcation between UK and local telecommunication laws that would enable alternative methods of allocation of scarce resources within the islands to be within the gift of the islands' States. ACS is of the view that there is sufficient time available for this option to be investigated and even implemented before the proposed distribution.

However, if this option is deemed unsuitable or too lengthy ACS recommends that the regulator adopts a consumer-centric approach in its recommendations, not inconsistent with the 2009 process. This would ensure maximum consumer welfare while managing a scarce resource with an approach that is compatible with Ofcom's requirements.

ACS suggests that there should be a two stage approach to this distribution. This proposal removes the costs and delay of an auction while exhibiting a fair solution to all stakeholders.

### **Stage 1**

Invite operators to declare their interest in participation in the distribution process.

When the number of participants is known the islands' regulators could work together with Ofcom to produce some commercially workable packages from each spectrum band that would use all the available spectrum (it may be that the regulators would wish to withhold a number of

packages for future distribution, but that would be a matter of policy) that is not subject to any current dispute.

These commercial packages should be varied in size such that small lots and large lots would be available.

Any policy on capping the amount of packages to operators holding substantial amounts of sub-900MHz spectrum could be implemented. Note that ACS has already expressed its doubt over the legal enforceability of spectrum caps under the current legal arrangements.

## **Stage 2**

This would be in the form of a lottery. Each participant would be invited to a public meeting and then an independent person could draw lots. The operators would be in one hat, the packages in the other.

Each package would then be allocated to the participating operators.

If spectrum caps were introduced then the operators with existing large allocations would be removed from the hat. Alternatively if the regulators felt it necessary to include these operators in the 800MHz allocation then small lots could be reserved before the draw.

Using this process would be seen to be fair as it would be open and public and would fit with the competition objectives of the authorities; further, it would ensure that there was no excess of demand over supply. The openness and randomness of this process could not easily be challenged as, for example, a beauty parade could be accused of subjectivity.

**For the avoidance of doubt, this document may be published in its entirety.**

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