5G SPECTRUM AWARD PROCESS – CONSULTATION TO REASSESS INTEREST AND DEMAND – T1480GJ

SURE (JERSEY) LIMITED – CONSULTATION RESPONSE

Executive Summary

1. Sure (Jersey) Limited ("Sure") is pleased to respond to the Jersey Competition and Regulatory Authority's ("the Authority") consultation to reassess interest and demand for 5G services in Jersey. We are grateful for the opportunity to provide the Authority with our views on how demand for, and interest in, 5G services in Jersey has changed since 2020.

2. We welcome the Authority's decision to restart its 5G award process and commend its decision to carefully review influencing factors before issuing a new Statement of Intent. We recognise that, given requests from the States of Jersey ("SOJ") and the delay caused by COVID-19, the Authority may have felt under a certain amount of pressure to hastily conclude its 5G award process on the basis of its original Statement of Intent. This, in our view, would have been an error as a number of the 'key influencing factors' cited by the Authority are material to the 5G business case. We therefore commend the Authority for taking a pragmatic approach to restarting this process.

3. We strongly believe that 5G can, and eventually will, bring substantial benefits to the people and businesses of Jersey. Sure stands ready to play a big part in Jersey's 5G evolution and are already engaging with stakeholders to understand the ways in which 5G can benefit the island. For example, in 2019 and 2020, we conducted an extensive trial across Guernsey, Jersey and the Isle of Man (together Channel Islands and Isle of Man, or "CIIM") [✂].

4. However, we are concerned that the business case for 5G in Jersey has, in some ways, become less attractive since the Authority's 2019 Draft Statement of Intent, rather than more attractive[1]. New information from our CIIM trial regarding demand for 5G in Jersey, indicative uptake from the UK's

[1] Note that we raised concerns about the business case for 5G in our June 2019 response – *"Throughout all the discussions of 5G within the Channel Islands, including at the 5G CICRA Summits held in 2018, it has been universally accepted that there is currently no business case for 5G"*.

deployment of 5G and significantly increased deployment costs have all changed the 5G business case calculus. Specifically, we are concerned that:

I. New (and as yet undefined) telecommunications security requirements ("TSR"), the removal of high-risk vendor ("HRV") equipment are significantly increasing the cost of 5G deployment in Jersey; and correspondingly

II. A distinct lack of consumer demand, technical necessity, or credible enterprise use-cases for 5G in Jersey mean that expected return on 5G investment is low. This uncertainty is compounded by the fact that the investment cycle for mobile technology appears to be getting shorter.

5. We explain these concerns in more detail below. Taken together, we conclude that these influencing factors – increasing cost of deployment and corresponding lack of demand – make it very difficult for commercially driven operators to justify investment in 5G spectrum at this time.

6. Similarly, we believe that the Minimum Licence Conditions and Additional Commitments set out in the 2019 Statement of Intent should be carefully reviewed and updated. This is because a number of them are no longer fit for purpose due to regulatory and technical progress since the 2019 Statement of Intent was published. For example, the 2019 Statement required interested parties to 'demonstrate their compliance with the security, resilience and supplier diversity requirements imposed by relevant governments'[2]. This will not be possible in Jersey for another four to five years as the Jersey telecommunications security framework will not be agreed until at least January 2024. Again, unattainable spectrum licence condition obligations will further dampen the business case for 5G in Jersey. We elaborate on our concerns regarding the Minimum Licence Conditions and Additional Commitments in this response.

7. For the avoidance of doubt, we are a strong supporter of efficient and timely 5G deployment in Jersey and we agree that 5G can deliver benefits to the people and businesses in Jersey. However, given the significant concerns set out in this response, simply amending the Authority's 2019 Statement of Intent and quickly moving into a tender process is inappropriate. Rather, we believe that careful reconsideration of the commercial, regulatory and technical developments is needed, with both the Authority and SOJ re-assessing the use-case for 5G in Jersey and the most efficient way of delivering this.

[2] *'5G Spectrum: Statement of Intent'* – CICRA – para. 5.7

8. We urge the Authority to amend its proposed process timetable to give itself, the SOJ and industry an opportunity to agree the most efficient and effective mechanism for rolling out 5G. This ought to be done prior to the publication of an updated Statement of Intent and draft Invitation to Tender.

The 5G Business Case

9. In response to the Authority's 2019 Draft Statement of Intent, we stated that, at the time, it was 'universally accepted that there was no business case for 5G'[3]. We also explained that this lack of business case was particularly acute in the Channel Islands given the absence of capacity constraints experienced by operators and scant demand for faster mobile services. However, we did not provide an explanation as to what that might mean in practice or how certain influencing factors can impact the commercial viability of 5G deployment. We believe it would be helpful to briefly explain our position. Below we summarise for how firms typically make investment appraisal decisions before turning our attention to the way in which certain influencing factors impact the 5G business case calculus.

Investment appraisal of 5G

10. Profit-seeking organisations will typically assess the economic viability of a project (such as delivering 5G) by comparing the forecast cost of the project with the forecast returns made over time, taking into account the time value of money. We do this using standard discounted cash flow methodologies – calculating the net present value ("NPV"). The NPV tell us how much the returns earned over the course of the project are worth today. That is, it tells us the net gain or loss of a given project. If an NPV is positive, then the discounted returns made on our investment are greater than our initial investment and thus the project is profitable. If the NPV is negative, then the project will be a net loss as discounted returns do not cover the initial cash outflow.

11. A firm should only be expected to invest in a project if it is going to make a return equal to or greater than its initial investment. Influencing factors that (a) increase the cost of the project, (b) reduce the returns earned by the project over time, or (c) increase the discount factor applied to future cash inflows (e.g. risk) will undermine the economic viability of the project, and thus the extent to which firms are willing to invest.

12. This investment appraisal approach has and will be used by firms intending to invest in 5G deployment in Jersey, including Sure. When stating in 2019 that 'universally accepted that there was

[3] *Sure Response to CICRA Document 19/21 5G Spectrum: Draft Statement of Intent*, 14 June 2019 – page 1

no business case for 5G'[4], we meant that we and other operators could not forecast a positive NPV for 5G deployment. Given the amount of time that has elapsed since the Authority's suspension of the 5G deployment project in 2020, and the significant changes that have occurred since, parties interested in obtaining 5G spectrum in Jersey will need to reassess their respective business cases.

13. We are concerned that the business case for 5G in Jersey has, in some ways, become less attractive since the Authority's 2019 Draft Statement of Intent, rather than more attractive. This is because a number of influencing factors, some of which are referenced by the Authority, have either increased the cost of deploying 5G in Jersey or reduced the forecast returns made over the 5G project lifecycle.

Factors influencing the cost of 5G

14. It has been universally understood and accepted that deployment of 5G networks is an expensive undertaking. In mid-2019, we estimated that it would cost approximately [✂]. This estimate did not take into account the need to undertake any small cell densification in order to use very high bandwidth mmWave spectrum (e.g. 28GHz) or deliver high speed services in densely populated areas. This was well understood by the SOJ – "[b]ased on the likely costs of a 5G network, rolling out three 5G networks [in] Jersey with no network sharing (as is the case with the current 4G networks) is unlikely to be commercially viable"[5].

15. However, since the SOJ's commissioned Oxera Report and the Authority's initial Statement of Intent, the projected cost of deploying 5G has increased significantly. A key driver of that cost increase is the expectation that operators across the UK and CIIM will need to remove high risk vendor ("HRV") equipment from our network and adopt new operational security measures (known as the Telecommunications Security Requirements or "TSR") over the next three to five years.

16. The UK Government has now enacted this new telecommunications security framework and is currently refining the rules applied to operators by consulting with industry. We expect the governments and regulators in the Channel Islands to follow the UK's lead in introducing new obligations, albeit with a slightly more accommodating timeline, not least to ensure any requirements are proportionate to the size of these jurisdictions. The SOJ has already set out a proposed timetable for the drafting and enactment of a telecommunication security framework for Jersey.

[4] *Sure Response to CICRA Document 19/21 5G Spectrum: Draft Statement of Intent*, 14 June 2019 – page 1
[5] A telecoms strategy for Jersey – An Oxera report prepared for the Government of Jersey – January 2018 – Page 36

17. Nonetheless, the operational and cost impact of these new TSR and HRV requirements is significant for Jersey operators. Substantial investment will be required to remove high-risk vendors' hardware and management systems from their networks, and new vendor replacements will need to be identified, contracted with, and implemented by the end of 2026[6]. Suitable alternative vendors must also be willing to provide hardware and management services to smaller scale jurisdictions, and Jersey operators must compete with much larger UK and European operators for deployment windows ahead of the 2026 deadline. [✂]. The outcome of this process is also likely to require material existing capital value to be written off, thereby creating an additional financial burden for local network operators.

18. It is important to note that an increased network supply chain concentration (weakening competition), primarily driven by the removal of Huawei and ZTE from the market, will also weaken mobile operators' bargaining power and increase network total cost of ownership. This will be particularly acute in the short-to-medium term, where UK and Channel Islands' operators tender to remove Huawei or ZTE equipment from their networks and where Nokia and Ericsson face fewer competitive constraints.

19. In the context of investment appraisal, removing HRV equipment from our network in a more concentrated network supply chain environment represents a substantial increase to the cost of the 5G project. That is, an increase in cash outflows that necessitate a larger discounted cash inflow over time (or cash inflows for a longer period of time). In order to deliver 5G, a new 4G RAN and core network must first be deployed (using a new vendor) before a new 5G RAN and core can be implemented by the new vendor. This sits in stark contrast to the original business case for 5G, in which a new 5G RAN and core network would simply be deployed using equipment from an existing vendor, and which sits on top of an existing 4G network layer of which the cost has already been (at least partially) recovered[7].

[6] Operators in the UK and Crown Dependencies are already prohibited from purchasing new Huawei and ZTE equipment and are expected to have removed existing 4G and 5G core and RAN equipment by 2027.

[7] This is because 5G RAN currently requires a 4G RAN platform on which to operate and cross-vendor integration is not yet a possibility. New 5G RAN equipment, purchased from another vendor, would not be able to interoperate with our existing Huawei 4G RAN. 5G RAN requires a robust 4G platform over which it can operate. Currently, vendors do not yet support cross vendor integration, and have only tested and deployed their respective 4G RAN alongside their own 5G RAN. Given this lack of testing, there is also no guarantee that future interoperability will be possible and there is a risk that software updates could undermine interoperability.

Factors influencing potential residential 5G returns

20. In addition to the increased cost of delivering 5G, we are also concerned that the expected returns on investment remain insufficient to cover the project costs. This is because there continues to be little existing demand for eMBB, faster mobile services or innovative enterprise 5G solutions in Jersey. As set out above, in order for a project to be considered commercially viable, the returns on that project must be sufficient to at least recover the initial investment once the time value of money has been taken into account.

21. The SOJ's commissioned Oxera Report "Telecoms Strategy for Jersey", published in January 2018, sets out Jersey's policy objectives and supporting strategic vision in relation to the development of its telecommunications infrastructure. The report's primary 5G consumer use-case was the development of eMBB and 'faster mobile services' that enable seamless gigabit connectivity across the island[8]. However, based on our engagement with customers since 2019, there continues to be little existing demand for eMBB or faster mobile services. Since 2019, we have conducted a 5G trial across our CIIM jurisdictions [✂].

22. We believe this relative lack of interest in 5G eMBB is due to Jersey's ubiquitous fibre network that already delivers consistent ultrafast speeds to Jersey households. Customers do not feel the need to turn to newer technologies, such as 5G or satellite broadband, precisely because Jersey's broadband network already delivers ultrafast speeds and exceptional quality of service. Additionally, [✂]. These sensitivities are not experienced with fibre broadband in Jersey, where customers are already able to obtain average speeds of 100Mbps, 500Mbps or 1Gbps irrespective of router placement. We therefore do not expect there to be sufficient interest in 5G eMBB services in Jersey for the foreseeable future. This conclusion aligns with feedback received from the Telecoms Operators of Small States ("TOSS") forum, in which TOSS noted that 5G eMBB saw little-to-no success in small jurisdictions with mature fibre rollout.

23. [✂].

24. We believe that demand for faster 5G mobile services would be reflected in our net promoter score ("NPS") – a metric by which we can measure customer satisfaction. In order to provide an informed response to this consultation, we reviewed our mobile NPS and associated feedback for the last 24 months for Jersey. Since Q1 2020, our mobile NPS in Jersey has [✂], and when compared to the

[8] A telecoms strategy for Jersey – An Oxera report prepared for the Government of Jersey – January 2018 – Box 3.2

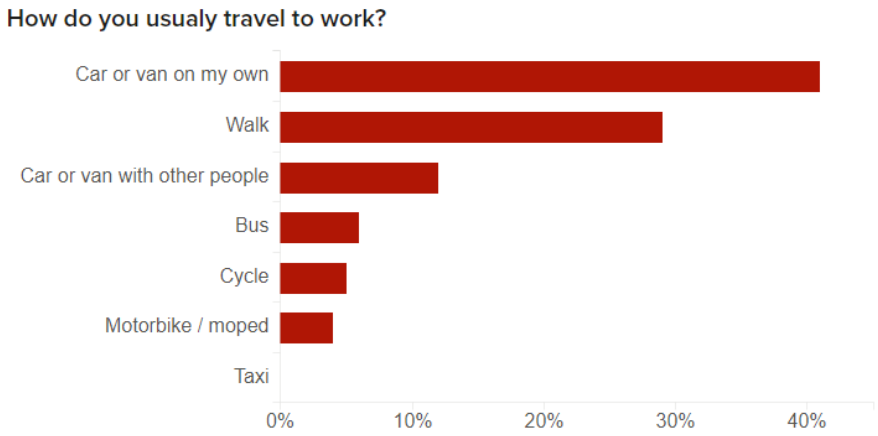
estimated NPS for mobile operators in the UK. Over this time period, we observed an average NPS of [✂], with quarterly highs of [✂] and [✂]. Our "network" (speeds and service quality) continues to score highest of all satisfaction elements, with an average score of [✂], and [✂][9]. In our view, this denotes customers in Jersey continue to be very satisfied with their 4G mobile services.

25. Furthermore, [✂]. In Jersey, we offer three 'unlimited tariffs' that included unlimited calls, SMS and data – Unlimited Basic (maximum download speed limited to 3Mbps), Unlimited Standard (maximum download speed limited to 10Mbps, and Unlimited Max (no maximum download speed). The vast majority of our customers in Jersey, including many of those who purchase our sharer plans, [✂], again suggesting that customers are not in search of faster mobile services.

26. This apparent lack of demand for faster 5G mobile services may, in part, be driven by the unique size of Jersey and the population's transport habits. Unlike larger jurisdictions such as the UK, where a large proportion of the population commute long distances using public transport networks, Jersey is a much smaller island where customers commute much shorter distances via car, walking or bicycle (see Figure 1). Again, unlike the UK, Jersey has a ubiquitous fibre network which facilities ultrafast Wi-Fi in almost every customer and business premises. Short journeys, undertaken by car or walking, between premises offering ultrafast Wi-Fi suggests there is little need for faster 5G mobile services because customers won't be downloading large files, streaming 4K video or playing online games in transit.

[9] Written feedback associated with our NPS [✂].

Figure 1 – States of Jersey statistics on preferred methods of travel to work in 2017[10]



27. However, the absence of 5G demand is certainly not unique to Jersey. An October 2021 survey[11], conducted by Deloitte and reported in The Times, suggests that 5G deployment has stuttered in the UK precisely because consumers are unsure of the benefits of 5G and do not consider 5G to be a priority when picking a handset. According to Deloitte, this is primarily driven by a distinct lack of mobile applications that require 5G, with more than half of customers surveyed unable to tell the difference between 4G and 5G. When choosing a new smartphone, surveyed consumers considered battery life, ease of use, storage capacity, camera, screen size and quality, brand, data-privacy features, processing speed and the devices lifespan to be more important than 5G capability. Only water resistance and use of recycled materials were considered less important than 5G. The report concludes that the near 10% 5G device penetration achieved in the UK is likely to be driven by new devices natively supporting 5G, rather than customers actively choosing it[12].

28. If residential customers do not derive extra utility from 5G mobile services, it is highly unlikely that they will be willing to pay a premium for those services. In our 2019 response, we estimated that 'pricing for 5G services will likely be the same as for 4G and 3G data services', and thus '5G deployment will not increase operators' average revenues per user ("ARPU")[13]. A lack of willingness to pay on the part of residential customers, and intense retail competition in the Jersey mobile market, will likely result in ARPUs remaining broadly flat. Again, looking to the UK's pricing information is instructive. In October 2020, the average price for a 4G SIM-only mobile tariff (with

[10] Note, the SOJ also explains that these work travel patterns have remained fairly consistent over the five years to 2017 - Vehicle transport statistics (gov.je)
[11] Mobile phone fans left wondering: what is the point of 5G? | Business | The Sunday Times (thetimes.co.uk)
[12] This position is supported by the fact that, while consumer uptake of 5G enabled handsets has increased to ~10% of devices, the total mobile traffic carried over 5G sits at just 3%, with 4G traffic continuing to grow.
[13] *Sure Response to CICRA Document 19/21 5G Spectrum: Draft Statement of Intent*, 14 June 2019 – page 6

500 minutes, 150 SMS and 15GB data) was £15.53[14]. Examples of EE, Vodafone, O2 and Three's April 2022 5G ready SIM-only tariffs can be observed in Table 1 below. As stated by Three on its online shop, it is clear that UK mobile operators are providing '5G ready tariffs at no extra cost'[15].

Table 1: An example of UK MNO 5G SIM-Only tariffs available in April 2022

MNO	Price	Mins & SMS Allowance	Data Allowance
EE	£20.00	Unlimited	150GB
Vodafone	£20.00	Unlimited	160GB
O2	£18.00	Unlimited	75GB
Three	£16.00	Unlimited	100GB

29. What does this mean for the 5G business case? The corollary is, in our view, clear – despite significant deployment costs, mobile operators in Jersey are unlikely to be able to recover that investment through provision of 5G eMBB or faster mobile services. This is because forecast volumes are low (reflecting a lack of interest) and ARPUs are expected to be broadly in line with those earned from existing 4G tariffs (reflecting intense competition and low willingness to pay). In the context of investment appraisal, this would suggest the NPV of the 5G project would be negative and thus not commercially viable.

30. Such a conclusion is now also being reached by the UK operators and Ofcom. Last year, Ofcom launched a review of the mobile market and has asked operators for information on the extent to which UK mobile operators are able to make 'fair bet' on 5G network investment. Ofcom is now reviewing responses to its discussion paper, published in February 2022. However, publicly available sources suggest that the UK mobile network operators do not feel confident about making a fair return on 5G investment and are now looking for a BT-style 'fair bet'[16] in order to allow them to invest with confidence that they'll get payback.

Factors influencing potential enterprise 5G returns

31. Whilst being unable to recover the cost of 5G investment through residential customer returns makes the business case more challenging, it would not be prohibitive if there were also viable 5G

[14] Ofcom - *Pricing trends for communications services in the UK* – Figure 34
[15] Pay Monthly SIM Only Deals – Unlimited Data & 5G Plans | Three
[16] The 'fair bet' principle refers to the need to allow operators to make higher returns when a risky investment is successful in order to compensate it for the chance a risky investment may fail.

enterprise opportunities. Industrial customers eyeing cost savings and efficiencies from automation, for example to power smart factories that use 5G to connect different machines and allow them to be controlled remotely and in real time, provide mobile operators with new revenue streams that can significantly boost the business case for 5G.

32. In the UK, interest in 5G from enterprise customers is far lower than expected, with businesses still trying to understand how 5G can deliver efficiency savings or a competitive advantage. Despite this, there is a plethora of 5G test cases across the UK that are currently enabling both mobile operators and enterprise customers to explore how and where 5G can provide added value. Many of these are being driven by either local or central government. For example, local authorities in the West Midlands are collaborating with start-ups and small businesses to explore how 5G applications can underpin 'smart cities'. Similarly, large manufacturers such as Worcester Bosch are one of a number of UK factories currently testing 5G technology to run sensors, provide real-time feedback, boost productivity and predict equipment failure[17]. Like the 'smart city' initiative in the West Midlands, the Worcester Bosch trial is being driven by local government.

33. We have not yet observed such enterprise opportunities or test case initiatives in Jersey. In its 2018 'Telecoms strategy for Jersey' report, the SOJ made brief reference to the possibility of 5G eMBB being used as a platform for smart healthcare and smart utilities[18]. However, since the publication of this report, these proposed use-cases have not developed into trials or revenue opportunities. The 5G test bed environment created in the UK has not been followed by Jersey and thus the benefits that 5G can deliver to enterprises in Jersey remains theoretical. Over the last three years, [✂].

34. Furthermore, mobile operators in Jersey are unable to assume that the enterprise opportunities being explored by UK operators will be replicated in Jersey. This is because many of said opportunities, such as automated factories and smart farms, are less viable for mobile operators in Jersey due to industry and island size. For example, manufacturing and agriculture make up a very small (and declining[19]) part of Jersey's Gross Value Added ("GVA") (see Figure 2), whereas in the UK, such industries account for a much larger proportion of the national GVA. In our view, it is highly unlikely that such industries, and the 5G revenue opportunities they present, will grow exponentially in Jersey.

[17] Worcester Bosch launches first 5G factory trial | Bosch in the United Kingdom
[18] A telecoms strategy for Jersey – An Oxera report prepared for the Government of Jersey – January 2018 – Page 36
[19] For example, the GVA of the manufacturing industry in Jersey has declined from £101m in 1998 to just £51m in 2019.

Figure 2: Jersey Gross Value Added by sector (constant 2020 values)[20]

35. Once again, in the context of investment appraisal, an apparent lack of enterprise customer interest or government-backed initiatives suggests that future cash inflows will likely be small, and thus insufficient to recover the increased costs of deployment. This, in turn, denotes that the NPV of any future 5G project would be negative and thus not commercially viable.

36. In our view, further engagement between the SOJ, the Authority and mobile operators is required to better understand and develop the 5G use-cases applicable to industries in Jersey. If the SOJ is intending to make funds available for any further communications infrastructure projects, then it would be useful to have more information on what form that will take and whether it will be available to the other operators or only JT. Similarly, business models for 5G supported healthcare, smart city, autonomous car initiatives must be debated, understood and financially supported by the SOJ before mobile operators can factor these into their 5G business cases.

5G business case conclusions

37. For the avoidance of doubt, we are a strong supporter of efficient and timely 5G deployment in Jersey and we agree that 5G will, at some point, deliver benefits to the people and businesses in Jersey. However, as evidenced above, we believe that the business case for 5G deployment in Jersey has diminished since the Authority and SOJ last assessed conditions for 5G investment. This is due to a combination of significantly increasing deployment costs (primarily driven by HRV removal) and a lack of demand for and interest in 5G on the part of residential and enterprise customers. The

[20] National Accounts: GVA and GDP - GVA in real terms in constant 2020 values (£ million) - Government of Jersey Open Data

corollary is that mobile operators in Jersey are unlikely to make a suitable return or 'fair bet' on their 5G investments and thus there is little appetite to proceed in the short run.

38. In our view, simply amending the Authority's 2019 Statement of Intent and quickly moving into a tender process is inappropriate and will not address many of the cost and demand concerns set out above. Rather, careful reconsideration of the commercial, regulatory and technical developments is needed, with the Authority, SOJ and industry re-assessing the use-case for 5G in Jersey and the most efficient way of delivering this. We agree with the Authority's position that deployment should now focus on 'mainstream local customer requirements', rather than 'reputational position'[21]. However, in order to achieve that, the SOJ, the Authority and mobile operators need to better understand what exactly local customer (both residential and enterprise) requirements are likely to be.

39. Unlike the UK, that is now reassessing the nationwide rollout of 5G following concerns that mobile network operators cannot make a fair return, Jersey has an opportunity to get the business case for 5G right first time. However, this can only be achieved through a clear and coherent strategy for 5G, which sets out the benefits and possible opportunities that can be delivered by 5G in Jersey. We urge the Authority to amend its proposed process timetable to give itself, the SOJ and industry an opportunity to agree the most efficient and effective mechanism for rolling out 5G. This ought to be done prior to the publication of an updated Statement of Intent and draft Invitation to Tender. We have provided a proposal for what an updated Restarted Process timetable could look like in the table below.

[21] 5G spectrum award process Consultation to reassess interest and demand - Case T-064 – para. 3.6

Table 2: Proposal for an updated Restarted Process timetable (updates in red)

Q1, 2022	Launch consultation to reassess interest and demand
Q2, 2022	Review of SOJ and JCRA strategy for 5G deployment in Jersey, including industry engagement and workshops. New strategy to be published.
Q3, 2022	
Q4, 2022	Publish Updated Statement of Intent and draft ITT for consultation
Q1, 2023	Publish ITT, Final Statement of Intent and receive responses.
Q2, 2023	Issue statutory Initial Notice to tender winners and make recommendations for spectrum award to Ofcom
H2, 2023	Issue statutory Final Notice to tender winners and Ofcom issue spectrum licences

Minimum Licence Conditions and Additional Commitments

40. In addition to a clear and coherent strategy for 5G, it is also vital that spectrum licence conditions and commitments incentivise efficient deployment. We urge the Authority to review and update the Minimum Licence Conditions and Additional Commitments for its updated Statement of Intent. This is because we believe a number of the conditions set out in the 2019 Statement of Intent are no longer fit for purpose due to legal and regulatory changes since the 2019 Statement of Intent was published.

Minimum Licence Conditions

41. Firstly, the 2019 Statement of Intent required interested parties to 'demonstrate their compliance with the security, resilience and supplier diversity requirements imposed by relevant governments'[22]. It will not be possible for mobile operators to demonstrate compliance with Jersey's telecommunications security framework either as part of its spectrum application or just after spectrum allocation has occurred. This is because Jersey's telecommunications security framework, which is expected to closely follow the UK's as yet unconfirmed framework, has not yet been agreed. It will therefore not be possible to demonstrate compliance for at least another four to five years because:
    I. We do not expect the SOJ's finalised TSR framework to be enacted until January 2024; and
    II. Mobile operators are expected to need a significant period of time to assess, understand and implement the TSRs. The UK's Telecommunications Security Code of Practice suggests that

[22] *'5G Spectrum: Statement of Intent'* – CICRA – para. 5.7

Tier 2 operators (the category in which Jersey's mobile operators will likely sit) should be given between three and six years to deliver solutions to the TSRs.

42. Given it will not be possible for mobile operators to demonstrate compliance prior to or during the spectrum allocation process, such an obligation should be removed or amended. For example, the Authority could engage with the SOJ to understand the proposed timescales for TSR implementation in Jersey and align 5G spectrum licence conditions with that implementation timetable. This could occur during the Q2 and Q3 2022 engagement sessions proposed in Table 2 above.

43. Similarly, we urge the Authority to amend the 5G mobile coverage licence condition to better complement the SOJ's proposed HRV refresh roadmap. On 28 April 2022, the SOJ confirmed that it will give fixed and mobile operators in Jersey until 31 December 2026 to remove designated vendor equipment from their networks. The SOJ's rationale for allowing until the end of 2026 to remove HRV equipment was that it recognised the significance (both operational and financial) of wholly refreshing mobile and broadband infrastructure. It thus concluded that operators would need sufficient time to obtain and deploy new network equipment and do so in a way that prevents short run over investment.

44. The rollout condition, as currently constituted, has technical and cost implications for network operators and their HRV refresh roadmaps. Based on the Authority's proposed Restarted Process timetable, a requirement to deliver 5G mobile coverage to 50% of Jersey's population within 18 months, and to 70% within three years, would require mobile operators to have already refreshed their networks significantly before the 31 December 2026 SOJ deadline. For example, operators would need to have completed HRV removal and replacement by mid-2025 at the earliest in order to comply with the 50% 5G mobile coverage obligation. This negates the time given to operators by the SOJ to carefully plan and implement their network refresh, increasing the risk of short run over investment.

45. Temporary solutions are possible. For example, mobile operators could take a clustered approach to 5G rollout in Jersey. Clustering involves segmenting our RAN and rolling out new 4G and 5G-ready equipment from a new vendor to a given area, whilst also operating existing Huawei equipment in other parts of our RAN. This is a very expensive and complex approach as it requires an operator to

obtain and operate RAN and RAN management equipment[23] in parallel. As above, in the context of investment appraisal, such an approach would again increase the cost of deployment and thus necessitate a larger discounted cash inflow over the lifetime of the project (something that we are currently doubtful of achieving).

46. In our view, the 5G mobile coverage licence condition should be removed or amended to better complement the SOJ's HRV deadline. For example, the Authority could impose a requirement on 5G mobile operators to make 5G services available to 50% of the population by 31 December 2026, and 70% of the population by December 2027.

Additional Commitments

47. In its 2019 Statement of Intent, the Authority notes that additional spectrum will be made available to operators that can make additional commitments above and beyond the Minimum Licence Conditions. Notwithstanding that we disagree that 40MHz represents an appropriate allocation (80MHz to 100MHz contiguous spectrum is seen as optimal for 5G services), we are keen to make additional commitments for faster, more efficient and wider coverage wherever technically and commercially possible.

48. However, this will only be possible if all of the appropriate regulatory enablers are in place. For example, in its 2019 Statement of Intent, the Authority states that it will award higher scores to operators that can demonstrate more efficient forms of deployment – network sharing or mast sharing. In order to explore this, mobile operators in Jersey need to be provided with the Authority's finalised network sharing guidelines. The Authority is due to consult on these guidelines in the coming months and publish its finalised guidelines later this year. Until these guidelines have been agreed, it is unlikely that mobile operators will be willing to engage with other operators to understand the benefits of network sharing or mast sharing. If the Authority remains serious about operators exploring the efficiency benefits of network sharing prior to the spectrum allocation process, then time should be allocated <u>after the publication of the network sharing guidelines and before the spectrum allocation process</u> to allow operators to better understand the benefits as well as the parameters within which they can discuss the technical feasibility of any such sharing.

[23] RAN management systems usually cost in the region of £250-£500k.

49. Similarly, reference to higher scores being awarded for 5G eMBB should be removed from the additional commitments. As noted in paragraph [✂]. Therefore, there is no reason for higher scores to be awarded for a broadband product that is of little interest to residential and enterprise customers.

Annex

Q1. Do you support the Authority's planned approach to restarting the 5G spectrum award process or have views on alternative approaches?
Yes, we are broadly supportive of the Authority's planned approach to restarting the 5G spectrum award process. In particular, we would like to commend the Authority for taking the time to engage with interested stakeholders about the extent to which influencing factors have changed interest in and demand for 5G. In our view, new information from our CIIM trial regarding demand for 5G in Jersey, indicative uptake from the UK's deployment of 5G and significantly increased deployment costs have all changed the 5G business case calculus. We therefore do not agree with the Authority's proposal to simply publish an updated Statement and proceed to consulting on a draft invitation to tender. As set out in paragraphs 37 to 39 and given Jersey can no longer be considered an early adopter, we believe that the Authority should amend its proposed process timetable to give itself, the SOJ and industry an opportunity to agree the most efficient and effective mechanism for rolling out 5G. This includes exploring the business case for 5G, identifying suitable enterprise customer opportunities and ensuring that mobile operators can make a fair bet on 5G infrastructure investment. Unlike the UK, that is now reassessing the nationwide rollout of 5G following concerns that mobile network operators cannot make a fair return, Jersey has an opportunity to get the business case for 5G right first time. This ought to be done prior to the publication of an updated Statement of Intent and draft Invitation to Tender (see Table 2).
Q2: Please comment on the relevance of these key influencing factors or provide others that you believe the Authority should be taking into account in developing a Revised 5G Spectrum: Statement of Intent?
We agree that the influencing factors considered by the Authority are highly relevant and must be considered when developing a new Statement of Intent. This is particularly true for 'evolving HRV requirements' that are expected to significantly increase the cost of deploying 5G. In addition to the influencing factors considered in the Authority's consultation, we also believe that the Authority should take account of the lack of interest in and demand for 5G services in Jersey. As set out in paragraphs 20 to 36, we do not believe there is currently sufficient demand from residential or enterprise customers for 5G services, nor are there a sufficient number of SOJ-backed initiatives to explore 5G use-cases (such as smart cities, automated manufacturing, or driverless cars). Rather, we are concerned that there appears to be little-to-no demand for 5G services at the current time. Absent these commercial drivers, it is difficult to understand the business case for 5G in Jersey.

Similarly, and as set out in paragraphs 40 – 49, the Authority should review and update the Minimum Licence Conditions and Additional Commitments to ensure they are fit for purpose, incentivise efficient rollout of 5G in Jersey and complement (rather than counteract) new the telecommunications security framework that is due to be implemented in January 2024.

Q3: Please provide information on yourself or your organisation, and explain your interest in the awarding of 5G spectrum in Jersey.

Sure (Jersey) Limited has been operating in the Jersey market as a licensee since 2003 and offers a full range of fixed, broadband and mobile services. We launched our commercial 4G services in 2015 and undertook 5G trials in 2019 and 2020. We now have over [✂] residential mobile customers in Jersey, and we are keen to ensure that customers can experience the benefits that can be delivered by 5G spectrum, subject to the concerns set out in this response.

Q4: Taking into account the key influencing factors explained in this document, or others that you believe should be taken into account, please state if you are interested in applying for local 5G spectrum through the planned Restarted Process.

[✂]

Q5: Considering the specific subject of pan-Channel Islands 5G spectrum alignment, please explain any particular challenges you anticipate if this is not achieved.

No further comments at this stage.

Q6: If interested in 5G spectrum, please state the services you would initially envisage providing or would like seen provided by others.

Given the lack of observable interest in and demand for 5G services in Jersey, our short run objective is to provide residential and enterprise customers with 5G-ready tariffs and 5G-enabled handsets. However, we remain a strong supporter of efficient and timely 5G deployment in Jersey and we agree that 5G can deliver benefits to the people and businesses in Jersey. We remain eager to engage on further 5G use-case trials and initiatives as and when they are

launched by the SOJ or local businesses. Should further opportunities arise, we will seek to provide new 5G services.

Q7: If planning to provide 5G services, please state your ideal spectrum allocation requirement for providing them.

In order to deliver 5G services in Jersey, operators are likely to require a combination of 700MHz and 3.6GHz band spectrum. This will enable operators to offer widespread 5G services and will offer the best compromise between capacity and coverage.

The GSMA has stated that to ensure the optimal delivery of 5G service, operators will need 80 to 100MHz of contiguous spectrum in the "prime 5G mid-bands" (3.4 – 3.8GHz) as well as 1GHz within the mmWave bands.

Given the above, and noting that the Authority is only concerned with spectrum within the 700MHz and 3.4 to 3.8MHz bands, our view is that the key spectrum band for 5G services will be in the 3.4GHz to 3.8GHz band and specifically, a minimum of [✂] TDD bandwidth would be highly desirable for a network operator in the 3.4 to 3.8GHz range. This would be complemented by a good proportion of the available 80MHz bandwidth of FDD spectrum in the 700MHz band that would provide improved propagation for longer distances and permit some indoor penetration.

Ideally, we would look to obtain [✂]. Similarly, we would ideally look to obtain [✂].

Q8: Are there any further points you would like to make or information you believe valuable and relevant to the Authority for taking into consideration during this consultation process?

No further comments at this stage.