



# Fibre to the premises: Future approach to emergency calls

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## CALL FOR INFORMATION

**Guernsey Competition and Regulatory Authority**

**Matter No: T1557G**

**30 July 2021**

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## 1. Introduction

### *The current technological and factual position*

- 1.1. Currently, voice calls over the public switched telecommunications network (PSTN) are largely delivered to customer premises over copper wires. This copper connection to the customer premises is powered from local telephone exchanges. This means a customer's landline will continue to function even during a power outage and, by dialling 112 or 999, a customer can continue to make emergency calls to fire services, ambulance, police and maritime search and rescue services.
- 1.2. The present technological position is effectively entrenched in current licence conditions. These conditions require all licensed telecommunication network operators and service providers to provide an uninterrupted public emergency call service allowing for free calls to emergency services, including fire services, ambulance, police and maritime search and rescue services.

### *What is the impact of introducing broadband optical fibre?*

- 1.3. The above technological position changes when a telecommunications network operator installs broadband optical fibre to the customer premises (FTTP) and switches to delivering voice calls over this fibre to those premises, by way of voice over internet protocols/technologies (VOIP). Such VOIP calls are carried over that fibre connection in a different way - namely, by light waves generated by an optical network terminal (ONT). This ONT is installed at the customer's premises. When a power outage affects a customer's premises, that ONT ceases to function and no emergency or other calls can be made, unless there is a battery back-up unit (BBU) or other power source that can power that ONT during the power outage.
- 1.4. Around the world, telecommunications networks have been switching away from traditional voice calls delivered by a PSTN and copper lines to premises to VOIP calls delivered over fibre to the premises. A similar switch is expected in Guernsey and Sure is trialling such FTTP in a pilot project.
- 1.5. If FTTP was implemented in Guernsey, without implementing new measures to preserve caller access to the emergency call centre in power outages, this would create serious risks to the life and health of those who may then be unable to reach emergency services over their FTTP connection during such an outage.

### *Broad purpose of this consultation*

- 1.6. Under current licence conditions, a fixed telecommunications network operator intending to switch to FTTP would be obligated to implement potentially difficult and expensive measures to ensure all its customers could place emergency calls across that FTTP system. Such a cost might unduly hamper or prevent such an FTTP conversion, stifling technological progress, new products and market evolution. This technological

switch to FTTP requires a reconsideration of whether alternative rules/measures can be imposed in place of the uninterruptable emergency call obligation which strike a more proportionate balance between cost, progress and the protection of life and health.

- 1.7. Furthermore, the implementation of FTTP would, also, more generally affect the availability and quality of the network and all telecommunications services offered over it. Under existing licence conditions, any such change needs to be reported to the GCRA for its approval and can be made subject to licence modifications and directions. Therefore, the GCRA would need to consider whether measures would be required to safeguard important telephone services beyond public emergency call services (including, perhaps, lift and community alarms).
- 1.8. This consultation is intended to assist in the design of uniform, durable and universally applicable rules to regulate FTTP operators/providers with due consideration of the above need for licence conditions to keep pace with technological developments.

## **2. Issues**

- 2.1. Accordingly, a switch to FTTP creates the following key challenges and potential solutions that need to be evaluated, viz. :
  - 2.1.1. Designing practical and technological solutions which ensure that emergency and other important calls can continue to be made during power outages;
  - 2.1.2. Deciding which consumers are considered vulnerable and therefore might be entitled to be provided with a free alternative solution for them to make emergency calls;
  - 2.1.3. Ensuring that any solution adopted for vulnerable consumers can be sustained well into the future, inter alia, by clearly assigning maintenance and replacement responsibilities between providers and such consumers;
  - 2.1.4. Providing those consumers who are not categorised as vulnerable with an affordable option to pay for the installation of BBU solutions, where they do not wish to rely only on their mobile phones for emergency calls.
  - 2.1.5. Implementing precautionary measures to ensure that the potential for market power is not open to exploitation, for example in relation to the BBU installation market;
  - 2.1.6. Ensuring that consumers are timeously supplied with information that will allow them to best exercise their rights and any options available to them;
  - 2.1.7. Creating a transparent and effective mechanism for settlement of disputes between providers and consumers and for the enforcement of consumer rights and obligations;

- 2.1.8. Requiring providers to document key aspects of their compliance with the above systems of control and allowing for the control and monitoring of the same;
- 2.2. A potential solution to the above challenges might require telecommunication operators/providers to provide free Battery Backup Units (BBU) or pay as you go (PAYG) mobile phones to households in which there are persons who currently depend solely on a fixed line for calls to emergency numbers in an outage. This dependence may arise because they do not have mobile phones or there is inadequate mobile reception in their area. Such a solution might require the operator/provider to replace the mobile phone or BBU at the end of its life for free, but may assign ongoing testing and maintenance of the BBU or charging of the mobile phones to consumers. In such a system, a provider may also be required to provide non-vulnerable consumers with a BBU at a regulated price.

### 3. Who should respond to this Call and how should they do so?

- 3.1. The GCRA is seeking views and information on the matters covered by this consultation in order to better inform its regulatory response.
- 3.2. **The GCRA are aware that not all persons wishing to make comments on aspects of the Call for Information would in a position to answer all portions of or questions in this Call for Information. Questions related to technical aspects of the FTTP conversion, network operations or back- up solutions may be questions that only the telecommunication operators or battery/mobile providers can answer. Accordingly, there is no expectation that a respondent (save for telecommunication operators/providers) will address all questions and portions of this Call. Furthermore, for ease of use, the GCRA has indicated the persons it expects would best be able to answer particular sections of this Call, but this is in no way prescriptive and the GCRA encourages any person wishing to do so to respond to any question in this Call for Information.**
- 3.3. Aside from responding to any of the specific questions posed below, interested parties are also encouraged to provide any wider comment they may wish to provide on matters or issues raised more generally by the topic of this consultation.
- 3.4. Wherever possible, respondents should cite and provide any evidence that may support their responses.
- 3.5. Such responses should be in writing and delivered by hand or by e-mail to the following address:

Suite 4, 1<sup>st</sup> Floor  
La Plaiderie Chambers

La Plaiderie  
St Peter Port  
Guernsey GY1 1WG

E-mail: [info@gcra.gg](mailto:info@gcra.gg)

All comments should be clearly marked "*Call for Information – Fibre to the premises: Future approach to emergency calls*" and should arrive before **5pm on 24 September 2021**.

- 3.6. In line with GCRA's consultation policy, it intends to make responses to the consultation available on the GCRA website. Any material that is confidential should be put in a separate annex and clearly marked as such, in order that it may be kept confidential. The Authority regrets that it is not in a position to respond individually to the responses to this consultation.

#### 4. Structure of the Call for Information

- 4.1. This document is structured as follows:

Part 1	Who are the vulnerable consumer groups that should receive free back-up solutions?
Part 2	What is the appropriate back-up solution?
Part 3	Should the provider be required to install battery back-up solutions for non-vulnerable subscribers prepared to pay for it and how should this be regulated?
Part 4	How should the FTTP migration process work to best implement safeguards for the ability to make emergency calls ?
Part 5	How can the vulnerable groups be reliably protected into the future?

#### 5. Part 1: Who are the vulnerable consumer groups that should receive free back-up solutions?

***Applicability of this part:***

***Most respondents should be in a position to respond to this section. These questions address questions of social policy and protection and should be of particular interest to potentially vulnerable persons, organisations representing them, the Health and Social Care Committee and the telecommunication operators that provide these solutions. The Committee for Home Affairs***

**may also be interested in commenting on these queries, which impinge on access to emergency services.**

**Introduction to questions below:**

- 5.1. The vulnerability that may warrant the free supply of a back-up solution to a household on their conversion to FTTP may broadly be defined in three possible ways:
- (a) *Emergency Service Reliance*: by reference to the specific personal characteristics, health or circumstances that render a household member substantially more likely to require any of the emergency services (these characteristics/circumstances could include: serious health conditions, higher risk of exposure to domestic or other violence or to fire, flood or other disaster);
  - (b) *Landline reliance*: by reference to whether a household member is factually reliant on landline, either because there is no mobile reception of adequate quality or because they have no mobile phone (whether the absence of mobile phone results from its expense, technical inability or on principle);
  - (c) *Combination approach*: widely, by requiring a household member to meet either of the above tests to qualify, or, narrowly, by requiring him/her to meet both.
- 5.2. In considering the above tests, it should be borne in mind that in many households, members would have differing personal and health profiles and retired/unemployed members may be left at home, without a mobile phone, by working members.
- 5.3. It would not appear to be appropriate to require the above potentially free solutions to be applied to business premises and subscribers when the telecommunications equipment is materially for the conduct of a business, save, possibly, for unincorporated, low income businesses conducted by the subscriber from residential premises or their home. Nevertheless, there may be a question as to the extent to which business lift, burglar or fire alarms should qualify for free solutions.

**Part 1 questions:**

- 5.4. With due regard to the above introduction, please address the following questions:
- Q1) Is it appropriate for a vulnerable group to receive a free back-up solution from the telecommunications provider/operator on the conversion to FTTP and should they have this solution periodically replaced for free by the operator/provider? Please provide your reasons for this (which may include social, economic and other policy reasons).
- Q2) Which of the above qualification tests (Emergency Service Reliance, Landline Reliance or particular Combination approach) or any other should be adopted to determine whether a household is vulnerable and qualifies for a free power back-up solution? Please detail why your chosen solution is the most appropriate (you may wish to consider its

social, economic and technological desirability, effects or its costs and ease of administration).

Q3) Should all lift, fire and burglar alarm lines be provided with free power back-up systems or should this depend on whether the household ultimately served is within Emergency Service Reliance, Landline Reliance or a particular Combination approach?

Q4) Should the above qualification tests be applied to each person in the household (as suggested above) or only to the landline subscriber and, in the former case, how best should one determine/define what should constitute a household for these purposes?

Q5) Should business premises and subscribers using the service for the conduct of a business, be excluded from the above free back-up solutions and, if so:

- ❖ Is there any particular class of subscriber conducting a business from residential premises who should still enjoy these free solutions?
- ❖ Should business lift, fire and burglar alarms enjoy these free solutions?

## 6. Part 2: What is the appropriate back-up solution?

### ***Applicability of this part:***

***Many of the questions below might be best answered by persons in the power industry, battery industry or telecommunications industry. Nevertheless, persons with good local knowledge of the causes, effects and location of power failures or poor mobile reception may also be able to give valuable input. Towards the end of the section, there are important policy questions on which vulnerable persons and their representative organisations may wish to express a view, including: on the length of back-up protection, the best solution to do this and whether particular back-up solutions are suitable for all vulnerable groups. The Committee for Home Affairs may have valuable comments on the envisaged performance of key national power and telecommunications infrastructure (particularly in power outages) and the appropriate back-up solutions needed to provide access to their emergency services.***

### ***Introduction to questions below:***

- 6.1. If an FTTP subscriber has no mobile phone they will be unable to place an emergency call in a power outage. Thus, an operator can maintain their ability to make emergency calls during an outage in two alternative ways. Firstly, by installing a BBU to power their fibre connections. Secondly, by providing such a subscriber with a free PAYG mobile phone. Where there is poor or no mobile reception, BBU installation is the only solution. In other instances, when both solutions are available, the best solution will be dictated by weighing the following considerations: the length of outage for which the solution must operate, the period for which back-up power to mobile masts permits mobile calls to be made, the expense of installing and replacing a BBU relative to providing and periodically replacing a free PAYG mobile and, lastly, any behavioural or other characteristics of particular subscribers which makes a particular solution inappropriate for them.
- 6.2. In determining the appropriate outage period for which any back-up solution must function, one may need to consider the frequency and length of Guernsey power outages

normally, as well as during infrequent, but exceptional events (such as connector failures or natural disasters). The duration for which a power source can power a device is often measured on a standby basis (viz. without any use), which will be a considerably longer period than when the device is in use (referred to as “*talk time*” below).

**Part 2 questions:**

6.3. With due regard to the above introduction, please address the following questions:

Q6) What has been the frequency, duration, cause and location of power outages in Guernsey in the last five years?

Q7) Which areas of Guernsey (if any) are more affected by power outages, to what extent and why?

Q8) Are there foreseeable/predictable, if exceptional, events that may cause longer than normal outages, and if so, what are these events and what length of power outages would they be likely to cause?

Q9) Does the mobile communications network have the capacity to handle the increased call volumes during an outage, where consumers have all migrated to an FTTP system (and there is no PSTN)? Please provide details of relevant capacities, expected increase in call volumes and your calculations in regard to the above.

Q10) If the capacity of the mobile network is exceeded by calls placed during an outage, to what extent and with what degree of certainty, can emergency calls still be identified, prioritised and connected?

Q11) In what specific areas of Guernsey is there mobile reception that would be sufficiently poor to risk 999 call failures or prevent adequate communication on any connected call?

Q12) To what extent are all poor reception areas known and well documented or, if not, able to be easily and accurately determined (and, if so, how is this determinable)? How large is the number of potentially affected households?

Q13) For what period could the mobile network be expected to function (on reserve battery power) in an ongoing outage, where there is only a FTTP system (and no PSTN) and factoring in any expected increase in mobile usage during such an outage? (Please show relevant calculations, expected call loads and consequent duration of back-up power sources to mobile masts etc)

Q14) What are the installation costs of and the relevant specifications, size and bulk costs of BBU units able to deliver 1, 4, and 8 hours of standby power (and what talk time would each deliver)?



Q15) What are the relevant specifications and bulk costs of PAYG mobile phones (without SIM cards) able to provide 1, 4, and 8 hours of standby power (and what length of talk time would each deliver)?

Q16) With due regard to the above and any other relevant factors you describe, for what minimum period of time should any back-up solution provide the ability to make emergency calls?

Q17) Where both solutions (BBU and PAYG mobile) are available, which is superior/preferable? Please detail why.

Q18) Are there particular subscribers for which either a BBU or PAYG mobile would be an unsuitable solution, given any relevant factors (including technical competence to operate, charge and maintain)? Please detail who these would be and why.

**7. Part 3: Should the provider be required to install BBU units for non-vulnerable subscribers prepared to pay for it and how should this be regulated?**

***Applicability of this Part:***

***This portion contains important policy questions on the paid provision of battery back-up on which most users may wish to express a view, even though telecommunication operators, telecommunication suppliers or battery related businesses would have greater business insights/ information in relation to certain of these questions. Consumer protection, battery providers/installers and economic/business policy groups may be particularly interested in the possibilities for market power in such BBU provision and any need for regulation of it.***

***Introduction to questions below:***

7.1. Certain individuals or households may perceive that their circumstances require back up equipment to address the risk to them of a change to FTTP, but do not satisfy the criteria for free provision of back-up solutions. The level of demand for the paid installation of BBU units by what might be termed 'non-vulnerable' FTTP subscribers is not currently known. Nevertheless, this is an aspect that requires regulatory consideration to ensure that providers that more generally benefit from an FTTP conversion provide this service at an affordable price.

***Part 3 questions:***

7.2. With due regard to the above introduction, please address the following questions:

Q19) In the circumstances outlined above, do you have any information that might indicate the level of demand for paid BBU installation, the financial viability/profitability of such a BBU installation business (particularly for a telecommunications operator) and likely pricing levels? If so, please provide the same.

Q20) Should an operator be legally required to install a BBU unit for a subscriber that requests it and is willing to pay for it?

Q21) If network operators do provide BBU installation to subscribers converting to FTTP, to what extent does an operator enjoy a position of market power to raise BBU pricing above a competitive level?

Q22) Would it be proportionate for the GCRA regulate the pricing of telecommunications operators for installing a BBU, in order to prevent any abuse of market power in BBU installation (such as unreasonably high prices) and to ensure an affordable price and, if so, on what basis should such regulation proceed?

Q23) To what extent should the network operator be required to: independently price its BBU installation and not bundle the same, not design its FTTP in a fashion that unreasonably restricts compatibility with third party BBUs, provide reasonable logistical and technical cooperation to third party BBU installers and inform customers of their right to have their BBU installed by an independent installer.

**8. Part 4: How should the FTTP migration process work to best implement safeguards for the ability to make emergency calls?**

***Applicability of this part:***

***The questions/section below are largely directed at the telecommunications operators and any persons in the wider telecommunications industry. Nevertheless, any respondent who feels able to comment on any of these queries is encouraged to do so.***

***Introduction to questions below:***

- 8.1. The GCRA requires an understanding of the ways in which an FTTP conversion can and may be implemented, as well as the information network operators hold regarding subscribers.
- 8.2. Firstly, this will inform when and how best to identify those requiring back-up solutions (viz. vulnerable subscribers and non-vulnerable subscribers electing to pay for BBU installation). Clearly, the operator may be able to identify these groups itself, upfront, from its records; alternatively, this status may need to be established on information specially provided by a subscriber or in both ways. The relative ease of identifying certain vulnerable persons from existing information may inform the adoption of a particular definition of the vulnerable group.
- 8.3. Secondly, the manner in which the FTTP conversion process is implemented will inform how and when operators must provide subscribers with the necessary information as to product risks, choices available to them and their rights and obligations in an FTTP system.

**Part 4 questions:**

8.4. With due regard to the above introduction, please address the following questions:

Q24) What subscriber and household data do network operators hold from which they may be able to determine/deduce: (i) Emergency Service Reliance or (ii) Landline Reliance (and how would this be done)?

Q25) What subscriber and household data could operators obtain from retail broadband providers or other sources that would allow them to deduce (i) Emergency Service Reliance or (ii) Landline Reliance (and how would this be done)?

Q26) To what extent would network operators be dependent on subscribers providing the information necessary to determine their (i) Emergency Service Reliance or (ii) Landline Reliance.

Q27) To what extent, in what circumstances and how would a network operator be likely to migrate subscribers, en masse and/or without consent, to an FTTP system?

Q28) How and at what stage of an FTTP migration process, especially an involuntary migration, would the operator be able to:

- ❖ provide information to transitioning subscribers as to the requirements to be able to claim vulnerable status and the process for doing so?;
- ❖ obtain the information necessary to determine a subscriber's Emergency Service Reliance or Landline Reliance and then implement any solution?
- ❖ determine a non-vulnerable subscriber's desire to purchase a BBU and then install it?
- ❖ explain the risks of FTTP (especially in power outages) and for the subscriber to opt out of any migration (if the PSTN remains)?
- ❖ explain the operation, testing and maintenance of any back-up solution supplied/installed?

**9. Part 5: How can the vulnerable group be reliably protected into the future?**

***Applicability of this part:***

***The section below contains certain social policy questions and issues relating to the vulnerable, on which they and organisations representing them would wish to comment. The questions on dispute resolution and oversight mechanisms would be of interest to these groups, consumer protection organisations and the telecommunication operators. There are certain technical questions on the life and maintenance of mobiles or batteries which telecommunication operators, battery providers and mobile providers may be best placed to answer, but any respondent that wishes to comment on these is invited to do so.***

**Introduction to questions below:**

9.1. Effective protection of the vulnerable group can only be maintained if:

- (a) the back-up solution is tested, maintained and ultimately replaced at the end of its effective life;
- (b) changes in the membership of the vulnerable group of subscribers are detected and the provision of back-up solutions adapted to align with this;
- (c) protection is extended to new premises where necessary, if the subscriber moves house;
- (d) details of a subscriber's vulnerability is passed on to any new FTTP provider to which that subscriber switches;

In all the above instances, there has to be a system in place to detect and react to the change, as well as allocate the responsibilities and costs of effecting the same as between the operator and the subscriber.

**Part 5 questions:**

With due regard to the above introduction, please address the following questions:

Q29) On what time-scale should (i) PAYG mobiles and (ii) BBU units be replaced to ensure reliable operation and appropriate back-up duration?

Q30) Should network operators be required to replace PAYG mobiles/BBUs at the end of their effective life, if they become faulty or malfunction and what would be the projected costs of imposing this duty on operators?

Q31) What testing may be required of BBUs or PAYG mobiles to ensure they are still functioning normally and reliably on an ongoing basis (and what testing equipment can be supplied with the solution to enable this to be done easily by laymen)?

Q32) Should the duty to test for reliable functioning of the solution be imposed on vulnerable subscribers or on operators (and what would be the costs of imposing this on operators)? Please provide full reasoning and costing.

Q33) Which, if any, particular categories of vulnerable subscribers would not be capable of doing any testing of back-up devices (whether BBU or PAYG mobile) and would it, in any such case, be more appropriate to impose this duty on the operator?

Q34) Should a network operator be required to monitor whether a subscriber has become vulnerable and is entitled to the relevant back-up protections, and if so, in what fashion and how regularly should it conduct such monitoring?

Q35) Should a network operator be required to investigate and respond to a change of a vulnerable subscriber's address (which might require protective measures at a new site)

or their switching to a new FTTP provider (who might need to be informed of his/her vulnerable status)?

Q36) Comment on any matters relevant to a potential dispute resolution process that may need to be put in place, including the:

- ❖ Obligation to provide documentation or evidence (and what this should be) in order for a household to establish a proper claim to vulnerable status;
- ❖ Operator complaint/claim procedures to process and resolve subscriber claims for vulnerable status;
- ❖ Time limits and milestones for the processing and resolution of claims by operators;
- ❖ Obligations by operators to provide written reasons to claimants for any decision to refuse their claim;

## **10. Next steps**

- 10.1. Respondents are requested to provide answers to the above questions and, importantly, any accompanying evidence they may have to support those views. Respondents are specifically referred to the guidance given in 3 above in regard to: which questions they may wish to address, the timing for any response, the form of and address to which those responses should be directed.
- 10.2. Following an assessment of those responses and any identified need for subsequent engagement, the Authority will develop a regulatory framework considered appropriate to meet the changes described in this Call for Information. This may include guidelines and/or proposed modifications to existing licence conditions as appropriate.

**END.**