



GC4 and the performance of emergency call handling agents

Statement regarding the handling of emergency calls
by emergency call handling agents

Statement

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Contents

Section		Page
1	Executive Summary	1
2	Background and Introduction	3
3	The current framework	6
4	Consultation responses	8
5	CHA performance	17

Section 1

Executive Summary

- 1.1 The ability to dial a single number to call the emergency services was introduced in the UK in 1937. This facility now handles over 36 million calls every year, around a call every second. Over the years this service has saved many lives, and is of particular importance to Ofcom.
- 1.2 The end-to-end process of call initiation, handling, and forwarding that leads to the successful dispatch of emergency assistance relies on a number of distinct activities undertaken by different organisations. Of particular relevance to this Statement is the process whereby emergency calls are initially received and then routed to the correct Emergency Authority ('EA').
- 1.3 Under European law¹, Ofcom must ensure that those providing end-users with electronic communications services for the purposes of making calls to numbers in the national numbering plan provide access to the emergency organisations using the emergency call numbers 112 and 999.
- 1.4 Ofcom meets its above obligations through the General Conditions of Entitlement ('GCs') and, specifically General Condition 4 ('GC4')². Under GC4.1, Communications Providers³ ('CPs') must ensure that any end-user⁴ can access the emergency organisations using the emergency call numbers 112 and 999.
- 1.5 Although it is a matter for CPs to determine how best to meet their obligations under GC4, as a matter of industry practice they have chosen to contract with an "Emergency Call Handling Agent" ('CHA') to route their calls (and to provide accurate caller location information) to the emergency services on their behalf. A CHA effectively acts as a "call centre", providing a point of interconnection for calls that are being made over the CP's network to the emergency organisations.
- 1.6 Irrespective of whether the 'CHA function' is provided 'in-house' by the CP, or contracted out to a third party (i.e. the CHA), in order to ensure the overall effectiveness of the emergency calling system Ofcom would expect that any CHA operation is designed, implemented and managed to suitably high standards.
- 1.7 On 12 December 2012, Ofcom published its Consultation, "*Emergency call handling agent performance*"⁵ ('the Consultation') where we set out the performance

¹ In particular, Article 26 of Directive 2002/22/EC of the European Parliament and of the Council on universal service and users' rights relating to electronic communications networks and services (Universal Service Directive), as amended by Directive 2009/136/EC (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CONSLEG:2002L0022:20091219:EN:PDF>).

² <http://stakeholders.ofcom.org.uk/binaries/telecoms/ga/general-conditions22nov12.pdf>

³ A "Communications Provider" for the purposes of this Statement means a person who provides end-users with an electronic communications service, or provides access to such a service by means of a pay telephone, for originating calls to a number or numbers in the national telephone numbering plan. This excludes any "click to call" service.

⁴ An "end-user" is defined in section 151 of the Communications Act 2003 and essentially means a person (other than a CP) who is either a customer of a CP for the purposes of being provided with an electronic communications service, or who makes use of such a service, or who is authorised by a customer of a CP to make use of that service.

⁵ http://stakeholders.ofcom.org.uk/binaries/consultations/emergency-call-handling/summary/cha_condoc.pdf

standards we would expect to see being met by CPs' respective CHAs⁶. The Consultation set out recommendations for:

- Putting in place procedures and business practices that are commensurate with the critical nature of emergency call handling;
- Maintaining services, such that in any given calendar month service availability meets 99.999%;
- Providing sufficient network, system and human resources such that, in any 24-hour period, 95% of incoming calls wait less than five seconds before being answered;
- Conducting appropriate risk and business continuity assessments that consider how best to maintain continuity of service during significant unexpected events which place substantial pressure on call handling activities;
- Gathering and making available call volume and waiting time data, measured on a 15 minute basis, as well as reporting to Ofcom any outage of the service in accordance with our existing network incident reporting guidelines.

1.8 In the Consultation, Ofcom proposed documenting these standards in order to record existing industry best practice. We did not intend to alter CPs' existing (and ongoing) duties under GC4, or to introduce new regulatory obligations for CPs. Further, our proposals were not intended to supersede the existing operational arrangements that exist between the CHAs and EAs, as documented in the *Code of Practice for the Public Emergency Call Service between Communications Providers and the Emergency Services Code of Practice* (the "PECS Code"⁷). The purpose of setting out the standards is to make clear the matters that Ofcom would expect CPs to address if they use a CHA to meet their obligations under GC4. If these matters are not addressed, Ofcom may then need to consider whether or not formal intervention is required (for example, amending GC4).

1.9 Ofcom received consultation responses from six organisations⁸. Having carefully considered those responses (detailed further in Section 4), Ofcom has decided that it is appropriate to issue this Statement. We conclude that the recommendations set out above are appropriate, albeit with slight amendments to the wording of the criteria and expectations where, taking into account the views of respondents, further clarity was considered helpful.

⁶ We note that Ofcom's regulatory responsibilities are restricted to the role of CPs routing emergency calls and do not extend to other bodies, such as the EAs.

⁷ A non-confidential version of the PECS code may be found here:

<http://stakeholders.ofcom.org.uk/binaries/foi/2011/november/1-190154366-attachment.pdf>

⁸ The non-confidential responses are on Ofcom's website at

<http://stakeholders.ofcom.org.uk/consultations/emergency-call-handling/?showResponses=true>

Section 2

Background and Introduction

- 2.1 In the UK, CPs who provide end-users⁹ with electronic communications services, or who provide access to such services by means of a pay telephone, enabling the origination of calls to numbers in the national telephone numbering plan, must ensure that those end-users can access the EAs by using the emergency call numbers 112 and 999. CPs must further ensure that, to the extent technically feasible, accurate and reliable caller location information in respect of those calls is made available to the relevant EA. These requirements are set out in GC4¹⁰.
- 2.2 CPs could choose to perform the handling and forwarding of emergency calls to the appropriate EA themselves. However, given the complexities of this function, coupled with the critical importance that it holds, an industry practice has evolved whereby CPs tend to contract with a CHA to deliver this function on their behalf. There are currently two main CHAs operating in the UK – BT Group plc (“BT”) and Vodafone (who has recently acquired Cable and Wireless Worldwide) – who between them handle virtually all emergency call traffic.
- 2.3 The way that emergency calling works in the UK is that a person may make a call using the national telephone numbers 999 or 112, irrespective of his or her location or the specific emergency organisation that is required. In order to connect the caller with the correct local emergency service, the call is first answered by a CHA operator who, from the information provided from the network and from speaking directly to the caller, is able to forward the call to the correct emergency service at the nearest geographic location to the caller.
- 2.4 As set out in the Consultation, the CHA function provides a number of additional capabilities that help the emergency services focus on their core responsibility of dispatching and managing emergency assistance, thus helping secure the fastest response. These include:
- Identifying and handing mis-dialled and erroneous calls;
 - Calling alternative EAs in the event that the primary EA cannot be reached for whatever reason;
 - Listening to the connected call to ensure that two-way communication between the caller and the EA has been established and providing further assistance to the caller or EA when required (e.g. playback of calls to the EA if requested);
 - Endeavouring to ascertain the precise location of the end-user as a result of speaking with that individual and/or from information provided by the network and providing this information to the emergency services.
- 2.5 The forwarding of calls to the emergency services is not straightforward, firstly because the EAs generally have their own dispatch and control centres distributed around the country so that they can provide a targeted response in a given area. Secondly, due to the critical nature of the emergency call handling, the successful

⁹ See footnote 4.

¹⁰ See footnote 2.

provision of this function requires capabilities above and beyond those ordinarily found in call centres. In particular:

- Staff need to have specialised training to handle emergency calls;
- Systems and networks need to be designed to offer enhanced functionality and reliability;
- Processes and procedures need to be more strictly applied to avoid call loss or mishandling.

- 2.6 The CHA function itself forms one part of the overall chain in linking the caller, via the CP's network on which the call originates, to the relevant EA. As such, all links in the chain need to operate effectively for the end-to-end process to succeed. During normal operations, emergency calls are answered by the CHA operator within a few seconds and those calls forwarded to the EAs are also normally answered within a few seconds.
- 2.7 However, as noted in the Consultation, delays can arise as a result of system or network malfunction, or when call volumes exceed either, or both, the CHAs' and EAs' capacity to handle them promptly. A recent example of this includes the August 2011 riots, when an unprecedented volume of calls to the emergency services resulted in a number of abandoned calls¹¹. While such incidences are rare, they can nonetheless have a significant impact on the efficacy of the emergency calling system.
- 2.8 In the event of significant service degradation, whereby citizens' emergency calls are significantly delayed, Ofcom would normally seek to establish the causes and consequences of such events. In that event, the relevant CP's compliance with GC4 may be examined, which could include consideration as to whether the CP and its agent – the CHA – were operating to the required standard.
- 2.9 GC4 does not refer to the CHA function or stipulate the associated performance that would be expected of this activity. Guidance regarding CHA processes and procedures can be found in the PECS Code¹², which addresses how CHAs and EAs interact with each other to achieve the best mutual performance¹³.
- 2.10 It is not the purpose of the PECS Code, however, to stipulate the levels of performance of the individual agencies involved in the process of emergency call handling/forwarding or to offer guidance as to how to comply with statutory obligations.
- 2.11 For the reasons set out in our Consultation, we proposed the publication of non-statutory guidelines to make clear the performance standards we would expect in ensuring the proper functioning of the emergency call system.

¹¹ An "abandoned call" is one in which the caller hangs up before the call is answered by an operator. See: <http://www.standard.co.uk/news/999-callers-gave-up-waiting-for-police-to-answer-during-the-riots-6444127.html>

¹² The PECS Code is administered by the 999/112 Liaison Committee, a cross-industry body consisting of members of EAs, CHAs, relevant government departments and Ofcom.

¹³ High level standards and recommendations expected of emergency call handling are set out in ETSI Standard SR002 180: "Requirements for communication of citizens with authorities/organizations in the case of distress (emergency call handling)" (see: <http://www.eena.it/e112.pdf>). Our expectations and the PECS Code complement these standards.

- 2.12 We note, however, from Consultation responses that publishing our document in the form of guidelines might suggest that we are seeking to alter, or add to, the obligations already imposed under GC4. This is not our intention at this stage. We have therefore decided to publish this Statement, setting out our general policy thinking on the issues raised in the Consultation. In particular, this Statement sets out the matters that we would expect CPs to address in circumstances where they choose to use a CHA in meeting their obligations under GC4. We explain this further in Section 4. If these matters are not addressed, Ofcom might then need to consider whether or not formal intervention is required (for example, amending GC4).
- 2.13 In the next Section, we set out the current framework governing emergency calling in the UK. We summarise the responses to the Consultation in Section 4. Our general policy as to the performance standards expected of the CHA function is set out in Section 5.

Section 3

The current framework

- 3.1 We believe that setting out our expectations as to the matters CPs should address when using a CHA will contribute to ensuring the efficacy of the emergency calling system, in accordance with our duties to citizens and consumers. In this Section, we set out the relevant legal framework and our duties.

The European regulatory framework

- 3.2 Requirements as to emergency calling in Member States are governed principally by Article 26 of the Universal Service Directive¹⁴ (the “USD”).
- 3.3 Articles 26(1) and (2) of the USD, relate to “access” requirements, requiring that Member States ensure that end-users who are provided with an electronic communications service for the purposes of making national telephone calls (including users of public pay telephones) are able to call the emergency services free of charge by using the single European emergency call number “112” and any national emergency call number specified by Member States.
- 3.4 Article 26(3) refers specifically to the “answering and handling” of emergency calls, requiring that Member States ensure that calls to the number “112” are appropriately answered and handled in the manner best suited to the national organisation of emergency systems, and that this is at least as expeditious and effective as the answering and handling of calls made using the emergency call number “999”.
- 3.5 Further, Article 26(5) sets out requirements for making accurate caller location information available, requiring that Member States ensure that caller location information is made available free of charge to the EAs as soon as the call reaches the authority. This applies to calls made on both emergency call numbers: “112” and “999”.
- 3.6 Article 26 of the USD has been implemented in the UK through GC4. In particular, GC4.1 requires that:
- “4.1 The Communications Provider shall ensure that any End-User can access Emergency Organisations by using the emergency call numbers “112” and “999” at no charge and, in the case of a Pay Telephone, without having to use coins or cards.”*
- 3.7 A “Communications Provider” is defined in GC4.4(d), as a “person who provides End-Users¹⁵ with an Electronic Communications Service, or provides access to such a service by means of a Pay Telephone, for originating calls to a number or numbers in the National Telephone Numbering Plan but shall exclude any Click to Call Service.”

¹⁴ Directive 2002/22/EC of the European Parliament and of the Council on universal service and users’ rights relating to electronic communications networks and services (Universal Service Directive) as amended by Directive 2009/136/EC.

¹⁵ See footnote 4.

Ofcom's duties and the General Conditions

- 3.8 Under section 3(1) of the Communications Act 2003, Ofcom has general duties to (a) further the interests of citizens in relation to communications matters; and (b) further the interests of consumers in relevant markets, where appropriate by promoting competition. We also have duties under section 4 of the Communications Act 2003 to act in accordance with the requirements of European law. These include, amongst other things, promoting the interests of citizens of the European Union¹⁶.
- 3.9 In performing our general duties under section 3(1) of the Communications Act 2003, Ofcom must have regard to the principles under which regulatory activities should be transparent, accountable, proportionate, consistent, and targeted only at cases in which action is needed. Ofcom must also have regard to any other principles which appear to us to represent the best regulatory practice.
- 3.10 Ofcom has powers under sections 45 – 49C of the Communications Act 2003 to set and modify General Conditions. Ofcom has relied on these powers in making GC4 (as set out above).
- 3.11 At this stage, while Ofcom considers it warranted to set out our general expectations as to the performance standards of the CHA function, we believe that amending GC4 would not be appropriate. We will continue to review the situation moving forward. If it appears to Ofcom that the standard of emergency call performance is not meeting our expectations, we may then consider whether or not more formal regulatory interventions would be appropriate, including (for example), relevant General Conditions.

¹⁶ Section 4(5) of the Communications Act 2003.

Section 4

Consultation responses

4.1 We received responses to our Consultation from the following organisations:

- BT
- Hadams Consultants Ltd (“Hadam”)
- Level 3 Communications UK Limited (“Level 3”)¹⁷
- Hutchison 3G UK Limited (“Three”)
- UK Competitive Telecommunications Association (“UKCTA”)
- Vodafone

4.2 In this Section, we set out the key comments and concerns raised by stakeholders in relation to each of our Consultation questions, together with our responses.

Question 1: Do you agree that guidance regarding the performance of emergency call handling agents is necessary?

- 4.3 A number of stakeholders agreed in principle that guidance regarding the performance of emergency call handling agents is necessary, although they also said that it was necessary for Ofcom to consider the “end to end” performance of the system. This includes considering the role of the EAs.
- 4.4 Others responded to the Consultation by stating that Ofcom had not established sufficient justification for regulatory intervention. In particular, Three stated that, *“...the impact assessment that forms part of the Consultation... suggests that the main justification for not maintaining the current situation is that there is a lack of documentation explicitly setting out the role of the CHA. A lack of documentation does not appear to be sufficient basis to introduce regulation, whilst maintaining Ofcom’s regulatory principle of a bias against intervention.”* Three further stated that it had *“already perceive[d] examples whereby the formal regulatory regime has become outmoded where it has specified detailed regulation in areas that evolve over time and where this now hinders the emergence of improvements and innovations unforeseeable at the time. We are concerned that the Guidelines risk creating another example.”*
- 4.5 UKCTA similarly stated that its member organisations *“...do not consider that Ofcom has demonstrated, in line with its duties, that there is any tangible evidence of consumer harm which would justify regulatory intervention in this area.”*
- 4.6 Concerns were also expressed that our proposals sought to change the current role and responsibilities of CPs in relation to emergency call handling. For example, UKCTA stated that *“... if the CHA failed to comply with the guidance, communications providers (CPs) should not be found to be in breach of General Condition 4 (GC4). Ofcom should clarify that liability will not extend to CPs under GC4.”* It further noted that *“[i]f Ofcom does seek to extend liability to CPs under GC4*

¹⁷ Level 3 has provided its response to Ofcom in confidence.

it is likely that there could be some increased cost, ultimately passed on to consumers, where CPs may feel that it is appropriate to contract an external auditor to confirm that the CHA's performance is within the performance guidelines." Similarly, in Three's view, while Ofcom's proposals are "*portrayed as providing transparency [they are] in fact causing a shift in existing relationships*".

- 4.7 Finally, BT noted that the end to end provision of emergency calls also comprises of the network(s) connecting end users to the CHA (i.e. the CP or chain of CPs that accept the call and deliver it to the CHA) and the networks provided between the CHA and the EAs. In BT's view, "*Guidelines are also recommended for CPs providing network facilities to the end user and to EAs.*"
- 4.8 CPs have, for a number of years, been required under GC4.1 to provide their end-users with access to the emergency services. This is *regardless* of whether or not a CP chooses to use a CHA in order to meet this obligation. To clarify Ofcom's position, the Consultation was not intended to alter this existing duty, or to impose further regulatory obligations on CPs. Rather, Ofcom is simply concerned that, where CPs do decide to adopt the CHA model, certain matters are addressed.
- 4.9 While the general performance of CHAs is good, there have been occasions where this has not been the case. Any individual event has the potential for serious consequences and hence Ofcom treats them seriously, looking at both specific lessons from each incident and wider perspectives across incidents, parties and timescales. Given this, we have concluded that industry would benefit from the publication of Ofcom's clear expectations in this area, with the aim of minimising the frequency, duration and/or consequences of future incidents. Waiting until there is '*tangible evidence of harm*' amounts to waiting until there are major failures in the emergency call services, and the attendant likelihood of the most serious consequences for some citizens, including unnecessary deaths. Such "safety of life" concerns give us a clear mandate and responsibility to act.
- 4.10 The PECS Code sets out a range of operational arrangements as between the CHAs and the EAs. Ofcom is mindful, however, that there is no documentation setting out the delivery standards that CPs might reasonably require of a CHA in order to meet their regulatory obligations. Given the critical importance of the emergency calling system and the high threshold that CPs are expected to meet under GC4.1, we believe it timely to record the operational "best practice" we have observed within the CHA industry. This is particularly important given that the quality of this system can, from time to time, and for various reasons, degrade, and that there are "safety of life" issues at stake.
- 4.11 From the Consultation responses received, it appears that some stakeholders may have been unclear as to the objectives that Ofcom was seeking to achieve and, in particular, the way that we intended the proposed "guidelines" to be interpreted. This may be partly due to the fact that GC4 does not refer to the CHA, and it may therefore have been unclear exactly how the guidelines were intended to aid compliance with that Condition. Stakeholders might, in those circumstances, have inferred that the guidelines had a particular regulatory status *in addition to* the obligations set out in GC4. This was not what Ofcom intended. We therefore consider that it is more appropriate, and may indeed be more helpful, to refer to the standards set out in Section 5 of this document as a general statement of policy where, having observed the industry practice of adopting the CHA model, Ofcom now sets out the matters that it would expect CPs to address. It may be that, should Ofcom consider it appropriate to investigate a CP's potential non-compliance with

GC4, we would take these expectations into account, insofar as inquiring as to the steps taken by the CP to address these.

- 4.12 Finally, Ofcom does not, at this time, believe that specific performance standards are necessary to address the underlying network facilities that CPs may be providing to end-users and/or the EAs. The primary focus of our Consultation regarded the performance of the CHA. We consider, at this stage, that the obligations of the relevant General Conditions (in particular GC3 and GC4) need no further clarification as to the expected levels of performance of CPs' underlying networks.

Question 2: Do you agree with the scope of this Consultation, as set out in Section 4?

- 4.13 Some respondents expressed specific concerns as to how Ofcom's proposals were intended to align with the PECS Code that is already in place. For example, Vodafone stated that the CHA currently works within the confines of the PECS Code, which determines its relationship with the EAs. The PECS Code requires the EA's agreement in order to implement call queuing whereas, in Vodafone's submission, Ofcom's proposals require CPs to satisfy themselves that their CHAs will act outside of PECS. Vodafone states that this could place the CHA in an untenable position, where they might either be expected to override either the requirements of the EA or, alternatively, the expectations that Ofcom has of their CP customers.
- 4.14 One respondent (Hadams) agreed with the scope of the Consultation, as set out in Section 4, although it made the point that Ofcom might also have covered the provision of accurate caller location information¹⁸. Other respondents (for example, UKCTA, Three and Vodafone), were either neutral as to the scope itself, or agreed with it to the extent that it covered the relevant issues, but made the point that the proposals were lacking, insofar as they made no reference to the role of the EA in the overall process.
- 4.15 In particular, BT noted that *"the CHA's performance is greatly influenced by the performance of the Emergency Authorities and by other CPs involved in handling an emergency call...The CHA relies on these organisations meeting their responsibilities, e.g. EAs answering in a timely manner and CPs networks providing resilient and prioritised routing."* Three agreed, stating *"We are concerned that in setting out the proposed requirements, Ofcom all but ignores the vital role that EAs must play in the successful despatch of emergency assistance."* UKCTA suggested that *"...often the root cause of the problem is due to the Emergency Authorities' failure to answer calls being forward to them from the CHA."*
- 4.16 Vodafone stated that *"Ofcom fails to measure or in any way address current weaknesses in the performance of the Emergency Authorities"* and proposed that *"Ofcom needs to encourage government to improve co-ordination of end to end procedures and to address areas of performance weakness,"* while Hadams consultants proposed that Ofcom obtain the *"...measurement of the answering performance of the emergency services (the second stage of the answering service)."*
- 4.17 In response to the points raised above, Ofcom's proposals were not intended to supersede or override the current PECS Code. Rather, Section 5 (in particular, paragraphs 5.9 to 5.18) of the Consultation was designed to be intentionally high-

¹⁸ BT also made the point that the Consultation might have included the provision of caller location information.

level so as not to override operational instructions or requests from EAs. This is reflected, for example, in paragraph 5.14, where we set out our expectation that CPs satisfy themselves that the CHAs “*have contingency and crisis management plans in place, including arrangements for modifying call priorities under such circumstances, and for these plans to be agreed with the relevant EAs*” (emphasis added). We have similarly sought to clarify the circumstances in which automated call answering systems may be used, setting out in paragraph 5.8 of this document that CHAs may take this approach when requested to do so by the EA. We think it unlikely, therefore, that Ofcom’s policy expectations set down in the Consultation will conflict with those set down in the PECS Code.

- 4.18 Secondly, in relation to the point raised that the Consultation should have included the provision of accurate caller location information, it remains Ofcom’s intention to consider this issue separately. Had we considered the issue of location information as part of a broader consultation at this stage, this may have unduly complicated our proposals and introduced unnecessary delays in publishing our policy expectations in relation to the CHA model.
- 4.19 Finally, we note the comments made by stakeholders regarding the role of the EA in the overall emergency calling system. Ofcom is aware that issues may arise from time to time – such as delays in the call waiting time – which are outside the control of the CHAs (or CPs). However, Ofcom’s statutory remit extends only to regulating the activities of CPs; it is not within our power to intervene in the operations of the EAs themselves. In assessing CP’s compliance to GC4 we would take account of factors which are outside their control, and which they could not reasonably be expected to anticipate.
- 4.20 On the basis of the responses Ofcom has had to the Consultation, we remain satisfied that the scope of our expectations around CHA is performance is targeted appropriately.

Question 3: Do you agree with the guidelines as set out in Section 5? Are there any other performance standards or metrics that you think should be added?

- 4.21 The majority of stakeholders appeared broadly to agree with the standards and metrics proposed in the Consultation; however a number of suggestions were made in relation to specific aspects of Section 5. These are set out below, in the same order in which our proposals appeared in the Consultation.

General review by CPs of CHA operations

- 4.22 In the Consultation, Ofcom proposed that, where CPs engage a CHA, they satisfy themselves that all aspects of that CHA’s organisation and operation are managed and performed to considerably higher standards than would be associated with conventional call centre activities.
- 4.23 Some stakeholders (Three and UKCTA) expressed concern that CPs may have relatively limited power to negotiate specific contractual terms with their relevant CHA, and that any bargaining power that they do have may be reduced if there is only one supplier of CHA services.
- 4.24 BT stated that it would be an impractical and disproportionate burden for a CHA to “*review the guidelines, provide individual performance measures, contract individually, discuss the detail of the CHA organisation and operational management and provide details of any audits*” in relation to each of the CPs with whom it

contracts. In BT's view, the CHA should be able to rely on a standard contract clause that would apply in relation to its CP customers.

- 4.25 BT also submitted that *"The Guidelines need to make it clear that the CP, who has GC4 responsibilities, makes sure that if they haven't got a contract directly with a CHA, that a suitable chain of contracts exist and will provide the guarantees the Guidelines require to the CP"*.
- 4.26 Vodafone expressed concern, that even where a generic contractual term was used, this may not give a CP sufficient leverage by which to improve CHA performance, or necessarily provide a quick route for resolving issues, where this was through referring a dispute to Ofcom or asking us to *"exercise competition or consumer protection intervention."*
- 4.27 Finally, BT suggested that Ofcom amend the first bullet point in paragraph 5.3, so that heightened levels of management and performance expected of CHAs relates to *"the security and robustness of the CHA's own call centres and associated systems"*.
- 4.28 Ofcom expects that it is most likely to be the CHA who takes the lead in effectively setting suitable standard contractual terms for all contracting CPs. This is because it is unlikely to be feasible for specific, bespoke contractual terms to be negotiated with each CP, due to the aggregated manner by which emergency calls are handled by the CHA. Indeed, BT, in its response, specifically proposed amendments to its existing interconnect schedule as an *"efficient and helpful way for a CP to satisfy themselves a CHA is committed to meeting the guidelines"*. Having discussed this issue further with BT, we understand that it would be willing to change its existing Standard Interconnect Agreement ('SIA') to state explicitly that it will have regard to Ofcom's expectations as to the performance of CHAs as set out in Section 5 of this Statement. Were industry to accept this proposal, contractual changes could be implemented with the minimum of burden on CPs in a timely manner.
- 4.29 Ofcom also accepts BT's point that contractual terms between CPs and any intermediary may need to be revised in order to refer to Ofcom's expectations, set out in Section 5 of this document. To minimise burdens on CPs we would expect such contractual terms to be revised as and when they renewed and to reflect the wording of the underlying CHA contract (e.g. BT SIA) when formulating their own terms.
- 4.30 We note Vodafone's concern that contractual terms may not offer a sufficiently timely way of ensuring that the CHA performs to the expected standard. However, this situation has existed for many years as the current BT SIA makes reference to the PECS Code, yet we are unaware of any issues arising from CPs as to the enforceability of these terms. Nevertheless, Ofcom will keep the position under review and, if appropriate, consider whether regulatory intervention is needed to address this.
- 4.31 Finally, Ofcom agrees with BT that paragraph 5.3 should be amended in the way suggested. This is reflected in Section 5 of this Statement.

Call Answering performance target – 95% within five seconds

- 4.32 In the Consultation, Ofcom proposed that CPs should satisfy themselves that 95% of emergency calls will be capable of being answered by the CHA within five seconds, measured over a 24 hour (midnight – midnight) period. We further proposed that

calls that are abandoned by the caller within five seconds would not count in these statistics (although they should be noted and recorded).

- 4.33 Vodafone agreed that the proposed performance target reflected the criticality of the emergency call service. BT similarly agreed, but suggested that Ofcom clarify its expectations, set out in paragraph 5.4 of the Consultation, so that CPs satisfy themselves that *“95% of calls made to 999 or 112 that are received into the CHA’s call queues will be answered within 5 seconds, as measured over a 24 hour period. Any calls abandoned without answer within 5 seconds need not be included though should be noted.”*
- 4.34 Hadams queried whether “five seconds” is the appropriate metric, as this *“appears to be a long time in an emergency”* and *“most calls are answered in a much shorter time than this standard.”* Further, Hadams stated that *“It is essential that the answer time is measured from the time the call reaches the queue, otherwise the answer time will be incorrectly elevated”*. Three queried whether it was necessary to include this metric at all as, in Three’s view, it is *“already encapsulated in the PECS code and [is] routinely met [by BT]”*.
- 4.35 Ofcom also received representations on which calls should be included in the calculations and how the waiting times should be measured. Vodafone expressed concerns about the *“...omission of average call waiting times from the proposed measures”*. Furthermore it stated: *“Vodafone disagrees strongly with the proposal to remove all abandoned calls from the measurement of calls answered within five seconds...”* Vodafone did, however, acknowledge that the removal of abandoned calls that are less than a second in duration *“may be more proportionate if system development is required.”* In Hadams’ view *“due account must be taken of the measures taken to filter false 112 calls.”*
- 4.36 Having carefully considered the representations received, Ofcom is satisfied that the performance metric proposed in the Consultation (set out again in paragraph 4.32 above), remains appropriate, although we accept the specific wording from BT to reflect the role of the call queues in the measurement criteria. In setting our expectations, we are mindful of minimising burdens on industry by reflecting, as far as possible, current industry practice. We do not believe that it is necessary to expect an additional metric, “average call waiting time,” as this is not materially different from the “95% within five seconds” metric already proposed. Either metric is expected to result in the desired behaviour of prompt call answering by CHAs; we consider that maintaining the current industry standard would minimise industry burdens.
- 4.37 Further, in relation to whether or not abandoned calls should be counted in the metric, Ofcom is aware that erroneous calls to the emergency services are common; around half the calls to the emergency services are not connected to the EAs, usually because they are the result of a misdial. We therefore consider it unlikely that anyone calling deliberately with a genuine emergency will hang up within 5 seconds and consequently such incidents can be considered to be misdials which can be excluded from the statistics.

Service availability target

- 4.38 In the Consultation, Ofcom proposed that CPs should satisfy themselves that their CHA is capable of remaining operational (i.e. that incoming calls can be answered at any level of performance) 99.999% (‘five nines’ availability) of the time, measured on a monthly basis.

- 4.39 Some stakeholders (for example, BT and Vodafone) stated that in setting expectations as to service availability, Ofcom's needs to take into account that this may not always be possible (for example, where there are unexpectedly high volumes of calls queuing into the EAs for exceptional circumstances or specific "force majeure" events). Vodafone stated that it would welcome further clarity in relation to such circumstances while, in BT's view, Ofcom should "*clarify that certain periods should be excluded from the calculations so exceptional events do not distort the performance figures and achievement of acceptable performance.*"
- 4.40 Ofcom does accept that despite the efforts of CPs and CHAs to anticipate and mitigate potential risks, exceptional circumstances and events beyond their control may arise that degrade their ability to handle calls effectively. We acknowledge this in paragraph 5.13 of this Statement, indicating that such circumstances would be taken into consideration should any investigation into performance degradation take place.

Automated call answering system

- 4.41 In the Consultation, Ofcom proposed that the use of automated answer/response systems should be avoided, in preference to human call operators who can communicate with end-users. However, it may be appropriate to use automated messages in times of extreme stress on the CHA call systems.
- 4.42 BT agreed that automated queuing messages were useful and should be used to help manage situations of extreme stress within a CHA's call handling system.
- 4.43 Ofcom retains this expectation as set out in our Consultation –our strong preference is for a human operator – although we have clarified that the use of automated messages may be appropriate, in circumstances where the PECS Code recommends it, or where EAs have specifically requested that CHAs do so.

Examples of expectations under particular conditions

- 4.44 In the Consultation, Ofcom identified some specific areas of risk that CPs might seek to mitigate in the arrangements they make with their CHA. The purpose of this part of the Consultation was to highlight the levels of resilience and contingency planning that Ofcom considers appropriate for the continued support of emergency calls.
- 4.45 In BT's view, Ofcom does not need to set out expectations of CHA performance in relation to major incidents affecting the emergency service as a whole (paragraphs 5.15 – 5.18 of the Consultation) as such arrangements are already covered in the PECS Code. Accordingly, BT states that it would be sufficient for CPs to simply gain confirmation that the CHA follows the PECS Code.
- 4.46 Having carefully considered the responses received, Ofcom believes that it is appropriate to retain our expectations as they supplement the PECS Code. In particular, at paragraph 5.17, we outline our expectations where it is not possible for CHAs to follow the contingency measures set out in the PECS Code. This includes CHAs adopting their own measures, on the basis of a pre-determined authorisation process that includes an assessment of risk. We also suggest, at paragraph 5.18, that CPs might wish to suggest that their CHA put in place arrangements for working with other CHAs in times of exceptional stress on the 999 service. We remain of the view that it is useful to document these matters. We have, however, reworded Section 5 of this Statement to further clarify our views.

Reporting and documentation

- 4.47 In the Consultation, Ofcom proposed that, in order to assist our ongoing monitoring of call handling performance, it would be useful if CHAs provided certain performance information to us on a voluntary, tri-monthly basis. This included details relating to the number of emergency calls received, the number of emergency calls answered within five seconds and the average call handling time.
- 4.48 A number of respondents were concerned that Ofcom's proposals might result in additional costs and burdens to the industry. BT stated that it did not think "*it would be reasonable to expect a CHA to report on its performance to a CP on an individual basis*" as to do so would be "*burdensome and result in significantly increased costs.*" Three and UKCTA were similarly concerned that such requirements would result in additional costs to the industry and Three suggested that "*...a more pragmatic solution would be for BT, acting as CHA, to report its figures directly to Ofcom...*"
- 4.49 Others (for example, BT and Vodafone) sought further clarity from Ofcom as to how these reports would be used in Ofcom's ongoing monitoring of the emergency calling system and, in particular, CPs' compliance with GC4.
- 4.50 The purpose of Ofcom's proposals regarding the voluntary provision of information is to enable us to determine, on an ongoing basis, whether or not CPs are addressing sufficiently the matters we have identified when they are using a CHA to meet their obligations. It is likely that Ofcom might want to examine repeated, unexplained or serious performance degradation in order to establish the causes and potential corrective actions. This information may also help inform our views as to whether or not specific regulatory intervention is needed (for example, an amendment to GC4). As has always been the case, any decision to investigate a particular CP's compliance with GC4 is likely to be taken on a case by case basis, having regard to all the relevant facts.
- 4.51 Ofcom does not intend for CHAs to provide individual performance reports for each of their CP customers. It is for this reason that we proposed that the CHAs provide performance reports to Ofcom on a voluntary basis, in a similar manner to the reports that they produce for the 999/112 Liaison Committee. The reports provided to the 999/112 Liaison Committee contain information about CPs on an aggregated basis, rather than in relation to each CP individually. Given that the CHAs currently prepare the relevant information for the purposes of the 999/112 Liaison Committee and that we are now simply seeking that this be provided to Ofcom on a voluntary basis, we do not believe that our proposals will result in any additional costs or burdens to the industry.

Auditing and review

- 4.52 In the Consultation, Ofcom proposed that CPs satisfy themselves that their CHA is regularly auditing and reviewing its processes.
- 4.53 BT agreed with our proposal, stating that, in order to provide confidence to CPs, the CHA should carry out an annual audit. However, rather than providing the details of audits to individual CPs, they suggested that, in line with their existing contractual terms (SIA) "*The outcome of internal compliance review and audits will be published*".
- 4.54 Three, however, stated that Ofcom's proposals with respect to audit arrangements go beyond the current industry practice and that it is disproportionate of Ofcom to expect

CPs to audit their CHA to check that *“it has not placed its call centres in areas at risk of subsistence or flooding, as suggested in the proposed Guidelines 5.12.”*

- 4.55 Having carefully considered the responses, Ofcom remains of the view that it is appropriate to expect CPs to satisfy themselves that their CHA regularly audits and reviews its processes, networks and systems. Audits of CHAs already take place and therefore we do not believe that it is disproportionate to expect that they continue. Ofcom expects that audits undertaken by a CHA are likely to result in certification or accreditation that can be used by the CHAs to satisfy the CPs that reviews/audits have been undertaken and any identified issues are being managed properly. This is not intended to affect the right of the CP to conduct its own audit or request details of audit reports of its CHA should the terms of the contract between them allow. We agree with BT that the outcome, but not the details, of audits should be published, and we shall reflect this in our expectations in Section 5.

Conclusion

- 4.56 Having given careful consideration to the Consultation responses received, Ofcom has decided to proceed by setting out the matters that, in our view, CPs should address when they are using a CHA to meet their obligations under GC4. These are detailed in Section 5. We have slightly amended the wording of the “criteria and expectations” where, taking into account the views of respondents, further clarity was considered helpful.

Section 5

CHA performance

- 5.1 In this Section, we set out the matters that we expect CPs to address, in circumstances where they are using a CHA to meet their obligations under GC4.
- 5.2 It should be stressed that, while reference is made specifically to the CHA in this Section, the regulatory obligations under GC4 remain with the CP and it will be the CP who is required to ensure compliance. Accordingly, CPs should satisfy themselves that the arrangements they make with their CHA enable them to comply with those obligations.

Criteria and expectations

Overarching principle: The handling of emergency calls is of utmost importance, and we expect CHAs to deliver services to an appropriately high standard.

- 5.3 Given the safety of life implications of emergency call handling we would expect that, where CPs engage a CHA, they satisfy themselves that all aspects of that CHA's organisation and operation are managed and performed to considerably higher standards than would be associated with conventional call centre activities.
- 5.4 In particular, these heightened levels of management and performance would apply *inter alia* to:
- The security and robustness of the CHA's own call centres and associated systems;
 - Operational processes and procedures (including reviews and audits);
 - The recruitment and training of staff (including management);
 - Risk and crisis management processes and assessments;
 - Maintenance and testing activities.

Call Answering performance target – 95% within five seconds

- 5.5 In conjunction with these high-level principles we would expect that 95% of call made to 999 or 112 that are received into the CHA's call queues will be answered within 5 seconds, as measured over a 24 hour period (midnight to midnight). Any calls abandoned without answer within 5 seconds need not be included though should be noted.

Service availability target – 99.999%

- 5.6 We would expect that the design and management of networks and operations are such that CHAs can remain operational (in that incoming calls can be answered at any level of performance) 99.999% of the time ('five nines' availability), measured on

a monthly basis¹⁹. Such availability encompasses all elements of CHA function including systems, networks and personnel. This target complements the call answer time performance criterion above, where we would expect a strict constraint on the allowable degradation of service that can occur.

Automated call answering systems

- 5.7 Our general position is that the use of automated answer/response systems should be avoided, in preference to human call operators who can both listen to, and speak with, end-users and can provide the correct assistance to those individuals. We believe that automated responses could increase the likelihood of the caller abandoning the call prematurely or the call not being handled correctly.
- 5.8 However, in situations where the PECS Code specifically recommends their use, or in the event that CHAs are requested to do so by EAs, for example in times of extreme stress on CHA call systems, the use of automated messages, may be appropriate.

Organisational and operational management

- 5.9 We would expect that CHAs put in place appropriate organisational structures, operational processes, networks and systems and that these are continually monitored and managed to ensure that they remain effective. In particular, the training undertaken by staff and management should highlight the additional responsibilities associated with emergency call handling and the behaviours that would be expected for those employed in its execution.
- 5.10 We would also expect that CHAs organise and manage their operations to a very high standard, meeting or exceeding relevant standards for the continual improvement of business capability and efficiency. Such standards would normally require that appropriate risk assessments are carried out regularly, with evidence gathered that shows how such risks are identified, assessed and mitigated²⁰.

Examples of expectations under particular conditions

- 5.11 We outline below some potential areas of risk against which CHAs may seek to mitigate. This list is not exhaustive as events and circumstances can vary in unforeseen ways. However, this list provides a guide as to the levels of resilience and contingency planning that we believe would be appropriate for the continued support of emergency calls.
- 5.12 As the list below is non-exhaustive, we would expect CHAs to satisfy themselves that they have given reasonable consideration to possible situations and events other than those explicitly discussed here, in a manner consistent with the principles set out. Moreover, we would expect CHAs to satisfy themselves that they have considered the general issue of crisis/event management with respect to their particular operational set up and circumstances.
- 5.13 Ofcom acknowledges that despite the efforts of CPs and CHAs to anticipate and mitigate all potential risks, events beyond their control may arise that seriously impair

¹⁹ Availability = (Uptime/Total Time), where Uptime is time that the CHA answers incoming calls and Total Time is the sum of Uptime and Downtime.

²⁰ For example, "Risk management. Risk assessment techniques", BS EN 31010:2010, June 2010, <http://shop.bsigroup.com/en/ProductDetail/?pid=000000000030183975>

their ability to handle calls effectively (“force majeure”). Such circumstances would be taken into consideration should any investigation into performance degradation take place.

Localised events affecting the CHA directly

- 5.14 There may be occasions when activity at a particular CHA call centre site needs to stop. These include (but are not limited to):
- Major site damage (e.g. flooding);
 - Forced evacuations (e.g. gas leak, bomb threat);
 - Power failure;
 - Substantial network/systems failure.
- 5.15 To minimise such events in the first place, we would expect CPs to satisfy themselves that their CHAs are sufficiently resilient to withstand isolated power and/or systems failure, and that they choose sites which are less exposed to risks of major site damage such as from flooding, subsidence etc. When shutdown of a centre is deemed necessary we would expect that call handling should be transferred in a controlled manner to alternative or backup facilities, with appropriate notification to EAs.

Wide-scale/National events affecting the CHA directly

- 5.16 Some incidents can affect the performance or availability of multiple CHA sites simultaneously, including:
- Wide-scale staffing incapacity (e.g. flu pandemic);
 - Multi-location civil disturbance.
- 5.17 Wide-scale events can put additional pressures on CHA call volumes as well as possibly interfering with CHA performance (such as limiting availability of personnel). How these events arise and develop can be difficult to predict, making appropriate responses hard to pre-define in advance. However, as described in the general principles above, we would expect that CHAs have contingency and crisis management plans in place, including arrangements for modifying call priorities under such circumstances, and for these plans to be agreed with the relevant EAs.

Major incidents affecting the emergency service as a whole

- 5.18 Major incidents, whether localised or more widespread, can put pressure on the emergency services and cause degradation in performance, for example:
- Widespread adverse weather conditions such as flooding or snow;
 - Terrorist attack.

5.19 The existing PECS Code sets out the practices and working arrangements that should be followed in such situations²¹. However, where this is not possible²², we would expect that CHAs are able to adopt their own measures (such as automated announcements), on the basis of a predetermined internal authorisation process that includes an assessment of risks, provided that:

- they are limited in duration;
- they serve to maximise the number of calls pertaining to unique events/situations to be forwarded to the emergency services;
- the number and line identifiers of calls abandoned during the incident are recorded;
- the EAs are notified at the earliest opportunity and have the opportunity to suggest changes to the arrangements.

5.20 In times of exceptional load on the emergency services, CHA may consider arrangements that could be put in place for working with other CHAs in sharing relevant information – such as any agreed changes to working practices with EAs – in order to maximise the effectiveness of the CHA function as a whole.

Reporting and documentation

5.21 To assist in our ongoing monitoring of call handling performance, and help identify whether our expectations remain appropriate and effective²³, it would be useful if CHAs were prepared to provide the following information to us every three months:

- Date & Time period (15 minute intervals);
- Number of calls received;
- Number of calls answered within 5 seconds (absolute and percentage);
- The average call handling time.

5.22 The information referred to above could be aggregated for all CPs (rather than provided for each CP individually) and provided to us on a voluntary basis, similar to the way in which CHAs currently make information available to the 999/112 Liaison Committee²⁴²⁵.

5.23 Notwithstanding the voluntary provision of regular call statistics above, we remind CPs and their CHAs that under our existing network incident reporting framework²⁶ we expect to be notified of outages affecting the ability of citizens to contact the emergency services (including the activation of backup capabilities), subject to the terms of that framework. Service outage information provided under the network

²¹ PECS Code, Section 9.

²² For example, if the specific circumstances faced by the CHA are not covered in the PECS Code.

²³ For example, whether the daily target is leading to unexpected/undesirable behaviours/outcomes (e.g. unacceptable performance at certain times of the day being regularly and unduly negated by very good performance during 'quiet' times later in the day).

²⁴ See footnote 12.

²⁵ This is without prejudice to any formal requests that Ofcom may decide are appropriate to make of CPs, CHAs and others under section 135 of the Communications Act 2003.

²⁶ <http://stakeholders.ofcom.org.uk/binaries/telecoms/policy/security-resilience/guidance.pdf>

incident reporting framework could be used to establish whether the service availability expectations set out above have been achieved.

Auditing and review

- 5.24 In addition, we would expect that, as part of the contractual agreement between the CHA and the CP, the CP satisfy itself that its CHA regularly audits and reviews its processes, networks and systems and that the outcome of internal compliance review and audits of the CHA are be made available to the CP.

Next Steps

- 5.25 The purpose of setting out these standards is to make clear the matters that Ofcom would expect CPs to address if they use a CHA to meet their obligations under GC4. If these matters are not addressed, Ofcom may need to consider whether or not formal intervention is required (for example, amending GC4).