Commission for
Communications Regulation

Consultation and Draft Determination

Emergency Call Answering Service: Call Handling Fee Review 2012/2013

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All responses to this consultation and draft Decision should be clearly marked:- "Reference: Submission re ComReg 11/81" as indicated above, and sent by post, facsimile or e-mail to arrive, on or before 1pm, on 30, November 2011, to:

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Please note that ComReg may publish all respondent's submissions, subject to the provisions of ComReg's Guidelines on the Treatment of Confidential Information – ComReg 05/24.

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1 Introduction

1.1 Requesting assistance from the emergency services is one of the most important telephone calls made and the treatment of such calls is fundamental to a functioning and stable society. In Ireland, the call to the emergency services is done by dialling 999 or 112. This may be done by using the fixed, mobile, and some Voice over Internet Protocol ("VoIP[1]") telephony networks. The organisation and handling of these calls is called the Emergency Call Answering Service ("ECAS") and this is the centralised system where all emergency calls are delivered.

1.2 There are three ECAS centres in Ireland; one in Navan County Meath, one in Ballyshannon, County Donegal, and the other in Eastpoint, Dublin 3. These centres are known as Public Safety Answering Points ("PSAPs"). Authorised Undertakings forward all emergency calls to these three PSAPs. The PSAPs are responsible for forwarding every genuine call to the requested emergency service, as quickly and effectively as possible, based on the service requested by the caller and the location of the incident. In addition, there are two data centres that support and provide the necessary system resilience to the three PSAPs.

1.3 Emergency calls are free of charge to the caller.

1.4 In 2009, the Minister for Communications, Energy and Natural Resources ("the Minister") awarded a contract to BT Communications Ireland Ltd ("BT") to design, build, and implement the ECAS. This contract is between these two parties alone. The ECAS is funded entirely through the Call Handling Fee ("CHF") payable by the presenting telephone network operator and/or the telephone call service provider.

1.5 By law, ComReg is required to annually review the maximum CHF that may be charged by the ECAS provider. This consultation is part of this review.

1.6 Following the public tender by the Minister during 2007 and 2008, BT was awarded the contract to provide the ECAS service for a period of five years. The contract between BT and the Minister is known as the "Concession Agreement" ("the CA") and it was entered into on 12 February 2009. The CA set the initial maximum CHF at €2.23.

1.7 In February 2011, after reviewing the reasonable costs incurred by the ECAS provider and in accordance with Section 58D of the Communications Regulation (Amendment) Act, 2007 ("the Act of 2007") ComReg raised the maximum permitted CHF to €3.35. This increase was mainly due to the significant decrease in the volume of emergency calls forwarded to the ECAS provider.

1.8 Certain costs have been incurred in designing and rolling out a new ECAS network in order to meet the requirements specified in the CA. For example, these requirements included the procurement and installation of a totally new hardware and software platform, which has many additional features that add significant value to the handling of emergency calls (e.g. caller location evaluation, call handling and auditing abilities, SMS[2] to 999/112 functionality etc.). It should also be noted that BT, in its role as ECAS provider, does not conduct any other activities within the PSAPs and handles emergency calls only. It is not engaged in any other business activities of the type which, ordinarily, might help to distribute operating costs further across a business. For example, in the UK, directory

[1] Voice over internet protocol.

[2] Short messaging service.

enquiry calls are handled by the 999 Customer Service Representatives ("CSRs"), which would allow the common operating costs of the 999 service to be distributed across a number of services.

1.9 Whilst the authorised undertakings have a statutory obligation to provide their customers with uninterrupted access to the emergency services (and to do so free of charge) the mechanism for doing is at the discretion of each undertaking.

1.10 ComReg is now conducting a consultation on a number of key matters that relate to the inputs required to ensure that the maximum permitted CHF is reasonable, having regard to the right of the ECAS provider to recover its reasonable costs, and a guaranteed rate of return. ComReg encourages all relevant stakeholders to respond to this consultation and to, contribute to the continuing effective functioning of the service. If a respondent's submission contains confidential information, an additional document labelled "public version" should be provided. This version will be published by ComReg. Given the very commercially sensitive nature of much of the information relevant to the review of the CHF, ComReg has strictly maintained its confidentiality, as it is obliged to do. At the same time, ComReg has ensured that this consultation provides enough information for the issues to be comprehensible and for stakeholders to respond to it.

1.11 ComReg commissioned an expert report from Tera Consultants to assist it with its review of the CHF. The report is appended to this consultation in order to provide further detail and enhance respondents' understanding of the issues.

2 Executive summary

2.1 This consultation seeks the views of interested parties on the key inputs into the maximum CHF that the ECAS provider can charge for the provision of the ECAS from 12 February 2012 to 11 February 2013.

2.2 Over recent months, ComReg and its consultants have obtained and analysed the necessary financial information in order to carry out this review. The review has entailed a detailed understanding of the "in-life" cost components in the context of what are "reasonable costs." The "set-up costs" incurred by BT in designing, building and implementing the ECAS were reviewed last year and therefore, they are outside of the scope of this review.

2.3 ComReg has reviewed the ECAS provider's commercial and operational assumptions, which has resulted in some of the related costs being disallowed. Together with cost savings achieved by the ECAS provider (which decreases the unit cost) and despite the c.17% decline in call volumes (which increases the unit cost) ComReg is of the preliminary view that the maximum permitted CHF for the period 12 February 2012 to 11 February 2013 should be **€3.35. This would maintain the current maximum permitted CHF at the same figure.** ComReg is aware of the advantages of ensuring that the maximum permitted CHF is relatively stable and is also cognisant of the preference to minimise fluctuations if possible.

2.4 ComReg is aware that the ECAS provider has implemented certain costs savings since it became the ECAS provider, and is still in the course of implementing these. These cost savings are welcome and have had a material impact on ComReg being able to maintain the CHF at €3.35.

2.5 This Consultation is structured as follows:

Section 3: Background

2.6 In this section, ComReg outlines the background in relation to the Minister's appointment of BT as the ECAS provider and ComReg's role and responsibility in relation to the ECAS. This section also outlines the responsibility of the ECAS provider and categorises the main cost categories in the business model.

Section 4: Reasonable cost review

2.7 In this section, ComReg outlines the practical meaning of the term "reasonable cost" and how this has been implemented in this review. This element of the review is crucial as the term reasonable cost and the right to only cover reasonable costs has a direct impact on the CHF itself.

Section 5: Relevant cost standard

2.8 In this section, ComReg outlines the nature of different cost standards and explains the differences between them and the applicability of each (or not) in the context of ECAS.

Section 6: Reasonable costs

2.9 In this section, ComReg outlines and describes the various costs which are incurred by the ECAS provider in running the ECAS operation. Within each cost category ComReg provides an overview of how the reasonable cost is derived. It must be stressed that much of the detail in relation to these costs is commercially sensitive for both the ECAS provider and for its third-party suppliers. It is ComReg's policy to maintain the confidentiality of information that is provided to it in confidence, in particular commercially sensitive information. Notwithstanding this, sufficient information is provided in this section for stakeholders to understand the issues and to make an informed response to this consultation.

Section 7: Call volumes

2.10 In this section, ComReg outlines the trend in emergency call volumes in Ireland during recent years, including the significant decline in call volumes arising from the Eircom fixed network. The decline in call volume has a significant impact on the maximum permitted CHF and this is also discussed. ComReg also reviewed the overall trend in call volumes, factoring in such externalities as population growth, and the ongoing remediation work within the Eircom fixed network, primarily relating to the generation of "ghost calls."

Section 8: International bench marks

2.11 In this section, ComReg examines the appropriateness of whether or not to use international benchmarks for determining the CHF, and explains why it does not consider it feasible to use them.

Summary of the review

2.12 ComReg has decided to disallow certain costs incurred by BT. BT has also made certain cost adjustments of its own accord.

2.13 The costs incurred by the ECAS provider in 2010/2011 to date, but disallowed under the reasonable cost review, were approximately €580,000. These related to:

- Review of the hourly rate paid to the specialist call-centre company.
- Disallowing of certain non-pay costs which were incorrectly accounted for.
- Disallowing of certain costs which are already recovered through the guaranteed rate of return.
- Disallowing of certain non-pay costs which were considered to be unreasonable.

2.14 The disallowed costs associated with the hourly rate (payable by the ECAS provider to the specialist call-centre company) are as a result of ComReg's review of the various cost components within it: certain elements are unreasonable, in particular, certain overheads. The revised hourly rate does not affect the basic pay of CSRs.

2.15 An inadvertent error was made by the ECAS provider when accounting for certain assets previously disallowed during the 2010/2011 reasonable cost review. The correction of this error did not have a material impact on the depreciation charge and the guaranteed rate of return.

2.16 ComReg considers that interest expenses relating to the financing of the fit out of PSAPs are recovered through the guaranteed rate of return.

2.17 ComReg also reviewed the actual costs incurred and disallowed certain costs which it considered not to be reasonable.

2.18 The disallowing of these costs is reflected in the prior period under-recovery which is incorporated into the CHF and spread over the life of the CA.

2.19 The following is a summary of costs which were disallowed by ComReg, or removed by the ECAS provider and are reflected in the CHF of €3.35.

- Proposed revision to the hourly rate payable to the specialist call-centre company.
- Amalgamation of certain managerial roles by the ECAS provider.
- Disallowing of certain costs from budgeted costs.

2.20 The review and amendment payable by the ECAS provider to the specialist call-centre company has resulted in ComReg making a preliminary determination of what it considers to be a reasonable hourly rate for inclusion in the CHF for 2012/2013. The disallowing of certain non-pay costs in the 2011/2012 CHF review also affected the budgeted costs for the CHF for 2012/2013.

2.21 Following the review of the ECAS management structure, the ECAS provider amalgamated certain roles. The amalgamation of these roles has resulted in cost savings of approximately €✂ per annum.

2.22 Many of the cost categories reviewed in the reasonable cost review for 2010/2011 form the basis for the budgeted costs to be incorporated into the CHF for 2012/2013. By ComReg disallowing certain costs and the ECAS provider implementing cost savings, these budgeted costs reflect what ComReg considers to be reasonable costs for recovery through the CHF.

2.23 The total estimated savings achieved for 2012/2013 is approximately €1,000,000 or €0.38 per call.[3] As a result of its review, ComReg is in a position to make a preliminary determination that the maximum permitted CHF for 2012/2013 should be €3.35. The effect of this is to maintain the current maximum permitted CHF at its current level, notwithstanding the decline in the volume of calls forwarded to the ECAS provider.

[3] Based on 2.62m calls.

3 Background

ComReg's statutory role

3.1 Under the Act of 2007, ComReg has two key statutory responsibilities with regard to the ECAS:

1. To review the maximum CHF that the ECAS provider may charge and thereby to determine the annual CHF.[4]

2. To monitor the ECAS provider's Quality of Service ("QoS") and report to the Minister on the ECAS operational performance against the metrics specified in the CA.[5]

3.2 The main purpose of the maximum CHF review is to determine what the maximum permitted CHF for the year from 12 February 2012 to 11 February 2013 which will allow the ECAS provider to cover the "reasonable costs" (see paragraph 3.15) it has incurred and which it is likely to incur in operating the ECAS and, in particular, to have regard to the need for it to recover its agreed "guaranteed rate of return" for providing the ECAS. Having done this, ComReg is now consulting on its determination of what it believes the maximum permitted CHF should be. ComReg must make its final determination on the maximum permitted CHF for the period 12 February 2012 to 11 February 2013, by 12 December 2011.

Function and responsibility of ECAS

3.3 The ECAS has three PSAPs and two data centres at different locations throughout the State. The ECAS has been designed and built to meet certain specifications in the CA that provide end-users with a reliable, resilient and effective network for the purpose of contacting the emergency services.

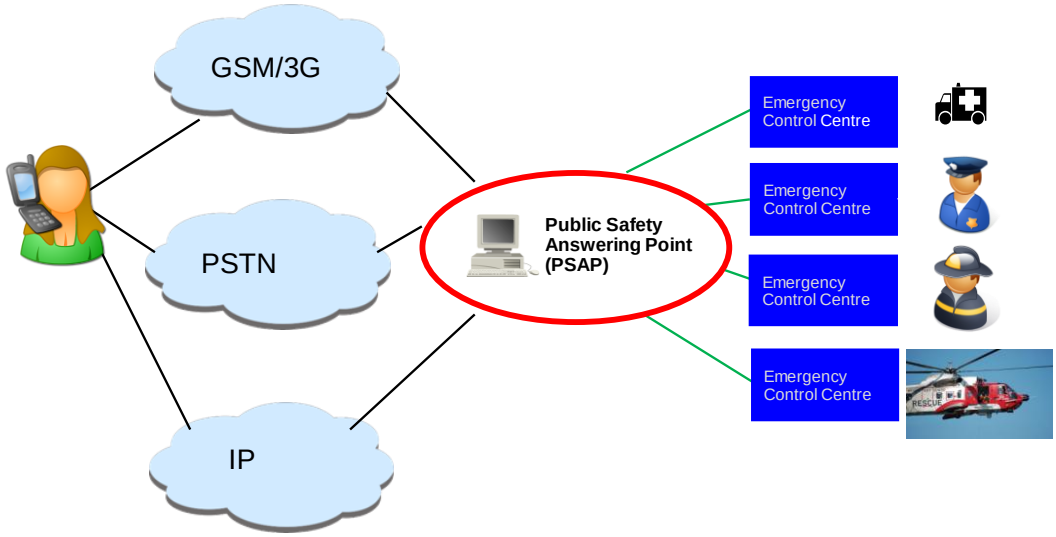
3.4 When an end-user dials 999 or 112 from their telephone (using a fixed, mobile or VoIP service) ECAS takes the call, undertakes a triage to establish the precise nature of the emergency[6] and forwards the call to the emergency service request based on the location of the incident. This call-flow between the end-user and the emergency services incorporating the role of ECAS is outlined below:

[4] Section 58D (1) of the Act of 2007.

[5] Section 58G of the Act of 2007.

[6] Not all calls to the ECAS are genuine calls. However, every call to the ECAS must be answered promptly and effectively to establish the nature of the call.

Figure 1: Call flow



Note: this call flow diagram is for illustrative purposes only.

3.5 ECAS must be available on a 24-hour basis, seven days a week, and 52 weeks a year. It must be capable of dealing with operational demands at peak times and also the possible loss of any PSAP – for whatever reason.

3.6 ECAS must perform to an exacting standard. The performance of the ECAS is monitored continuously by ComReg, in accordance with quantitative and qualitative performance metrics set in the CA.[7]

Determining the CHF

3.7 In Section 6, ComReg discusses the various costs included in determining the maximum permitted CHF. These costs are the "in-life" costs (often referred to as operating expenditure or "Opex") of providing the ECAS. While the exact percentage composition of the "in-life" costs may change depending on the assumptions made, the following is an approximation of the principal cost categories.

Figure 2: percentages of "In-life" costs[8]

✂

3.8 These costs are subject to the reasonable cost review.

3.9 To these "in-life" costs the following are added:

- Annual depreciation/amortisation charge;

[7] See Appendix C.

[8] Deprecation is included as an in-life cost as it is the annual cost of running the assets.

- The guaranteed rate of return and applicable rebate(s);[9]
- Transfers to the applicable sinking fund;[10] and
- Any prior period over / under-recovery of costs.[11]

3.10 In summary, the CHF formula is derived by:

1. Calculating the total costs found to be reasonable and estimated to the end of the CA; and
2. Dividing the reasonable cost by the estimated number of calls also to the end of the CA.

3.11 Call volumes are estimated by actual previous trends, external influences such as remediation programmes, and projected increases in population. This is done so as to minimise the possibility of significant fluctuations in the CHF.

3.12 The relative percentage allocations of reasonable costs are as follows:

Figure 3: Percentages of reasonable costs

✂

3.13 Based on its review of the evolution of future volumes, ComReg is of the preliminary view that a CHF of €3.35 should apply from 12 February 2012 until 11 February 2013.

3.14 This revised CHF has been calculated on the basis that, all things being equal, there will be little fluctuation in the CHF between now and the end of the CA. However, ComReg will review the CHF annually, as required by the Act of 2007 and determine as appropriate a new CHF (if required).

3.15 Under the CA, a "reasonable cost" is defined as follows:

> *"…the reasonable costs that ComReg will take into account in its reviews of the Call Handling Fee and will include the Section 58D Fund Allocation, all necessary costs incurred by the Contractor in the normal course of business, such as capital outlay, depreciation, heating and lighting, labour, the annual Monitoring Costs and the Final Monitoring Costs of ComReg, adjustment for any over or under-recovery of the Guaranteed Return for any previous Call*

[9] Paragraph 6.76 and paragraph 6.80 respectively.

[10] Paragraph 6.84.

[11] Paragraph 6.85

Handling Fee Periods and costs that may be incurred as a result of having to comply with any law. In assessing whether costs are reasonable, ComReg will have regard to similar operations in other countries and international best practice. Incurred costs which are clearly unnecessary, excessive or avoidable may not be deemed reasonable, and may have an impact on the Call Handling Fee for the period following any review;"

3.16 The estimated annualised cost of each cost category to the end of the CA is set out below:

Table 1: Total reasonable costs split

Cost category	€
Pay costs[12]	✂
Non-pay costs[13]	✂
Depreciation[14]	2,200,000
Guaranteed return[15]	750,000
Cost of capital rebate[16]	✂
Sinking fund[17]	250,000
Prior period[18]	✂
Total costs	8,770,000

[12] See Section 6.6.

[13] See Section 6.60.

[14] See Section 6.68.

[15] See Section 6.77.

[16] See Section 6.82.

[17] See Section 6.84.

[18] See Section 6.85.

3.17 The total cost of €8.77m is then divided by the forecast number of calls of approximately 2.62m, in order to determine the maximum permitted CHF of €3.35.

4 Reasonable cost review

4.1 This section outlines how ComReg has conducted the reasonable cost review.

Background

4.2 Because the ECAS provider has no control over the volume of emergency calls that are forwarded to it by other undertakings, ComReg has mainly focused on reviewing the reasonable costs incurred by the ECAS provider to date and the costs that it is likely to incur going forward.

4.3 Section 58 (D)(3) of the Act of 2007 provides that:

> *"…the Commission shall have regard to… the need for the ECAS provider to cover the reasonable costs likely to be incurred by it in operating the service and, in particular, to recover a guaranteed rate of return.."*

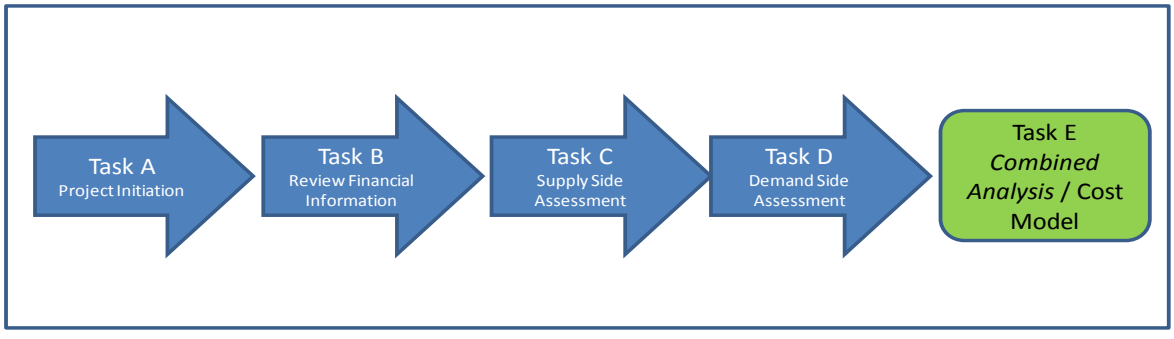
4.4 In accordance with the CA, ComReg has when assessing whether or not it considers a cost to be reasonable, had regard to similar operations in other countries and also international best practice. Costs which have been incurred by the ECAS provider and which ComReg considers to be clearly unnecessary, excessive, or avoidable, are not deemed reasonable.

4.5 The specifications for the ECAS are not determined by ComReg, but by the Minister, through the CA. ComReg is not a party to the CA and does not have the authority to amend it. The specifications for the ECAS in the CA are not being reviewed by ComReg. However, the implications of these specifications are indirectly manifested in the costs incurred by the ECAS provider and are therefore part of and relevant to the reasonable costs review. The specific network architecture of the ECAS network is also outside of the scope of this review. However, in reviewing reasonable costs, ComReg has sought to ensure that assets purchased are necessary for the successful operation of the ECAS.

Approach

4.6 ComReg's approach to its review of the maximum permitted CHF is presented diagrammatically below. Although there is some overlap between the five tasks (A-E) a broadly sequential structure is followed:

Figure 4: Project approach



Task A: Project initiation

4.7 Under the Act of 2007, ComReg must make its determination on the CHF by 12 December each year. In order to do so, ComReg has already engaged extensively with the ECAS provider in gathering the necessary financial data and associated information. This information informs what the actual costs incurred were. The incurred costs are then subject to a review by ComReg in order to determine whether or not they are reasonable. ComReg has reviewed costs incurred since the ECAS operation went live on 14 July 2010 and the evolution of call volumes.

4.8 An assessment is also made of the ECAS provider's annual forecast costs of running the ECAS to the end of the contract and the likely future trend in call volumes.

Task B: Review of financial information

4.9 ComReg has carried out a detailed review of the full set of financial information furnished by the ECAS provider. However, this review will be ongoing in the period up to when the final determination on the maximum permitted CHF must be made i.e. 12 December 2011. The financial information includes the annual audited financial statements to March 2011 and unaudited quarterly management accounts to September 2011. These unaudited quarterly management accounts are supported by detailed financial analysis and explanations.

4.10 This review does not entail an assessment of the set-up costs of the ECAS: ComReg reviewed these in 2010.

Task C: Supply side assessment

4.11 ComReg has carried out a "supply-side" assessment which entails a root-and-branch review of all aspects of the delivery of ECAS by the ECAS provider, in order to determine whether the costs associated with the ECAS are reasonable. The supply-side assessment includes the following:

- an operational review of the ECAS function provided by the ECAS provider;
- a review of the ECAS staff resources;
- an understanding of the engineering and technical elements of the ECAS; and
- a review of any third-party costs.

4.12 This part of the review required a series of site visits and inspections to the PSAPs and data centres, in order to obtain a greater understanding of how the service is organised and to understand the technical and business infrastructure that is used. ComReg undertook interviews and discussions with senior representatives of the ECAS provider, reviewed the available documentation, and assessed the reasonable "in-life" costs actually incurred.

Task D: Demand side assessment

4.13 ComReg has conducted a "demand side" assessment as part of its review. This involves examining historic volumes of emergency calls made in the State and reviewing the economic and demographic data relevant to the number of emergency calls being made. This has been done in order to produce a reasonable estimate of likely future emergency call volumes. There has been a significant decline in call volumes. However, it is also noticeable that in recent months, the rate of the decline in call volumes appears to be slowing down.[19]

4.14 ComReg will continue to monitor call volumes closely and will continue to publish details of the trend on a periodic basis as part of its regular quality of service review of the main performance metrics applied to the ECAS.

Task E: Combined analysis / cost model

4.15 This task involved combining the findings from the supply and demand side assessments (tasks C and D) in order to review the reasonableness of the CHF from the cost model.

[19] ComReg Information Notice "*Volume of emergency calls for the period January-June 2011*" (ComReg Document 11/65).

5 Relevant cost standard

5.1 This section examines the options available to ComReg in relation to what costing methodology to use, when seeking to ensure that the ECAS provider covers its reasonable costs in operating the ECAS.

Overview

5.2 A number of cost standards could be used by ComReg to ensure that only the relevant and reasonable costs of the ECAS operation of the ECAS provider are recovered through the CHF.

5.3 Under Section 58 (D) of the Act of 2007 ComReg is required to have regard to:

> *"(a) the need for the ECAS operator to cover* ***the reasonable costs likely to be incurred*** *by it in operating the service and in particular, to recover a guaranteed rate of return for providing the ECAS…"* (Emphasis added).

5.4 In general, a regulator has considerable legal discretion about which costing standards to use when it reviews the costs of operators. The most appropriate costing standard to use can depend on the purpose of the exercise, or the particular policy aim being pursued. Commonly used cost standards include Historical Cost Accounting Information ("HCA"), Current Cost Accounting Information ("CCA"), and Long Run Incremental Costs ("LRIC).

5.5 When considering which cost standard is appropriate for determining reasonable costs, ComReg considers the following to be relevant in the reasonable exercise of its discretion:

- The CHF is not paid directly by the consumer, but by the consumer's call origination network.
- The originating network has no control over the CHF.
- Calls to the ECAS are a social service, rather than a normal product.
- The ECAS is a standalone service provided on behalf of the State.

Possible costing methodologies: reasonable costs recovery

5.6 There are a number of different costing methodologies that could be used to ensure that the ECAS provider covers its reasonable costs in operating the ECAS. These are discussed below.

Historical costs

5.7 Under the historic cost basis, the ECAS provider would recover costs actually incurred in operating the ECAS. The historical cost accounts (or HCA) are based upon the actual reported financial results of the ECAS provider for a given period. The results from the HCAs should be directly reconcilable with the statutory financial statements of the operator.[20]

5.8 The historic cost basis has an advantage in that there is no risk of the ECAS provider being paid for services it did not provide, nor being paid more than it spent to provide those services.

Current costs

5.9 The CCA methodology focuses on updating historic costs, relative to the existing reality of the market (i.e. current costs). The information is derived from the HCA accounts by valuing the non-fully depreciated assets, using current costs instead of historic costs, with appropriate accounting for the consequent holding gains, and losses and adjustments to depreciation charges as a result of revaluations.

5.10 Current costs can differ significantly from historic costs due to price changes and technological progress. Therefore, under the current cost approach, unlike the historic cost base, it is arguable that this would encourage operators to invest (whether it is by the incumbent operator or other operators) as it values the depreciated assets as if the assets were bought at current day prices.

5.11 As the starting point for the methodology is based on the historic accounts, the CCA methodology is subject to the potential inherent legacy issues contained within the accounting data presented, and is limited to the format of the information of the accounts.

5.12 The precise impact of the various holding gains and losses and depreciation adjustments can be complex and difficult to predict. Accordingly, the use of the CCA accounting methodology may lead to uncertainty for all industry players — as a result of the required fluctuation in the CHF. ComReg does not regard the CCA cost standard as appropriate for the purpose of this review because it runs the risk of causing undue fluctuations in the CHF.

Long run average incremental cost ("LRAIC")

5.13 LRAIC is the average of all the (variable and fixed) costs that a company incurs to produce a particular product. This is the traditional common approach when calculating the costs of telecommunications for certain regulatory purposes. "LRAIC plus" is LRAIC with an allocation of common costs.

5.14 An equi-proportionate mark up ("EPMU") is typically used in order to allocated common costs in "LRAIC plus". The LRAIC (without "plus") cost accounting methodology does not include a mark-up for joint and common costs. However, this tends to involve the offering of new services across existing platforms, the cost of which has been sunk for a significant period of time.

[20] The ECAS provider currently prepares quarterly and annual audited financial statements for the ECAS operation.

5.15 Traditionally, the choice for implementing a LRAIC or LRAIC plus costing methodology has either been based on Top-Down ("TD") data or Bottom-Up ("BU") data, or, in some cases, a blend of the two (i.e. a hybrid approach). This choice can depend upon a number of factors, including:

- The objectives of the exercise;
- The quality of the information available to carry out the exercise; and
- The level of cooperation from the ECAS provider and other stakeholders.

Top-down LRAIC

5.16 In TD models, the originating source of information for estimating the costs of services is normally the costs actually incurred by the operator. The main disadvantage of the TD approach is that it requires a significant amount of detail from the operator's accounting systems and on the inventory of the operator's network. The TD information relies heavily on the robustness of the data provided by the operator. Given that the ECAS network has only recently been deployed, there is a significant amount of financial data available. The costs associated with the ECAS provider's network were already subject to a reasonable cost review by ComReg in 2010 in particular, the costs associated with ECAS assets.

5.17 TD models can be developed with either a current cost or a historic cost base. Similarly, both Fully Distributed Costs ("FDC") and LRAIC are compatible with a TD approach.

5.18 The TD approach implies that the reference point is the operator's actual set of accounts. A problem however, is that the reporting of TD data could incorporate certain unreasonable costs, which should be eliminated. However, ECAS by its very nature has a certain level of redundancy to compensate for unpredictable call arrival patterns.

5.19 A further drawback of the TD LRAIC methodology is that there may be some legacy issues by which the model is inevitably constrained in the analysis or, in other words, the TD approach is not, and cannot be converted into, a forward-looking approach. This can potentially yield inefficient results.

BU-LRAIC

5.20 The starting point of BU models is forward-looking demand data; this is used to dimension, through economic, engineering and accounting principles, an efficient operator capable of serving that demand. In-life costs are estimated and annualised using an "Erlang" model (discussed in paragraph 6.9). The CHF costs would then be estimated by allocating the costs of the different components to the estimated ECAS call volumes.

5.21 BU models do not depend as heavily as TD models on complex accounting data and therefore, tend to better reflect the choices of a hypothetical, forward-looking, efficient operator from both a technical and an operational point of view, as legacy cost issues are less of a problem than in a TD context. For the same reasons, they can be easier to develop and maintain.

5.22 The use of a BU LRAIC cost model can also be associated with the modelling of a hypothetical new entrant to markets, where the regulatory objectives are to incentivise investment, promote competition, and ultimately improve consumer welfare through the success of the former two.[21] However, incentives for competing ECAS platforms are not considered relevant in the current context. Accordingly, ComReg considers that a BU model in isolation is not appropriate for the purposes of its review.

Hybrid approach

5.23 A hybrid approach enables the use of TD data from the ECAS provider's financial statements to be applied in a BU model.

5.24 The hybrid approach also takes reasonable costs into account as it assesses future demand and then derives the number of operator hours required to fulfil that demand — while ensuring that the performance metrics as set out under the CA are met. This is consistent with a BU approach.

5.25 The hybrid approach enables a direct comparison to the TD cost accounting information and engineering rules of the ECAS provider, which ComReg can then assess for reasonableness – while at the same time allowing ComReg to develop a forward looking view.

5.26 ECAS has only recently come into operation and the costs of the assets deployed in 2009/2010 were subject to a reasonable cost review. Therefore, the development of a BU model is likely to yield results similar to that of a TD model. BU models allow costs to be assessed and assist a regulator to form a view on whether they are reasonable and not excessive.

5.27 In reviewing the CHF of 2011/2012 ComReg has adopted a hybrid approach in determining reasonable costs and the resultant CHF. ComReg believes that this approach provides the assurance necessary to determine the reasonableness of costs. This was also the approach adopted in 2010/2011. ComReg has received detailed information from the ECAS provider regarding its historic and forward-looking costs and volumes, thereby enabling it to undertake an extensive review (ensuring all reasonable costs are recovered). The use of TD data enables ComReg to populate its cost model with actual data from the ECAS provider's financial statements and apply forward-looking assumptions to it (see also paragraph 6.89).

ComReg's Preliminary View

5.28 The hybrid costing methodology, based on HCA accounts (appropriately adjusted for reasonableness) and reflecting forward-looking cost and volume data is the most appropriate way to determine the CHF.

[21] In other words, a "Buy *v* Build" signal is sent to the marketplace to enable informed decisions on the efficient level of investment in alternative infrastructure.

Q.1 Do you agree or disagree with ComReg's preliminary view that a hybrid costing methodology, based on HCA accounts (appropriately adjusted for reasonableness), and reflecting forward-looking cost and volume data is the most appropriate way to determine the CHF? Please provide detailed reasoning for your views.

Types of costs

5.29 Once a decision on the most appropriate costing methodology is made, the selection of an appropriate costing concept is required. As provided by Section 58 (D) of the Act of 2007 the ECAS provider is entitled to recover its: *"**reasonable costs likely to be incurred** by it in operating the service…"* (Emphasis added). ComReg considers that the CHF should be calculated on the basis of investments (i.e. the relevant capital depreciation charge) and operating costs that could have been avoided (in a given financial period) if provision of ECAS provider had not undertaken the CA. Avoidable Costs ("AC") identifies those costs that would not be incurred if a firm did not pursue a particular activity.

5.30 A number of different reasonable costs incurred by the ECAS provider can be recovered through the maximum permitted CHF. Some costs are directly attributable to the ECAS operation (for example, the costs of setting up and running the three PSAPs can be clearly identified as being direct to the ECAS operation). However, other costs incurred outside the PSAPs may not be directly attributable: for example, overheads which are common to the ECAS provider's ECAS operation and its other operations in electronic communications markets more generally in the State and which are unavoidable.

5.31 Costs of individual services/products can vary significantly, depending on the scope and type of costs to be taken into account. One of the fundamental drivers of the CHF is the identification and classification of costs. A number of potential categories of costs, which are not mutually exclusive, may exist including:

- Direct costs.
- Indirect costs.
- Joint and common costs.
- Fixed costs.
- Variable costs.

5.32 Each of these is discussed below.

Direct costs

5.33 Direct costs are directly related to the production of a given service. They would cease to exist were the service to be terminated. They are therefore directly attributable costs that have an unambiguous cause-effect relationship with the considered service.

5.34 The direct costs associated with ECAS can be considered in two categories:

- Pay costs.
- Non-pay costs.

5.35 Direct pay costs relate to staff whose time can be clearly attributable to the ECAS. This can include staff who are 100% dedicated to ECAS, or other staff who charge time to ECAS for specific work on a case-by-case and time basis.

5.36 Direct non-pay costs generally relate to third-party support contracts specific to ECAS (such as support contracts to maintain the ECAS network and rent and rates of the PSAPs' buildings).

Indirect costs

5.37 An indirect cost is a cost which is allocated between the ECAS and other services on the basis of a cost driver.

5.38 The indirect costs associated with the ECAS tend to be non-pay costs, but may also include some form of attributable pay costs associated with support functions. These support functions include amongst other things: finance, human resource, specialist engineering, and legal / regulatory services.

5.39 ECAS overheads are allocated using cost drivers through defined processes and procedures. These cost drivers are subject to external audit and are subject to ComReg's reasonable costs review.

Joint and common costs

5.40 Joint and common costs are costs shared with other services for which there is no specific cost driver.

5.41 Joint costs cannot be specifically allocated to one service. They are incurred when producing a given set of services. They are indirectly attributable costs that have an unambiguous cause-effect relationship with the considered group of services. Common costs cannot be attributed in a non-arbitrary fashion (non-attributable costs). They are shared by the entire portfolio of services.

5.42 Allocations for joint and common costs tend to be made on percentages of direct and/or indirect costs through the use of equi-proportionate mark-up ("EPMU").

5.43 Unlike some other countries (e.g. the UK) other consumer services, such as directory enquiries, are not offered on the ECAS network. Therefore, the ECAS network in Ireland cannot share common costs, which might normally be shared, if there were additional services using its network.

5.44 The ECAS network could be considered a unique network — as it was designed and built specifically for offering ECAS and no other telecommunication services are offered on its platform. Consequently, the allocation of a share of joint or common costs is not considered appropriate as it may over-compensate the ECAS provider for "allocated" costs which it did not incur in the provision of the service (i.e. it would not adequately reflect the costs BT could have avoided if it did not take on the CA).[22]

Fixed costs

5.45 Fixed costs tend not to change with fluctuations in call volumes.

5.46 For ECAS, the fixed costs relate mainly to the fixed asset investment made during the set-up phase. Some minor additional expenditure has been made since the Go Live date. However, this generally relates to the completion of investment already budgeted for during the set-up phase.

5.47 There are other fixed costs: the requirements to have a minimum number of CSRs and ECAS management, together with support services and contracts.

5.48 Therefore, as call volumes change, these costs tend not to change significantly.

Variable costs

5.49 Variable costs are costs which change with the variation in call volumes.

5.50 However, it should also be noted that a minimum number of call CSRs is required in order to maintain the quality parameters as set out in the CA.[23]

5.51 Notwithstanding this, as a result of the fall in call volumes the number of CSR hours considered necessary to operate the ECAS has reduced. However, the percentage fall in the number of CSR hours does not match directly the percentage fall in call volumes as there is a minimum service level and associated staffing level required.

5.52 It should be noted that since the Go Live date, the ECAS provider has made amendments to its organisational structure. Certain roles have been amalgamated or are no longer considered necessary which is to be expected following the initial set-up and bedding in period has passed.

5.53 Furthermore, since the ECAS went live certain specialist engineering/technical amendments were required to be carried out on the network. However, as many of the changes have now been completed, there is no longer a requirement to have the same level of specialist skills charging time to the ECAS. Therefore, these changes are not primarily driven by changes in call volumes and as a result, the costs are generally not variable ones.

[22] This is consistent with ComReg's reasonable cost review of 2009/2010.

[23] See Appendix C for these parameters.

5.54 In addition, some pay costs of the ECAS provider can vary depending on certain *ad hoc* requirements (for example, the procurement department may become involved in annual reviews of ECAS third party contracts or the sourcing of new service providers as the need may arise).

ComReg's preliminary view

5.55 AC is the appropriate cost principle to be used in assessing the CHF, combined with a hybrid cost model.

5.56 The costs associated with the provision of the ECAS are:

- Direct costs.
- Indirect costs.
- Fixed costs.
- Variable costs.

Q.2 Do you agree or disagree with ComReg's preliminary view that avoidable cost is the appropriate costing principle for reviewing the maximum permitted CHF as outlined above? Please provide detailed reasoning for your views.

Q.3 Do you agree or disagree with ComReg's preliminary view that the cost associated with the provision of ECAS are Direct Costs, Indirect Costs, Fixed Costs and Variable Costs? Please provide detailed reasoning for your views.

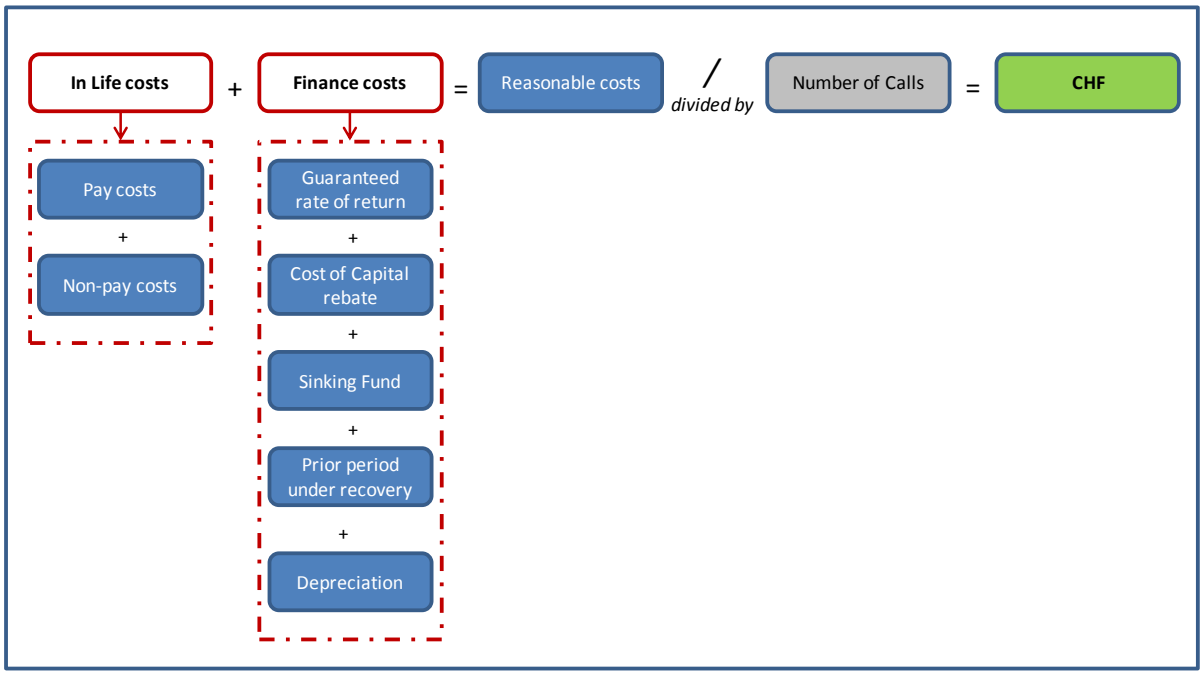
6 Reasonable costs

Overview

6.1 This section describes the various costs which are charged by the ECAS provider in running the ECAS operation. Within each category, ComReg provides an overview of how the cost is derived and whether or not it considers it to be reasonable. Due to the commercial sensitivity and confidential nature of the data to the ECAS provider and its suppliers, many of the specific details cannot be published in this consultation.

6.2 The figure below provides an overview of the various cost categories which are recovered as part of the CHF. Each of these is discussed in greater detail below.

Figure 5: cost categories relating to the CHF



6.3 In-life costs are the day-to-day costs of running the ECAS operation. Finance costs are the costs associated with financing the project over the term of the CA.

6.4 ComReg has reviewed whether or not particular costs are to be considered reasonable. The in-life costs represent ComReg's assessment of the "steady state" of reasonable costs to the end of the CA for inclusion in the CHF.

6.5 Changes to what costs are to be considered reasonable are proposed in this review. Many of the changes proposed in this consultation are one-off adjustments and may not be replicable for future reasonable cost reviews; for example, the means by which CSR hours are forecast (as discussed in paragraph 6.34).

Pay Costs

6.6 Pay costs comprise of CSR costs and BTs payroll costs associated with the ECAS. While both of these are discussed in more detail below, the estimated annualised pay costs are €✂and their relative percentages are represented as follows:

Figure 6: Pay cost split

✂

6.7 Certain elements of the pay costs have varied during the first year of the ECAS operation. This was mainly due to a reduction in the number of CSR hours required, the changing nature of the organisational structure, and the requirement for specialist engineering in the initial phases. It is likely that the pay costs of the ECAS will tend to stabilise over the life of the CA. However, some fluctuation is inevitable, particularly if a complicated engineering/technical issue arises (and given the "life critical" nature of the service).

CSR costs

6.8 CSR costs relate to the staffing of the three PSAPs. There are approximately 80 CSRs which comprise part-time and full-time staff. This cost forms a substantial part of the in-life costs of the ECAS operation. The estimated annual cost of CSRs is €✂ based on ComReg's estimate of approximately ✂ operator hours, at the proposed reasonable hourly rate of €28.07 (see paragraph 6.32).

6.9 The ECAS provider uses an industry standard "Erlang" resourcing model to determine the number of CSRs it requires across each of its PSAPs for every 15-minute period. In doing so, it estimates the number of calls for a six week period and to this it applies a number of operational parameters, as set out in the CA. By applying each of the performance metrics to the estimated call volumes, a minimum number of CSR hours is forecasted. The ECAS provider also has a policy of having a minimum of two CSRs present on each site at any one time. This is to allow for breaks, to ensure that the work environment is safe (particularly late at night) and to allow CSRs time to recover if they have taken especially stressful calls. In ComReg's view this appears to be reasonable.

6.10 Once the ECAS provider has determined the number of CSR hours it requires, the particular individuals are rostered by a specialist call-centre company.

6.11 Upon receipt of the ECAS provider's requirements, the specialist call-centre company rosters the necessary CSRs and develops the required shift rosters. All CSRs are employed directly by the specialist call-centre company. None are employed direct by the ECAS provider.

6.12 As the call arrival pattern at any given point during the day or week can vary, the number of CSRs rostered can also vary. Foreseen and unforeseen factors that influence this include:

- Time of day (certain call patterns are more prevalent depending on the time of the day);

- Time of week (there can be a higher rate of calls at certain times of the week e.g. weekend nights);

- Public holidays (St. Patrick's Day, Halloween, New Year's Eve); and

- Other incidents which are outside the control of the ECAS provider, but still require an effective response are traffic related accidents and weather related incidents.

6.13 The specialist call-centre company charges the ECAS provider an hourly rate for each of the CSRs it rosters. Included in the hourly rate are the following main cost components:

- Basic pay, including bonus and employers PRSI;

- An allowance for "unavailable hours";

- Overheads associated with providing the ECAS service; and

- General overheads.

6.14 ComReg's preliminary view of the hourly rate is represented by Table 2 (overleaf). Much of the information used to determine the hourly rate is commercially sensitive. However, basic pay, including bonus and employers PRSI constitutes approximately 45% of the hourly rate.

Table 2: specialist call-centre company hourly rate cost categories

Cost component	Hourly rate
Basic salary – c. €20,000	€10.50[24]
Bonus – c. 10%	€1.05
Employers PRSI – 10.75%	€1.24
Unavailable hours	€12.79
(Training, absences, holidays, churn)	Commercially sensitive
Specific overheads *(rosters , call-centre coordinators)*	Commercially sensitive
Cost before general overhead	Commercially sensitive
General overhead	Commercially sensitive
Sub total	*Commercially sensitive*
Rate of return	Commercially sensitive
ComReg's preliminary view of a reasonable hourly rate	**€28.07**

6.15 This hourly rate was not reviewed in 2009/2010 as that review focused on the principle cost categories at that time (i.e. set-up costs). Furthermore, the hourly rate was part of a procurement exercise conducted by the ECAS provider in 2008/2009 when it sought tenders from specialist call-centre companies. However, when ComReg reviewed this hourly rate (as one of the components of the "in-life" costs) it found it to be unreasonable.

6.16 Accordingly, ComReg is of the preliminary view that an hourly rate of €28.07 should be applied from June 2011 to the maximum permitted CHF for the period 2012/2013. On a reasonable view, June 2011, was the approximate time at which a contract change between

[24] The hourly rate payable has been benchmarked against the Contact Centre Management Association ("CCMA Ireland") Benchmark Report, September 2011

ECAS provider and its specialist call-centre company could have been concluded. Therefore, ComReg's preliminary view is that the adjusted rate should be applied as the reasonable cost from June 2011, onwards.

Basic pay, including bonus and employers PRSI

6.17 CSRs are paid a standard industry salary[25] to which bonuses can be earned for achieving and maintaining quality of service. ComReg is of the preliminary view that this salary of c. €10 per hour, plus a performance related bonus, is reasonable.

An allowance for "unavailable hours"

6.18 In order to ensure that an adequate number of CSRs are present at all times, an allowance is made for unavailable hours. Unavailable hours arise due to:

- Training;
- Annual leave; and
- Breaks and absences.

6.19 Each of these is discussed below.

Training

6.20 Three types of training are provided to ECAS providers:

1. Approximately three weeks of induction training for new CSRs by the specialist call-centre company. This is primarily due to the unique nature of the role and the strict adherence to the required procedures – which may not be typical of retail type call-centres;

2. More formal training whereby a number of CSRs are allocated training days away from the PSAP (usually done by the specialist call-centre company); and

[25] The hourly rate payable has been benchmarked against the Contact Centre Management Association ("CCMA Ireland") Benchmark Report from September 2011.

3. Continuous on-the-job training, such as one-to-one coaching, monitoring calls and implementing new procedures (usually done by the ECAS provider).

Annual leave

6.21 CSRs are allowed standard annual leave.

Breaks and absence

6.22 Breaks can be considered as standard and non standard. Standard breaks generally relate to meal times. Non-standard breaks tend to relate to the need for CSRs to take time away from phones following a stressful call.

6.23 According to a recent IBEC report,[26] absences in call-centres are running at approximately 3.67%. Having reviewed the level of absence across the three PSAPs, ComReg is of the view that the current levels are within the normal activity of absenteeism and that staff absence management policies are in operation.

Specific Overheads associated with providing ECAS service

6.24 There are certain overheads which can be allocated to the ECAS service.

6.25 The specialist call-centre company recruits all CSRs. It also allocates staff to roster employees.

6.26 Once rostered, a "call-centre coordinator" in each of the PSAPs manages the day-to-day rostering and HR related activities of the CSRs. The call-centre coordinators duties are distinct from those provided by the ECAS management.

General overheads of the specialist call-centre company

6.27 The level of costs, directly or indirectly allocated, can affect the amount of general overheads remaining. The higher the level of costs directly or indirectly allocated, the lower the requirement for a general overheads allocation. From a review of the cost allocation included in the hourly rate, little overhead remains to be allocated.

6.28 ComReg considers that the general overheads of the specialist call-centre company include such items as senior management time, specialist risk insurance, in-house IT, the provision of payroll services, and an allocation to the annual audit fee. ComReg has considered this element of overhead in the suggested hourly rate for CSRs in paragraph 6.15.

[26] See: http://www.irishtimes.com/newspaper/ireland/2011/0825/1224302935370.html

Change in CSR numbers

6.29 Since the ECAS went live, there have been a number of changes to the ECAS staffing arrangements.

6.30 As the number of calls has fallen, there has been a decrease in the number of CSRs required to deliver the service. This in turn has resulted in a fall in the number of hours required by the ECAS provider. However, there is not a direct one-to-one relationship between the fall in call volumes and the fall in chargeable hours, as ECAS is required to maintain certain minimum levels of staffing in order to adhere to performance metrics under the CA. This is discussed further in paragraph 7.13.

6.31 In addition, a number of CSRs resigned in the initial stages of the current ECAS operation either to take up alternative employment or to further their education (and in some cases due to stressful nature of the work). Some, but not all, of these CSRs have been replaced. Approximately 40 new CSRs have been trained to replace those who have left. However, the ECAS provider has observed that the levels of staff attrition have now fallen significantly. This is likely to be partly due to the nature of the domestic economy and the lack of alternative employment.

Suggested hourly rate per CSR

6.32 ComReg is of the preliminary view that a reasonable hourly rate chargeable per PSAP CSR should be no more than €28.07 for inclusion in the CHF of 2012/2013. As mentioned previously, this hourly rate includes the wage costs of each CSR, such as the basic salary, a performance-related bonus, and employers PRSI. The hourly rate also includes other specific cost components such as training, holidays, CSR churn, absence and an allocation for general overheads. It is based on a 37.5 hour week. Overtime rates are not applied as CSRs can generally choose which shift they wish to work.

6.33 This hourly rate has been compared to and found to be consistent with market data, such as salary levels contained within the report of the CCMA.

Adherence to standards

6.34 ComReg has reviewed how the ECAS provider has determined the number of CSRs it requires to maintain the service and how the performance metrics have been applied.

6.35 The ECAS provider is consistently achieving (and at times surpassing) the minimum set of standards set out in the CA.

6.36 It appears reasonable to suggest that the ECAS provider could still comfortably achieve the minimum set of standards set out in the CA, with only a slight reduction in the number of CSR hours required. Such a reduction could have a slight impact on the CHF. However, ComReg is aware that the given the life-critical nature of the service and risk associated with possibility of either unanswered emergency calls (or too much delay in answering calls) the minimal gain in reducing the number of CSR hours required may be outweighed by the inherent risk. ComReg will therefore monitor the impact on the possible reduction

in required CSR hours with the ECAS provider in a controlled fashion over the coming months.

ComReg's preliminary view

6.37 The results of the reasonable cost review can be assessed in two parts:

1. Hourly rate paid to specialist call-centre company; and

2. Number of CSR hours required to maintain service.

Hourly rate paid to the specialist call-centre company

6.38 ComReg has reviewed the hourly rate currently being charged by the specialist call-centre company. An hourly rate of no more than €28.07 is reasonable. This hourly rate should be reflected in the CHF that is determined for 2012/2013.

Number of CSR hours required to meet the service levels

6.39 A slight reduction in the number of required CSR hours may be feasible, but it needs to be accomplished without affecting the adherence to the standards as set out in the CA and the overall objective of the ECAS.

6.40 However, a possible reduction in the number of required hours cannot be seen purely in a financial context so as to bring about a lower maximum permitted CHF. It is vital to ensure that no consumer is put at risk by a sudden reduction in CSR numbers, especially when the call arrival patterns are unpredictable. Therefore, ComReg suggests a prudent and measured approach, which will be continually monitored over the coming months.

Q.4 Do you agree or disagree with ComReg's preliminary view that €28.07 is a reasonable hourly rate payable to the specialist call-centre company? Please provide detailed reasoning and calculations for your views.

BT Pay Costs

6.41 The ECAS provider's own pay costs are approximately €✂ per annum.

6.42 The ECAS provider's own pay costs (i.e. other than the CSRs) can be categorised broadly as follows:

1. 100% dedicated to ECAS.
2. Engineering and technical support charged as required to ECAS.
3. Other support services charged as required to ECAS.

100% dedicated to ECAS

6.43 The staffing of the ECAS operation (all BT staff) is currently as follows:

- One Head of Operations.
- Six first line managers ("FLMs").
- Three support engineers.
- Two support/administration staff (part time).

6.44 This organisational chart has been revised by the ECAS provider since the Go Live date with the amalgamation and removal of a number of positions, as discussed in paragraph 6.7. The expected savings to the ECAS as a result of these changes are ✂ per annum.

Head of Operations

6.45 The Head of Operations has overall responsibility for the successful operation of ECAS and is the strategic apex for the entire business. Furthermore, the Head of Operations is responsible for developing the forecast volumes which are used in the resourcing model to determine the number of CSR hours required and for liaising with the specialist call-centre company in the creation of rosters. The Head of Operations also liaises with the various external stakeholders and suppliers, such as the emergency services and the third-party suppliers. This role is a crucial and strategic one for ECAS and has been expanded in recent months to absorb the collapsing of other managerial roles.

FLMs

6.46 There are six FLMs to cover the three sites. The FLM manages the day-to-day operational activities of the CSRs. Their roles include monitoring call quality, on the job training, and handling calls when required.

6.47 Although the FLMs do not cover the PSAPs 24 hours per day, their shifts are organised so that there is a presence in most PSAPS, or to provide cover across all three centres between approximately 6am and 12am. As call volumes tend to be lower between 12am and 6am, the ECAS provider considers that it is not necessary to have an FLM present. However, within each site a CSR is designated a "lead operator" and is trained to handle certain contingencies if required. This lead operator can also cover for the FLMs, when they are not present.

6.48 The roles of the FLMs are considered to be distinct from those of the call-centre coordinators supplied by the specialist call-centre company and not suitable for amalgamation. In summary, FLMs monitor call quality and the service level adherence to the quality of service parameters. Call-centre coordinators are responsible for maintaining rosters locally and dealing with human resource type issues as they arise. ComReg has reviewed the current number of FLMs and given that their role is managing the service performance, adherence to standards and quality mainly, the ratio of FLMs to CSRs appears reasonable **(✂)**. ComReg will continue to monitor this ratio to ensure that it is in line with best practice.

Support engineers

6.49 The three support engineers are involved in the day-to-day maintenance of the ECAS IT and telecommunications infrastructure across the three PSAPs and two data centres. While these three engineers are dedicated to the ECAS operation, their managerial function only allots time on a case-by-case basis.

6.50 Where more specialist engineering requirements are needed, these can be sourced from within the wider engineering team of the BT organisation. This is discussed further in paragraph 6.53. Given the nature of this work, support engineers are vital to the continuing delivery of the ECAS and given the geographical spread of the PSAPs, the required number of engineers to meet the workload appears reasonable. However, ComReg will continue to monitor the situation in its annual reviews of the CHF.

Administration/Support-staff

6.51 The support-staff is involved in the preparation of reports and general administration for the ECAS operation. They are also trained to handle calls if there is a particular need to do so. They also independently conduct quality monitoring of the emergency calls across the three PSAPs on a weekly basis. The role played by the administrators provides for another objective view of quality and ComReg is of the preliminary view that these roles are reasonable.

ComReg's preliminary view

6.52 The current organisational structure relating to the staff who are 100% dedicated to ECAS is appropriate for the delivery of the ECAS.

Q.5 Do you consider that the staff, which is 100% dedicated to ECAS, represents the appropriate organisational structure? Please provide detailed reasoning for your views.

Engineering and technical support charged as required to ECAS

6.53 Since the ECAS operation went live, the ECAS provider has made a number of changes to or has been planning changes to the ECAS network. Costs associated with these changes are allocated based on time spent on the ECAS.

6.54 Some of these changes have required specialist engineering skills from within the wider BT engineering team. Others have been completed by its dedicated engineering team. Where specialist engineers are required, they charge their time to ECAS on a case-by-case basis. While all changes are pre-approved by BT management in association with ECAS management, some changes can be considered reactive and others proactive. ComReg has observed that the level of engineering and technical support required has reduced over recent months — as the ECAS network has become more established and this is to be expected. ComReg will continue to monitor this activity and ensure that the necessary processes are maintained to track the time spent on the required tasks.

6.55 ComReg has reviewed the nature of the changes made and their associated costs and (subject to some immaterial amendments) considers them to be reasonable.

Other support functions charged as required to ECAS

6.56 The ECAS provider also records the costs of support functions for which it does not have a dedicated team. The support service includes, but is not limited to:

- Executive management (overall ownership of the ECAS operation drawing expertise from across the entire BT organisation);
- Finance (preparation of quarterly and annual financial statements and supplying financial data and reports to ComReg);
- Legal (reviewing contracts and correspondence);
- Regulatory (liaising with ComReg and other stakeholders); and
- Procurement (maintenance of existing and procurement of any new third party contracts).

6.57 ComReg has reviewed the nature of the support being provided and their associated costs and (subject to some immaterial amendments) considers them to be reasonable.

6.58 Almost all pay costs are allocated to the ECAS either directly (CSR / 100% dedicated to ECAS) or indirectly using a cost driver (engineering support / other support).

6.59 However, there remain a few pay costs for which a cost driver is not applied. The principal pay cost associated with this is the monitoring of the ECAS network. Other pay costs were incurred for projects which commenced at the set-up phase and which were completed during the in-life phase. These pay costs are charged to the ECAS using a percentage mark-up, based on the cost of staff directly or indirectly charged to the ECAS.

Non-pay costs

6.60 The ECAS provider's non-pay costs are approximately €✂ per annum. Its non-pay costs primarily consist of:

- Premises.
- Backhaul.
- Network maintenance.
- Other non-pay costs.

6.61 A review of this element of non-pay costs has resulted in certain savings. Some savings are achieved by disallowing certain costs. Others are from BT's own re-negotiating of improved terms on contracts.

Premises

6.62 The ECAS provider leases premises from which it operates two of its PSAPs. It utilises space within the specialist call-centre company's premises for its third PSAPs. The associated costs of this centre are contained within the hourly rate it pays the specialist call-centre company.

6.63 In addition to the leasing of the premises, the ECAS provider also pays the associated local authority rates and electricity charges. One PSAP also hosts a data centre, thereby requiring higher electricity charges for the running of servers and air-conditioning units.

6.64 There are also facilities management charges for the two PSAPs leased by the ECAS. Having reviewed these charges, ComReg does not believe that all of these costs are reasonable.

Backhaul

6.65 Due to the requirement to have resilience within the ECAS backhaul, it is supplied by both BT and third-party suppliers. BT has also provided space for a second ECAS data centre (in its main facility). The costs of backhaul and the data centre have been found to be

reasonable when compared to prevailing market rates. BT negotiated improved rates for some of its third-party backhaul.

Network maintenance

6.66 The ECAS provider has a number of support contracts in place, primarily of an IT/technical nature. The principal support contract is with the supplier of the platform underpinning the ECAS network which is a critical component to the successful delivery of the ECAS. The ECAS provider has further support contracts in place with ancillary IT companies, which it considers are necessary for the successful running of the ECAS operation. Many of the support contracts which were being put in place at the set-up stage were also reviewed by ComReg 2009/2010 and found to be reasonable. No amendments have been made to these contracts in the intervening period.

Other

6.67 Other costs include an allocation of accommodation, computing and telecommunications for "engineer support" and "other support" associated with the ECAS and the cost of the annual audit. These costs are allocated on the basis of cost drivers or are directly attributable. ComReg has reviewed the nature of these costs and (subject to some immaterial amendments) considers them to be reasonable.

Depreciation / Amortisation

6.68 Another significant cost is the annual depreciation and amortisation charge. The estimated annual cost of the depreciation and amortisation charge is €2.2m. This is based on an initial investment of approximately €11m, which is being written-off over the term of the CA (i.e. five years).

6.69 During the set-up phase, the ECAS provider invested in fixed assets in deploying its ECAS network. This fixed asset investment consisted of both time spent by the ECAS provider's personnel (i.e. technical, management, procurement) in designing and building the new operation and its purchase of the required fixed assets. The assets it purchased included the IT and telecommunications infrastructure required to operate ECAS and the costs of fitting out the three PSAPs. As discussed in paragraph 6.62, the ECAS provider does not own the premises from which it runs the ECAS PSAPs; these are leased from third parties.

6.70 ComReg reviewed the fixed asset investment in 2010 and determined an appropriate and reasonable level of fixed asset investment necessary for the operation of ECAS.

6.71 Some of the fixed assets may have asset lives greater than five years and under the terms of the CA they are to be written off in a straight-line method over its duration.

6.72 However, if a longer average asset life were to be applied, the resulting annual depreciation charge would be lower: as a result, the maximum permitted CHF would also be lower.

6.73 However, this does not reflect the fact that certain assets may need to be replaced over the term of the CA (i.e. switches, servers) which would have an impact on this figure. As

required under the CA, any new assets purchased for ECAS would also be written off over the remaining term of the CA. As also required under the CA, the ECAS provider must inform ComReg if it envisages spending in excess of €100k on fixed assets in any twelve month period.

6.74 As the assets purchased for ECAS are inherently linked to its operation, it is likely that the residual value of any assets would be nil. At the end of the CA, should an alternative ECAS provider be awarded a new CA, it is unlikely that many of the assets could be used in any new ECAS operation, unless they are located at the existing PSAPs. It is also unlikely that the assets could be successfully reused in the wider BT telecommunications network. Only the Minister can hold a public tender process to award any subsequent ECAS contracts. Therefore, decisions on how to treat such assets can only be made by the parties to the CA. Furthermore, a decision to change the depreciation policy is governed by the CA: it is not a matter for ComReg to decide.

6.75 During the course of its review, ComReg observed an error in the recording of fixed assets whereby assets which were disallowed in 2010 had not been removed from the fixed asset register. This error has been explained to ComReg as being due to changes in personnel and it has since been rectified. It had resulted in the annual depreciation rate being overstated and this has since been corrected.

Guaranteed rate of return

6.76 The cost of capital enables the ECAS provider to recover any interest costs associated with finance agreements that it may have entered into in relation to its ECAS operation. This return includes any interest expense that might be incurred on this investment through the use of some form of debt or equity finance.

6.77 Under the CA, the ECAS provider is allowed a guaranteed rate of return on its cost of capital. This has been set at 6.63% on the gross book value of the fixed asset investment for the term of the CA. As the guaranteed rate of return is part of the CA, it is not within the scope of the review that ComReg must conduct under the Act of 2007.

6.78 Based on a fixed asset investment of approximately €11m, the cost of capital is approximately €750k per annum to the end of the CA.

6.79 As part of this review, ComReg disallowed the lease interest expense associated with the fit out of the Navan PSAP and the purchase of certain IT infrastructure. ComReg also disallowed the return on the fixed asset investment, which was incorrectly included in the fixed asset register and subsequently removed.

Cost of capital rebate

6.80 When the ECAS provider won the tender to manage the ECAS operation, it had based its proposal on there being approximately 4.8m emergency calls per annum. The maximum permitted CHF of €2.23 was set by the Minister in order to allow the ECAS provider to recover the cost of operating the ECAS for this volume of calls.

6.81 There has been a significant fall in call volumes during the intervening period. Therefore, the per-unit cost of running ECAS had been greater than the initial CHF of €2.23, and as a result the ECAS provider under-recovered its costs during the initial period of the CA.

This under-recovery has primarily been offset by the increase in the maximum permitted CHF to €3.35.

6.82 However, as the ECAS provider under-recovered its costs in 2010/2011 — as a result of the initial CHF (being set too low) the ECAS provider had to self-finance this under-recovery. The cost of capital rebate is the estimated cost of the interest of this self-financing (i.e. the cost the ECAS provider had to pay (or interest earnings foregone) as a result of this self-financing) and is spread over the remaining period of the CA.

6.83 The cost of capital rebate was assessed in 2009/2010 by ComReg and considered to be reasonable. It is approximately **€✂k** per annum, but on a reducing scale over the life of the CA.

Sinking fund

6.84 Under the CA, the ECAS provider is required to transfer a €250k per annum into an escrow account and this payment is included in the maximum permitted CHF. The escrow account is held and managed by the DCENR and is not under the control of ComReg.

Prior period under-recovery

6.85 As previously noted, the ECAS provider developed and designed its ECAS operation to handle approximately 4.8m calls per annum. As the ECAS provider is entitled to recover the reasonable costs of running the ECAS, the CHF was set in order to allow this recovery (on the basis of 4.8m number of calls multiplied by the CHF). However, after the system went live, it became apparent that the number of calls being handled was significantly lower than that originally envisaged and that the ECAS provider would not recover its costs. As a result, the ECAS provider did not recover all of its reasonable costs incurred in the initial period. Therefore, this under-recovery has to be recovered through the CHF over the remaining life of the CA and the CHF was adjusted to €3.35 to reflect this. This was assessed as part of the review in 2010.

6.86 The prior period under-recovery to 30 June 2011 was **€✂m**. The cause of this is summarised in Table 3 (overleaf).

Table 3: Prior period under-recovery

Forecast income and Expenditure to 12 February 2012	**€**
Revenues based on €2.23 / €3.35	12,560,000
Costs	
Pay costs	✂
Non-pay costs	✂
Depreciation	3,600,000
Sinking fund	400,000
Guaranteed rate of return	1,200,000
Cost of capital rebate	✂
Total costs	✂
Prior period under-recovery	✂

6.87 This under-recovery is reflected in the CHF of €3.35. See Table 4 (overleaf).

Table 4: projected income and expenditure to end of the CA

	2012/13	2013/14	2014/15	2015 – five months	Total
Volumes	2.62m	2.54m	2.46m	990,000	
@ €3.35	8,770,000	8,500,000	8,250,000	3,300,000	28,800,000
Costs					
Pay costs	✂	✂	✂	✂	✂
Non-pay costs	✂	✂	✂	✂	✂
Depreciation	2,200,000	2,200,000	2,200,000	920,000	7,520,000
Sinking fund	250,000	250,000	250,000	100,000	850,000
GRR	750,000	750,000	750,000	310,000	2,560,000
Rebate	✂	✂	✂	✂	✂
Total costs	✂	✂	✂	✂	✂
Over- recovery	✂	✂	✂	✂	✂

6.88 Over the life of the CA the amount of the prior period under-recovery **(€✂m)** is reflected in the CHF and reduces to nil. This under-recovery is also consistent with the estimated under-recovery included in the revised CHF of €3.35 for 2010/2011. It should be noted that the costs included in the 2010 consultants report (previously shared with operators) were budgetary only. The CHF for 2012/2013 is based on forecast costs which use actual costs from Go Live as a starting point.

6.89 ComReg will continue to review any over or under-recovery spanning the duration of the CA and this will be adjusted through the amount to be recovered through the CHF.

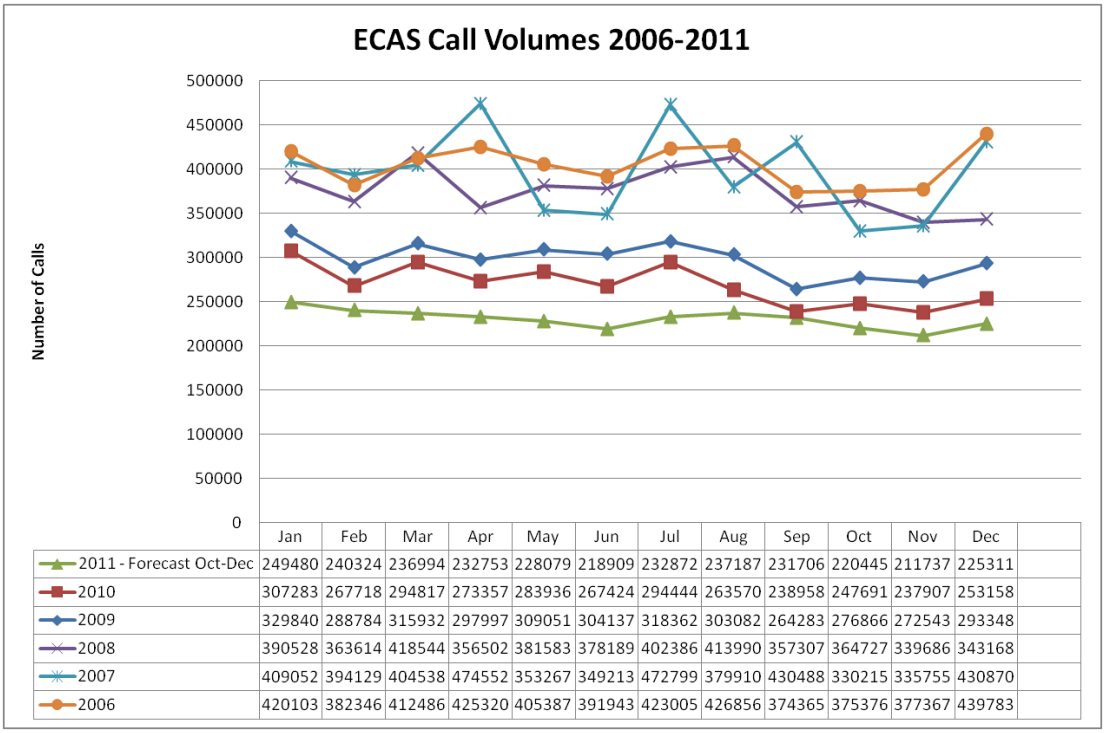
6.90 Any under or over recovery would then be spread over the remaining period of the CA and allocated based on the expected number of calls in each review period.

7 Volumes

Declining call volumes

7.1 When BT entered the CA with the Minister, the annualised tendered volume of emergency calls was 4.8million. Since that time, there was been a marked and steady decline in the volume of emergency calls and this is illustrated in Figure 7 below: (note that the period October 2011 – December 2011 is an estimated value):

Figure 7: ECAS monthly call volumes 2006 - 2011



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2011 - Forecast Oct-Dec	249480	240324	236994	232753	228079	218909	232872	237187	231706	220445	211737	225311
2010	307283	267718	294817	273357	283936	267424	294444	263570	238958	247691	237907	253158
2009	329840	288784	315932	297997	309051	304137	318362	303082	264283	276866	272543	293348
2008	390528	363614	418544	356502	381583	378189	402386	413990	357307	364727	339686	343168
2007	409052	394129	404538	474552	353267	349213	472799	379910	430488	330215	335755	430870
2006	420103	382346	412486	425320	405387	391943	423005	426856	374365	375376	377367	439783

7.2 The decline in call volumes has had, and is likely to continue to have, a material impact on the CHF. This is because the associated reasonable costs incurred by the ECAS provider must be spread over a narrower spread of calls, which results in a higher unit cost. Whilst some of the operating costs of the service are flexible and demand responsive (i.e. the required number of PSAPs CSRs) many of the other costs are essentially fixed costs, and are not affected by the call volume, but were affected by the specification of the CA.

7.3 ComReg has previously indicated publicly in an Information Notice,[27] that there has been a decline in call volumes since 2009. Table 5 below (which is taken from the Information Notice) shows the differences in monthly call volumes between January and June 2010 and 2011.

[27] See ComReg Document No. 11/65.

Table 5: Call volumes January – June 2011 *v* January to June 2010

2010		2011		Difference	*% Difference*
Jan	307,283	**Jan**	249,480	(57,803)	***-18.8%***
Feb	267,718	**Feb**	240,324	(27,394)	***-10.2%***
Mar	294,817	**Mar**	236,994	(57,823)	***-19.6%***
Apr	273,357	**Apr**	232,753	(40,604)	***-14.9%***
May	283,936	**May**	228,079	(55,857)	***-19.7%***
Jun	267,424	**Jun**	218,909	(48,515)	***-18.1%***
Total	**1,694,535**	**Total**	**1,406,539**	**(287,996)**	***-17.0%***

7.4 Part of the observed decline can be attributed to the general decline in the Irish economy resulting in increased emigration.

7.5 However, the main reason for the decline relates to a reduction in false or error calls (also known as "ghost calls") on fixed line networks. Since 2009 Eircom (who was the ECAS provider prior to the ECAS provider being awarded the CA) has undertaken a significant remediation of "ghost calls" on its own network.[28] This has resulted in a significant and sustained reduction in emergency call volumes since then, although the trend in the reduction of volumes pre-dates 2009.

7.6 However, in recent months the rate of decline appears to have started to decelerate, with a more dramatic slow-down observable in September 2011.

7.7 There may be a partial offset in this decline with a gradual increase in population as highlighted by the Central Statistics Office.[29] For every 1% increase in the population, it is assumed that the ECAS call volumes will also increase by 1%. The projected increase in population is a combination of a net increase of births over deaths as well as net immigration. Where there is a net increase of births over deaths, it is assumed that a higher level of call volumes will arise due to parents/adults having a need of a particular emergency service. Where there is net immigration, the arriving immigrants are likely to be over 18 years of age and many within the 18 to 35 age group. Call volumes for this particular group has tended to be higher than for most other age groups.

[28] These calls are generated by a fault in the telephone line itself or with the customer's equipment.

[29] See: http://www.cso.ie/releasespublications/documents/population/current/poppro.pdf

ComReg's preliminary view

7.8 It is likely that there will be further declines in fixed line call volumes, but at a reduced rate over the remainder of the duration of the CA.

7.9 Based on ComReg's review of available data, there is likely to be a decline in call volumes in 2012 of approximately 3.5% (net) for the coming year which is made up of:

- A blended average 5.0% decline due to Eircom's ongoing remediation plans and other factors.

- An average 1.5% increase due to population increases.

7.10 Given the above, ComReg believes that the volume of emergency calls for 2012/2013 is likely to be approximately 2.62m (3.5% decline on the 2011/2012 forecast of 2.71m calls).

Q.6 Do you agree or disagree with ComReg's preliminary view on call volume forecasts? Please provide detailed reasoning for your views. Please outline if you are aware of any network remediation programme or any such initiatives in the short to medium term (1 to 4 years) which may affect the forecasted volume of emergency calls.

Cost volume relationship

7.11 The CHF is calculated by dividing the reasonable costs incurred by the annual number of emergency calls.

7.12 When assessing the forecast annual costs, ComReg has had regard to the costs incurred to date, and what it considers to be reasonable or unreasonable. ComReg has reviewed the assumptions made by the ECAS provider on how it considers future costs will evolve. Where necessary, ComReg has made amendments to certain items not considered to be reasonable.

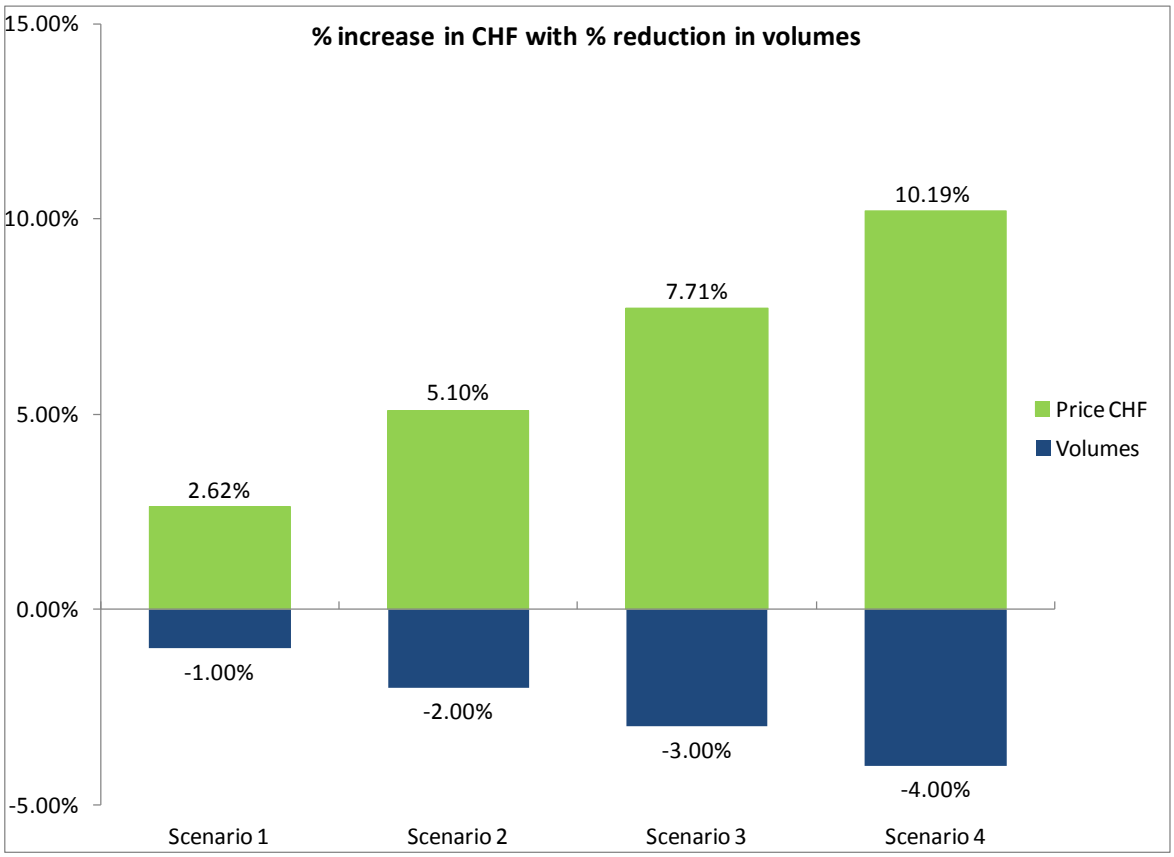
7.13 However, it should be noted that a 1% decline in call volumes is likely to result in a greater percentage increase in the CHF. This is mainly due to the fact that there is a high level of fixed costs associated with the operation of ECAS. Table 6 below, illustrates this.

Table 6: Sensitivity analysis of changing call volumes on the CHF[30]

Scenario	Base CHF	% change in call volumes	Cumulative change	% change in CHF	Revised CHF
Base	€3.35	-3.5%	-3.5%	-	-
Scenario 1	€3.35	-1.0%	-4.5%	+2.62%	€3.44
Scenario 2	€3.35	-2.0%	-5.5%	+5.10%	€3.53
Scenario 3	€3.35	-3.0%	-6.5%	+7.71%	€3.63
Scenario 4	€3.35	-4.0%	-7.5%	+10.19%	€3.73

7.14 This is represented in Figure 8, as follows:

Figure 8: Cost volume relationship



[30] Note that the change in the incremental cost associated with CSR hours is considered immaterial and is not reflected above. This graph is for illustrative purposes only.

8 International benchmarks

8.1 Where possible, ComReg has attempted to undertake benchmarking exercises with other ECAS services in other jurisdictions. However, it should be noted that suitable information in this regard is limited. This problem is compounded by the fact that many ECAS operations are centrally funded (i.e. through state funding) and not through a CHF as is the case in Ireland and therefore direct comparisons are not possible.

8.2 Appendix D contains a list of comparisons for the EU which ComReg has compiled from various documents and sources such as the Expert Group on Emergency Access ("EGEA") and the European Emergency Number Association ("EENA"). One of the main features of the data is that within the European Union, only Ireland and the UK fund their ECAS operations through a CHF which is applied to and paid by each applicable authorised undertaking. Although the UK's average number of calls per capita (0.53) is relatively similar to Ireland (0.60[31]) the charging structure for the CHF is different. In the UK, there is both a transit charge and a call handling charge, which varies depending on whether the emergency call is made from a fixed or mobile network.[32] In Ireland, there is one single CHF — irrespective of whether it is made on a fixed or mobile network.

8.3 In the UK, BT as one of the ECAS providers combines its operations in other commercial business such as directory enquiries with its 999 service, which allows for its cost recovery to be spread over a wider base. In Ireland, the ECAS is a standalone operation and it only handles emergency calls. There are also variations in specific performance metrics required of the CSRs which prevent direct benchmarking.

8.4 Furthermore, the UK population is approximately 60m compared to approximately 4.5m for Ireland. In the UK, there are six PSAPs, whereas in Ireland there are three.

8.5 Therefore, given the differences in population and economies of scale that can be achieved, the number of PSAPs in operation in both countries, and the variations in the charging mechanism, performance metrics and cost structures, ComReg is of the view that a direct comparison between Ireland and the UK is not suitable for benchmarking.

ComReg's preliminary view

8.6 The use of international benchmarks is not appropriate for reviewing the CHF at this time.

Q.7 Do you agree or disagree with ComReg's preliminary view that such international benchmarks in paragraph 8.6 above where the CHF information cannot be directly comparable is not applicable? If not, please state your detailed reasoning including any state which jurisdictions, if any, would allow for a direct comparison for benchmarking purposes.

[31] See Appendix D for EU comparisons.

[32] See:https://www.btwholesale.com/pages/cmsjsps/service_and_support/service_support_hub/online_pricing_hub/cpl_hub/cpl_pricing_hub/cpl_browsable_sections/cpl_browsable_sectionb_3.jsp

9 Regulatory impact assessment ("RIA")

9.1 ComReg is not conducting RIA for the purposes of this review or the CHF determination. This is because ComReg is not imposing any legal obligations on any electronic communications network and service providers. The obligation to pay the CHF is imposed by the Act of 2007: ComReg's function is to review the CHF and to determine the amount of the CHF annually, but it does not thereby impose any legal obligations.

10 Treatment of confidential information

10.1 ComReg's policy with respect to the treatment of confidential or commercially sensitive information is set out in ComReg Document No. 05/24.

10.2 In general, ComReg has a legal duty to maintain the confidentiality of information that it receives from all stakeholders when such information is designated by them as confidential or commercially sensitive. However, at the same time the duty to protect the confidentiality/commercial sensitivity of information needs to be carefully balanced with the following:

(i) the need for transparency and the need to allow ComReg to impart meaningful and, as far as practicable, comprehensive information to all stakeholders and the wider public;

(ii) ComReg's need to safeguard the stakeholder's right to reply, in accordance with fair procedures, and

(iii) ComReg's need to give adequate and intelligible reasons for its views and ultimately, the decisions it makes.

10.3 ComReg's views and its decisions will be informed by its stakeholders. In many cases, ComReg will be able to attribute stakeholder's views and data to them and to reflect those views in its published documents. It may be possible to simply redact certain portions of information, or the identity of the stakeholder, in order to protect confidentiality or commercial sensitivity while, at the same time, ensuring transparent information and debate.

10.4 Stakeholders should carefully consider what information should properly be designated by them as being confidential/commercially sensitive.

10.5 Stakeholders may wish to submit both confidential and non-confidential versions of responses. In the case of responses that are marked as confidential/commercially sensitive, ComReg would encourage stakeholders to explain why certain information is considered confidential, or commercially sensitive. ComReg would also encourage stakeholders to properly distinguish between information that they consider confidential, and information that they consider to be commercially sensitive.

10.6 If a stakeholder submits information and expresses the view that it is confidential, or commercially sensitive, ComReg may require the stakeholder to provide a detailed justification for this view. In particular, ComReg may require such justification where a stakeholder asserts "blanket confidentiality" over the entirety of a submission.

10.7 In contrast to the position provided for by the secondary legislation under which it regulates other aspects of electronic communications, ComReg does not have the statutory power or discretion under the Act of 2007, to disclose confidential information in the course of this review and consultation. For the purposes of this review, ComReg has for example obtained information from the ECAS provider that is largely of a very commercially sensitive nature. ComReg must strictly maintain the confidentiality of this commercially sensitive information. At the same time, ComReg has sought to ensure that

this consultation imparts sufficient information for stakeholders to understand it and to respond to it.

Q.8 Please provide any particular comments in relation to the type of information you consider likely to be confidential or commercially sensitive.

11 Submitting comments

The consultation period will run from 2 November 2011 to 30 November 2011, during which ComReg welcomes written comments. It is requested that comments be cross-referenced to the relevant question numbers from this document.

Having analysed and considered the comments received, ComReg will publish a response to consultation and decision in December 2011.

In order to promote further openness and transparency, ComReg will publish all respondent's submissions to this consultation. However, ComReg must strictly maintain the confidentiality of any information provided to it in confidence. Electronic submissions must be submitted in an unprotected format so that they can be appended into the ComReg submissions document for publishing electronically.

Appendix A –Statutory basis

Section 58 (A) – 58 (H) of the Communications Regulation Act 2002 (as inserted by section 16 of the Act of 2007 provides generally for the establishment of the ECAS and associated matters. Section 58 (D) of the Act of 2007 obliges and empowers ComReg to review and determine the maximum permitted CHF on an annual basis.

Appendix B – Consultation questions

Appendix C – ECAS quality of service parameters

Parameter	Definition	Threshold & measurement frequency	Definition
ECAS availability	Availability = U/(U+D) U= Uptime, the total time when the ECAS service answers Emergency Calls presented to the ECAS Switches and routes the call to the appropriate Emergency Service centres. D= Downtime, which shall include loss of service for all reasons other than Force Majeure Events	99.999% on a 12 month rolling period Monthly	Availability = U/D where: U is total time when the ECAS service answers Emergency Calls presented to the ECAS switches and routes the call to the appropriate Emergency Service. D = Downtime, which shall include loss of service for all reasons other than Force Majeure events.
Average speed of answer	The average time period between an Emergency Call being presented to the ECAS switch and the call being answered by an Operator	1.3 sec One Day Hourly & daily	The average time period between an Emergency Call being presented to the ECAs switch and the call being answered by an Operator
PAC 5	The percentage of calls answered within 5 seconds	97.5% One Day Hourly & daily	The percentage of calls answered within 5 seconds
Accessibility Index (Hit rate)	Percentage of quarter hours where 85% of calls are answered within 5 seconds. Ignoring calls abandoned within 5 seconds	85% one day Quarter hours & daily	Percentage of quarter hours where 85% of calls are answered within 5 seconds.
Customer or Emergency Service complaints	Customer or Emergency Service Complaints for which ECAS is wholly or partially responsible	2 per month or 1 for every 200,000 calls Monthly	Customer or Emergency Service complaints for which ECAS is wholly or partially responsible.
Standards certification	a) Information security management ISO 17799 and ISO 27001 b) Business continuity BS 25999-1 and BS 25999-2 (when issued) c) Building standard d) ISO 9001:2000	Annual Certificate Inspection Annually	a) Information security management ISO 7799 and ISO 27001: b) Business continuity BS 25999-1 and BS 25999-2 (when issued) c) Buildings standard d) ISO9001:2000
Average call handling time	The average length of time taken from when a call is answered by the Operator until Monitoring ceases	36 seconds One Day Hourly & daily	The average length of time taken from when a call is answered by the Operator until monitoring ceases.
Average call routing time	The average length of time taken from when a call is answered by the Operator until a call to the Emergency Services is initiated. Abandoned calls are omitted.	Less than 15 seconds for 90% of routed calls. One Day Hourly & daily	The average length of time taken when a call is answered by the Operator until a call to the Emergency Service is initiated.
Average call abandon rate	The percentage of total calls presented to the ECAS switch that terminate prior to answer by the Operator for whatever reason.	< 12% One Day Hourly & daily	The percentage of total calls presented to the ECAS switch that terminate prior to answer by the Operator for whatever reason.
Call handling accuracy	Percentage of calls handled correctly according to the call handling process in five areas:- • call opening • process • call closure • call control behaviours • compliance	99% Monthly Random sample of 50 calls per ECAS Operator Centre per month	Percentage of calls handled correctly in line with the call handling process in five areas: Call Opening, process, call closure, call control behaviours, compliance.

Appendix D – EU comparisons

International Comparators of 112 systems in Europe (EU27)

Country	Population	Annualised Call Volume	Volume calls/capita	# of PSAP's	Cost Structure
Hungary	9,900,000	19,500,000	1.97	n/a	Member State
Portugal	10,700,000	18,200,000	1.70	2	Member State
Estonia	1,300,000	2,000,000	1.54	4	Member State
Lithuania	3,560,000	5,400,000	1.52	1 + each Police district	Member State
Romania	22,300,000	28,502,668	1.28	42	Member State
Spain	44,500,000	55,600,000	1.25	19	Member State
Luxembourg	491,775	475,000	0.97	1	Member State
France	62,100,000	45,680,000	0.74	96 (1 per District)	Member State
Malta	405,000	271,200	0.67	1	Member State
Italy	58,100,000	38,000,000	0.65	n/a	Member State
Ireland	4,581,000	2,770,000	0.60	3	Industry
Bulgaria	7,204,000	4,300,000	0.60	6	Member State
Finland	5,250,000	3,000,000	0.57	15	Member State
Austria	8,200,000	4,540,000	0.55	96	Member State
UK	61,000,000	32,300,000	0.53	6	Industry
Germany	82,000,000	41,200,000	0.50	n/a	Member State
Latvia	2,231,000	993,172	0.45	26	Member State
Sweden	9,000,000	3,600,000	0.40	18	Member State
Holland	16,800,000	5,850,000	0.35	24	Member State
Czech Rep	10,200,000	3,089,753	0.30	14	Member State
Slovakia	5,500,000	1,348,076	0.25	n/a	Member State
Poland	38,500,000	6,850,000	0.18	n/a	Member State
Cyprus	1,100,000	180,000	0.16	n/a	Member State
Denmark	5,400,000	n/a	n/a	17	Member State
Belgium	10,600,000	n/a	n/a	11	Member State
Slovenia	2,000,000	n/a	n/a	13	Member State
Greece	11,200,000	2,200,000	n/a	n/a	Member State
Totals/Average	494,122,775	325,849,869	0.66		

Source: ComReg