



Report for ComReg

Review of maximum permitted emergency call handling fee for 2022/2023



26 October 2021

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1 Introduction

In Ireland, the emergency services are called by dialling 999 or 112, and these calls are initially received by the Emergency Call Answering Service (ECAS). Emergency calls are currently free of charge to the caller on all networks. The ECAS is funded entirely through the Call Handling Fee (CHF).

The current CHF is EUR2.83 per call as determined by the Commission for Communications Regulation (ComReg) in January 2021, pursuant to Section 58D (1) of the Communications Regulation Act 2002 (as amended). The contract with the ECAS operator, BT Communications Ireland Limited (BT), is approaching its annual review point which triggers an assessment of the maximum permitted CHF that the ECAS operator can charge for handling emergency calls.

ComReg has selected Analysys Mason to provide assistance in relation the CHF review. This report sets out the findings of our review.

- Chapter 2 sets out our cost review
- Chapter 3 sets out our review of call volumes
- Chapter 4 sets out our calculation of the CHF
- Chapter 5 sets out our assessment of the potential impact of the transition from copper-based services to fibre-based services.

Items in this report marked with [X] are redacted for publication due to confidentiality requirements.

2 Cost review

The cost review provides an assessment of whether or not the costs borne by BT in operating ECAS since 1 April 2020 are reasonable and that none could be considered unnecessary, avoidable or excessive.

The main cost components of the ECAS are operating costs, depreciation and financial costs as shown in Figure 2.1. Total costs are presented as follows:

- ‘Bid Total’ represents the total projected costs at the time the ECAS contract was awarded to BT.
- ‘Contract Total (2020)’ represents the total costs projected by BT during the 2020 CHF review.
- ‘Contract Total (2021)’ represents the total costs projected by BT during the current CHF review.

Figure 2.1: Total costs [Source: BT, Analysys Mason, 2021]

[X]

As of 7 October 2021, the total projected costs for the full ECAS contract period are estimated at EUR[X], a reduction of [X]% compared to 2020, the period under review. For reference only, the total projected cost represents a net cost increase of [X]% compared to the Bid Total. Changes in cost between the Bid Total and Contract Total (2021) are outside the scope of this review.

The following sections present an assessment of the changes within each of the three cost categories: operating costs, depreciation and financial costs.

2.1 Operating costs

The main components of ECAS operating costs are shown in Figure 2.2.

Figure 2.2: Operating costs [Source: BT, Analysys Mason, 2021]

[X]

As of October 2021, the total projected operating costs for the full ECAS contract period are estimated at EUR[X], a reduction of [X]% compared to 2020, the period under review. For reference only, the total projected cost represents a net cost increase of [X]% compared to the Bid Total.

The main causes of change in operating costs for the period under review are described below.

Staff costs and call centre staff costs

Since the previous review, total staff costs have decreased by approximately EUR[~~3~~] over the contract period. BT has indicated that this is primarily due to its previous projections for staff costs including estimates for future pay increases that were subsequently not awarded.

Since the previous review, total costs for call-centre staff have increased by approximately EUR[~~3~~]. This is primarily due to the inclusion of an additional first line manager to help manage higher staff numbers due to increased call volumes.

Network services

Since the previous review, network services costs have increased by approximately EUR[~~3~~] over the contract period. This is driven primarily by updated costs associated with the following:

- dual running of the current ECAS and the prior ECAS
- an upgrade of a Navan circuit¹ from 1Gbit/s to 10Gbit/s
- an adjustment to account for potential pricing variation.

We understand that dual running costs are subject to separate discussion and clarifications. Based on analysis and discussions, the circuit upgrade and pricing adjustment costs appear reasonable.

Other

Changes in the remaining cost categories have a negligible impact on the CHF.

2.2 Depreciation

The main components of ECAS depreciation costs are shown in Figure 2.3.

Figure 2.3: Depreciation [Source: BT, Analysys Mason, 2021]

[~~3~~]

As of October 2021, the total projected depreciation costs for the full ECAS contract period are estimated at EUR[~~3~~], an increase of [~~3~~] % compared to 2020, the period under review. For reference only, the total projected cost represents a net cost increase of [~~3~~] % compared to the Bid Total.

The main causes of change to the depreciation costs for the period under review are described below.

¹ Navan is the location of a key network node and call answering facility for ECAS.

Set-up costs

Since the previous review, set-up costs have increased by approximately EUR[X] over the contract period. BT has indicated that two-thirds of this additional cost is due the following ECAS enhancements that have been carried out under change control and approved by the Department of the Environment, Climate and Communications (DECC) during 2021:

- Cyberattack recovery solution
- Unified communications upgrade.

The costs contributing to the remainder of the EUR[X] are:

- air conditioning replacement – Navan
- ventilation and air conditioning for a new space – Navan
- video conferencing equipment.

While these costs are allowed for in the current ECAS CHF model, and have a negligible impact on the new CHF, we understand that a contract change control mechanism to authorise these additional costs is currently in process.

Other

Refresh costs are costs put in place to allow for replacement of certain network items during the lifetime of the ECAS contract. There was no change in these costs.

2.3 Financial costs

The main components of ECAS financial costs are shown in Figure 2.4.

Figure 2.4: Financial costs [Source: BT, Analysys Mason, 2021]

[X]

As of October 2021, the total projected operating costs for the full ECAS contract period are estimated at EUR[X], a reduction of [X]% compared to 2020, the period under review. For reference only, the total projected cost represents a net cost decrease of [X]% compared to the Bid Total.

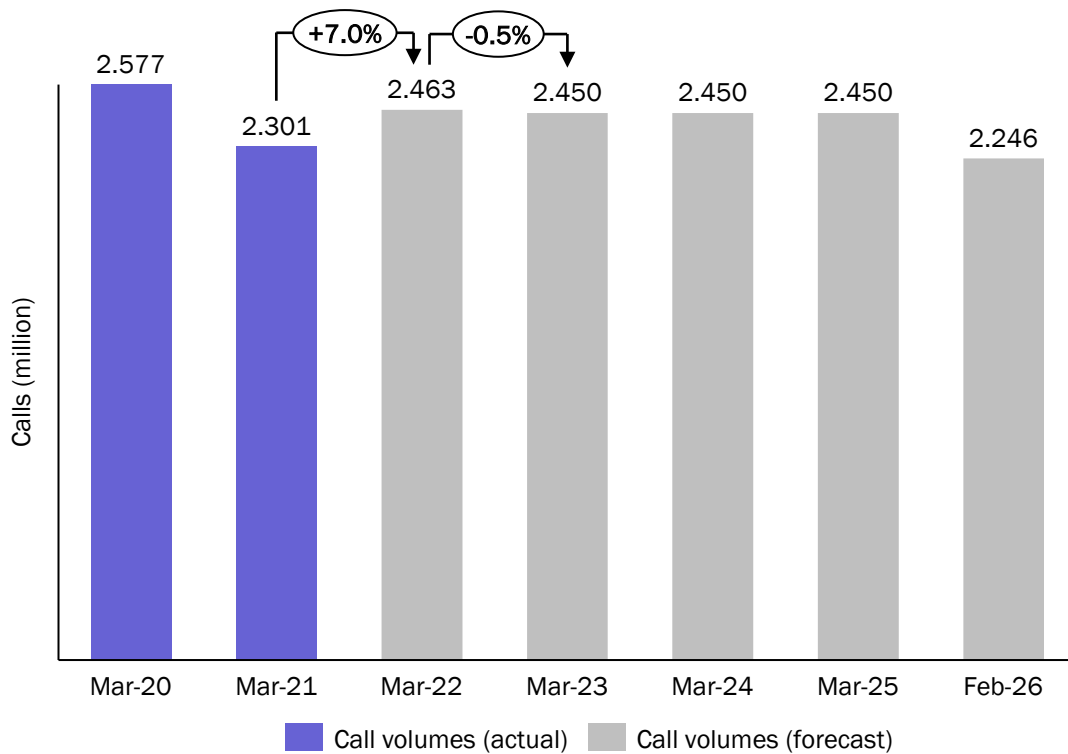
Both the sinking fund cost and guaranteed rate of return are fixed for the duration of the contract period. The small change described above is the result of the requirement to select a CHF rounded to the nearest cent to provide the necessary guaranteed rate of return.

3 Call volumes

3.1 Call volume forecast

The call volume for the contract to date and the forecast for the remaining contract period is shown in Figure 3.1 below. Note that the period ending March 2020 (Year 1) was a 13-month period, while the period ending February 2026 (Year 7) is an 11-month period, which contributes to volumes that are respectively higher and lower than average.

Figure 3.1: Call volume forecast [Source: BT, Analysys Mason, 2021]



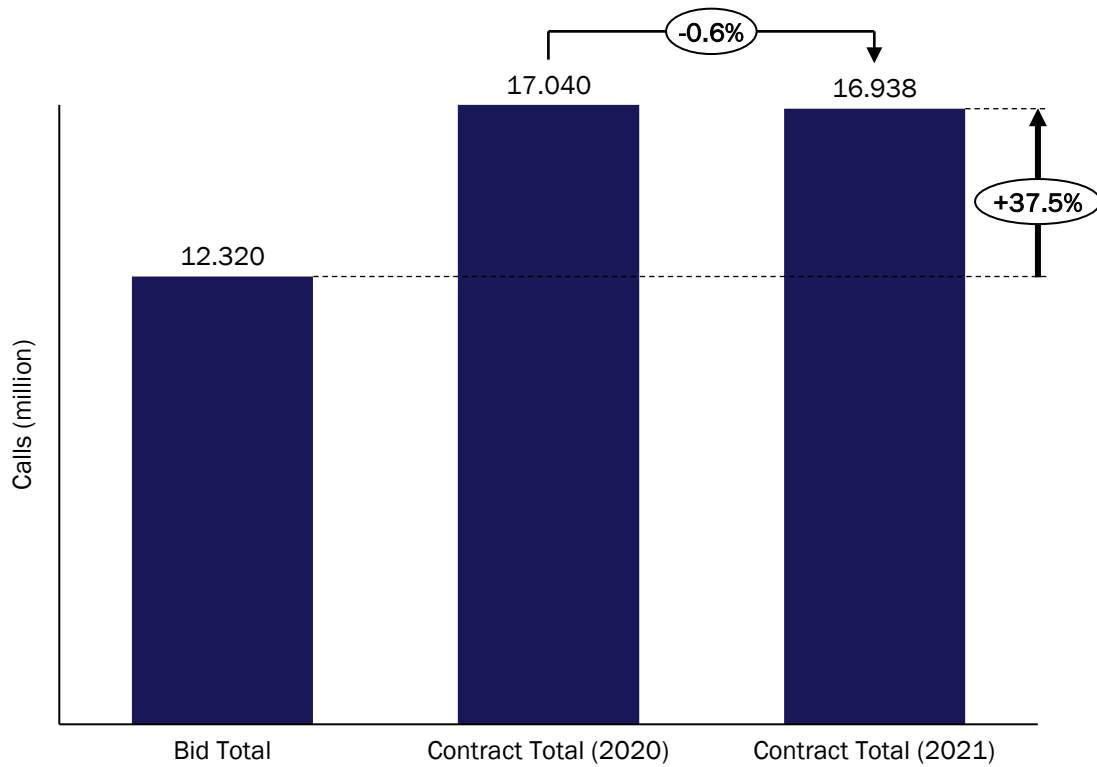
While the total call volume for the 12-month period ending March 2022 remains to be seen, volumes to date suggest that the total may be up to 7.0% higher than the previous 12-month period. For the following 12-month period, BT forecasts a modest decline followed by no change in subsequent periods.

5.3 of this report.

3.2 Change in call volumes

The net change in total call volumes across the contract period is shown in Figure 3.2.

Figure 3.2: Call volumes [Source: BT, Analysys Mason, 2021]



As of October 2021, the total projected call volumes for the full ECAS contract period are estimated at 16.938 million, a reduction of 0.6% compared to 2020, the period under review. This decrease in call volumes has a negligible impact on the CHF. For reference only, the total projected call volumes represents a net increase of 37.5% compared to the Bid Total.

4 Calculation of the CHF

The ECAS model requires the calculation of the CHF to take account of actual and forecast costs and volumes, such that the ECAS operator achieves the guaranteed rate of return over the contract period.

To support the calculation of the CHF, Analysys Mason reviewed a draft CHF model provided by BT and participated in workshops with ComReg and BT to determine reasonable costs and volumes. Subsequently, BT provided an updated cost model and supporting information, taking account of the feedback provided.

As part of the reasonable cost review, ComReg reviewed the timing of the one-off sinking fund contribution previously authorised by DECC. While this sinking fund has not yet been paid, payment is expected in FY21/22.

Based on the reasonable cost review and updated CHF model, the new CHF is calculated at EUR2.98 for the period commencing 12 February 2022.

Explanation and quantification of the main changes in the CHF

There are three contributors to the change in CHF are:

- lower fixed operating costs
- higher depreciation costs
- the one-off sinking fund contribution in FY21/22.

The contribution of each change to the new CHF is summarised in Figure 4.1. As the one-off sinking fund contribution is only made in financial year 2021/22, the corresponding volumes are only for Year 4.

Figure 4.1: Contribution of changes to the new CHF [Source: Analysys Mason, 2021]

[3<]

5 Potential impact of the transition from copper-based services to fibre-based services

In this chapter we set out the findings of our review in relation to the following:

- what impacts the transition from copper-based services may have on ECAS
- whether ECAS interconnects are in a position to handle a potentially higher volume of incoming voice over internet protocol (VoIP) or session initiation protocol (SIP) calls as would be expected from the migration to fibre
- the effect on ECAS revenues of a reduced volume of ‘noisy calls’ as a result of the retirement of copper.

5.1 Transition from copper to fibre

Across Ireland, fibre-based networks continue to be deployed through a combination of commercial investment by the telecoms sector and the Government-led state intervention project, the National Broadband Plan.

Over the next five to seven years, Irish businesses and consumers will have access to telecoms services delivered over high-capacity fibre-based networks, resulting in a transition away from copper-based services and the expected ‘switch-off’ of the copper network.

However, from an ECAS perspective, the transition from copper- to fibre-based services will not have any significant impact on how the ECAS receives calls from the public. Inbound calls from end users to the ECAS are received via direct interconnects with the end users’ own telecoms operator (the ‘originating operator’) or forwarded by the originating operator to ECAS via a transit operator. Transit operators (e.g. eir or BT Ireland) already have a direct interconnect with both the originating operator and the ECAS. The transit operator receives the emergency call from the originating operator (which may be a fixed-fibre, fixed-copper or a wireless operator) and forwards the call over a direct interconnect to the ECAS.

5.2 ECAS and higher volume of inbound VoIP/SIP calls

For the purpose of this report, calls originating on a fibre network are referred to as VoIP calls and are considered to be carried over SIP interconnects.

5.2.1 Inbound calls to the ECAS

The majority of inbound calls are currently presented to the ECAS from one of the two transit operators over a highly resilient network of traditional time-division multiplexing (TDM) interconnects (E1 SS7). At present, these interconnects are used by the transit operator to forward both VoIP and traditional public switched telephone network (PSTN) calls from the originating operators to the ECAS. It is the

joint responsibility of the originating operator and the transit operator to ensure that emergency calls can reach the ECAS. The transit operator retains the capability within its own network architecture to support the forwarding of all call types over the TDM interconnects. Any decision by the transit operator to present inbound emergency calls to the ECAS over SIP interconnects will simply require the replacement of existing TDM interconnects with SIP interconnects at the transit/originating operator's expense.

5.2.2 ECAS state of readiness to support higher volumes of emergency calls presented over SIP

The architecture of the current ECAS platform is such that SIP interconnects are already in use for outbound calling capability. SIP interconnects between the ECAS and one of the two transit operators are used to forward calls to the Emergency Services. Within the transit operators' own networks, the calls are forwarded to the PSTN for onward connection to the Emergency Services.

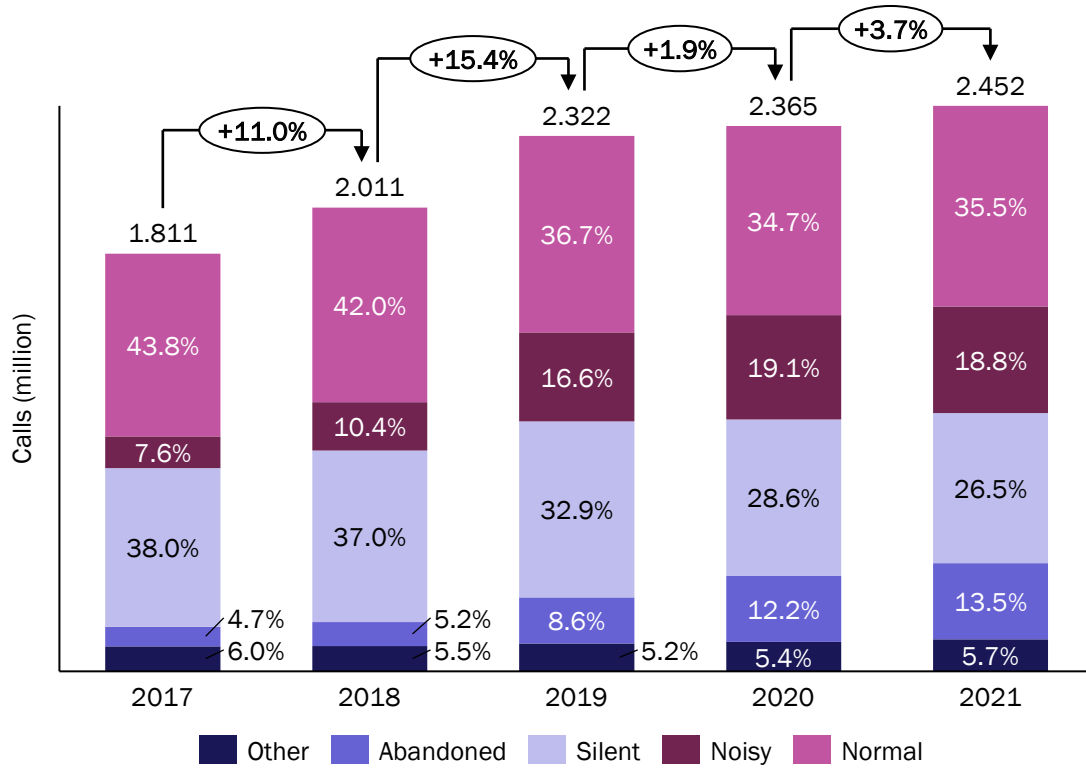
In addition to the above, the ECAS has trialled the use of direct SIP interconnects between the ECAS and the Emergency Services; this network is expected to go live with one of the Emergency Services later this year (2021).

If an originating operator or a transit operator identifies a requirement for SIP interconnects with the ECAS, additional interface(s) will need to be provided and configured on the ECAS platform by the ECAS operator.

5.3 Impact on volumes of 'noisy calls'

Noisy calls are those which occur as a result of network faults simulating an emergency call. The contribution of noisy calls to total ECAS volumes has risen from approximately 7.6% in 2017 to 18.8% in 2021. The cause of this rise cannot be easily identified but we note that it coincides with the time period in which large-scale fibre networks were deployed by operators.

Figure 5.1: Annualised share of call volumes by type [Source: BT, Analysys Mason, 2021]



6 Summary

Overall compared to the previous CHF review, the total costs over the contract period are slightly lower and there are fewer calls. The main impact on the CHF is due to the one-off sinking fund contribution expected in FY21/22. Based on the reasonable cost review and updated CHF model, the CHF is calculated at EUR2.98 for the period commencing 12 February 2022, an increase from the current CHF of EUR2.83.

The migration from copper to fibre is unlikely to have significant impact to the ECAS but should continue to be monitored.