



Emergency Call Answering Service – Call Handling Fee review 2020

ComReg

| 25 09 2020

Ref: 2020-24



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Introduction

The Emergency Call Answering Service (“ECAS”) receives all emergency calls (999/112) that are made in Ireland. The ECAS centres are responsible for forwarding every genuine call to the responsible emergency service, as quickly and effectively as possible.

All emergency calls are free of charge to the caller as required by European Union legislation. In Ireland, ECAS is funded through the Call Handling Fee (“CHF”) payable by telephone network operators present in the country and/or the telephone call service provider. In order to recover the cost of running the ECAS operation, the provider of emergency call answering services charges the CHF to operators for calls which originate on their respective networks.

In 2017 the Department of Communications, Energy and Natural Resources (DCENR) announced the renewal of BT Ireland’s contract through a public procurement process to provide emergency call answering services on behalf of the state of Ireland. This eventually led to the new contract (ECAS2) commencing on 1 March 2019.

Section 58D of the Communications Regulation Act requires ComReg to review the CHF and to ensure that the CHF enables BT to recover its costs that are deemed reasonable for the ECAS operation. As such, ComReg has selected TERA Consultant to analyse the operation and expenses related to the current ECAS contract (“ECAS II”) and to evaluate the level CHF required for BT to recoup its reasonable costs.

This report delivers a review of the key changes in the operational delivery since the renewal of the contract and evaluates the CHF required for BT to recoup its reasonable costs; it is structured as follows:

- Cost review based on BT’s actual data
- Forecasting call volumes and costs to the end of the Concession Agreement
- Calculation of the CHF for the next period.



1. Cost Review

The objective of the cost review conducted by TERA Consultants was to ensure that the costs incurred by and expected to be incurred by BT represented only those which are necessary for the efficient provision of ECAS II.

TERA Consultants' review focuses on a macro level assessment of the cost drivers determining whether the actual costs incurred by and the costs expected to be incurred by BT are reasonable compared to the previous the cost projections provided in BT's bid for the ECAS II contract.

The main components of BT's ECAS cost base consists of:

- BT pay costs: for the management of ECAS operation and for the call centre staff
- BT non pay costs: which include accommodation costs, facilities management, maintenance of fixed assets, network services, etc.,
- Depreciation charges of capital costs: for fixed assets and set-up costs.
- Financial costs: which include costs for the Guaranteed Rate of Return, the Section 58D fund (or the Sinking Fund) and past under-recovered or over-recovered costs.



Figure 1 – Breakdown of BT’s actual cost components for ECAS II based on Q1 2020 cost projections

€[><]

Source : BT

After 5 quarters of ECAS II operations, BT has provided its actual and expected costs showing a €[><] increase over the contract duration compared with estimates provided in its bid for the ECAS II contract.

Figure 2 – BT’s cost increase over contract duration (k€)

€[><]

Source : BT, ComReg

The following sections presents the detailed factors underlying these differences and the explanations provided by BT to justify the cost increases.

1.1 BT non pay costs

Figure 3 – comparison of BT non-pay costs between Bid estimates and actual values

€[><]

Source : BT, ComReg

The main discrepancy in non-pay cost is attributable to a €[><] increase in network costs which is explained by BT by the fact that ECAS operations have been running on dual infrastructure during the transition from ECAS I infrastructure to ECAS II infrastructure. This transition period is planned to last during almost 2.

TERA understands that premises costs have been affected by Covid-19: the introduction of Working from Home capabilities are estimated at €[><], the use of a contingency Site in Clonshaugh is estimated at €[><], the cost of trainings has increased €[><] and €[><] has been spent to accommodate health and safety issues.



1.2 BT pay costs

Figure 4 – comparison of BT’s actual pay costs vs bid estimates

€[><]

Source: BT, ComRreg

1.2.1 Staff costs

The €[><] increase in staff costs can be attributed to :

- an additional position of an “ECAS System Engineer” that was not included in the bid and whose pay is estimated at €[><] over the contract based on available data;
- an increase in remedy help desk costs which is estimated at €[><];
- an increase in other costs of €[><] for which BT has mentioned some causes to justify this increase : healthcare and third party labour (payroll outsource, IT and computing, accommodation, etc) cost increases.

1.2.2 Call center staff costs

The €[><] increase in call center staff cost can be related to the increase in call volume between bid estimates and actual volumes.

As part of the new contract, call handling staff were forecast with associated costs, as supplied by BT in the bid documentation. Since then there has been a notable increase in this cost element leading to an increase of approximately 15% in the FTE. The primary driver behind this change in staffing requirement has been attributed to the growth of call volumes over recent years. This section analyses this as a cause for the staffing increase and provides an independent assessment; it is structured as follows:

- Call volume growth and impact on frontline staffing
- Resource planning process and staffing framework
- Other considerations

1.2.2.1 Call volume growth and impact on frontline staffing

There are two key components to the underlying workload in the ECAS centres for frontline call handlers:

- The volume of calls (with a subset being those being connected to the operators)
- The handling time associated with those calls.

Previous reviews contained analyses that demonstrated a falling call volume from 2009 to a low in 2016/17. Since that period annual volumes have been growing year on year, with 2019 showing the largest increase over the previous 12 months of 16%. In 2020 this growth has



slowed, but the net result is that, for the first 39 weeks of 2020, volumes are 37% up on the same period in 2017. Similarly, the last full 52 weeks call volumes are 2.4m which is an increase of 0.6m (33%) over the 2017 total#.

Figure 1 – Call volumes analysis

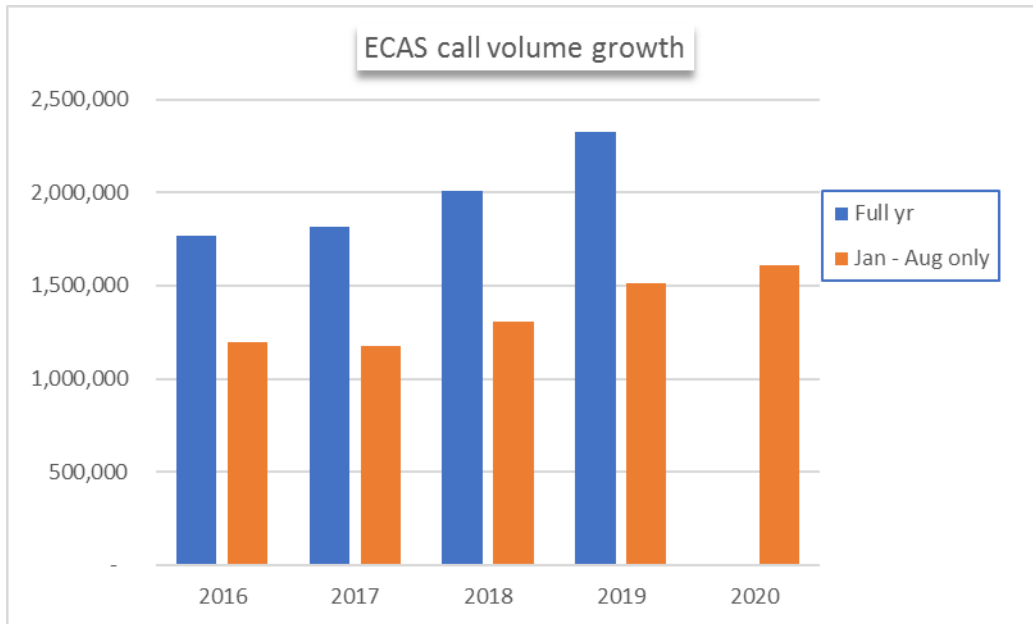
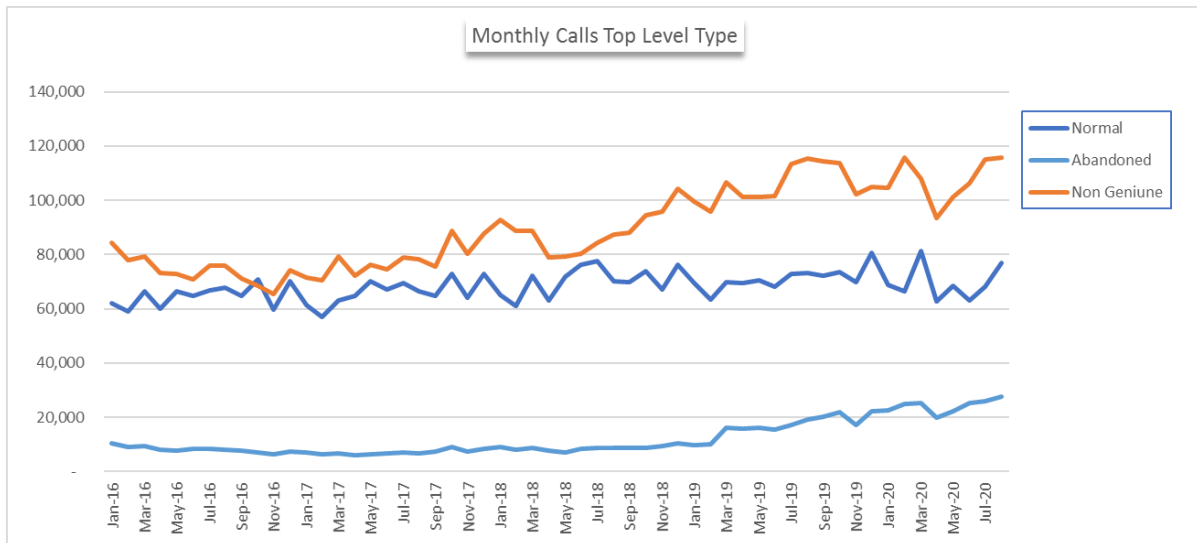


Figure 2 – Call volumes top level type



Source: BT Ireland

A further breakdown of the call data by type shows that the main driver for this overall increase has been the rise in non-genuine (such as faults, silent calls). This in turn has been caused by an increase in calls classified as ‘Noisy’, which are strongly linked to faults on the network, these are especially prevalent in periods of adverse weather. If connected these ‘Noisy’ calls still require an operator to handle the call in line with procedures, so whilst they have a lower handling time compared to ‘Normal’ calls, they do still impact on workload into the ECAS centres.



It is also worth noting that there has also been a rise in abandoned calls in the same period since 2017, with the monthly average in 2020 being over three times that of 2017 and now stands at circa 24k per month. This is a contributing factor to the overall volume growth, but it is not the predominate driver of the increased calls.

The net result of the volume growth is an increased workload into the centres, which becomes the primary driver to the uplift in front-line staffing requirements. An example resource planning period has been cited to show a comparison between October 2017 and October 2020 where the base staffing calculation by 15min period had risen on average by 1.82 operators (a 28% increase).

The calculations behind call volumes, subsequent workload and online operators is not linear. As staffing numbers increase the uplift, as a percentage of operator time to ensure operators are free to handle the next call, becomes smaller. On that basis you would not expect an X% rise in calls to mean a corresponding X% rise in total staffing and it has been shown that this has not been the case. Following the 33% rise in volumes there has been a rise of circa 15% in staff which is in line with expectations.

1.2.2.2 Operator resource planning process and staffing framework

In the previous review the resource planning process (see appendix) was documented in some detail and was found to be accurate, robust and in line with industry standards. BT have confirmed that this process has remained unchanged since the 2019 review and they are applying the same tools and procedural steps to calculate contact handling requirements and total staff employed. In addition, we have been informed of a number of changes to the staffing framework;

- Following the movement of staff from 3rd party provider Conduit to direct BT employees, the number of part-time workers has been reduced. The administrative overhead plus the operator dislike of these shifts instigated a move to full time where possible. This has been said to increase productivity, retention and reduce sickness levels.
- An additional 16:00 – 04:00 core shift has been introduced to the roster in addition to the existing day (07:45 to 19:45) and night (19:45 – 07:45) shifts. This has improved the ability to balance staff utilisation and more effectively cover peak periods.
- As a result of the COVID-19 pandemic, homeworking has been introduced for staff where possible / advisable. Approximately 50% of operators are based mainly from home. After initial concerns, this has proved a positive move and there has been no impact on staff or service performance.

There is no evidence that any of these changes to the staffing framework will have given cause for an increase in staffing.



1.2.2.3 Other considerations

In addition to the call volume and workload increases, there are other factors that determine overall staffing levels within the ECAS centres, and BT are operating processes that have either directly or indirectly reduced staffing uplifts from the frontline requirement. Changes that have been observed since the 2019 review include;

- Increased use of periods of low call volume being utilised for training where possible.
- Coaching, feedback and training levels for home workers are consistent with office-based staff. Initial quality concerns have been allayed and performance is not impacted.
- The use of instant messaging has improved the timeliness and efficiency of communications across the operator population during shifts. For example, should an issue affect the ability for an emergency service to receive calls in a certain location, all operators are quickly aware.
- Lead operators are able to be utilised on call handling for an increased proportion of their time in role.
- The onset of the COVID-19 pandemic brought expectations of high-levels of sickness and the potential requirement for additional staffing. The opposite has been the case with sickness absence being down on previous years. A year to date average of 3.2% per month is better than industry standards.

1.2.2.4 Conclusions

Staff costs are the largest component in the ECAS operation, therefore any significant change requires understanding and justification. It has been evidenced that the key driver to the increase requirement for frontline operators is the greater call volume being delivered to the service. BT has shown that it has maintained its resourcing process which has already been evaluated, it has also taken other steps to improve the efficiency of its workforce.

The resultant increase in frontline staff is therefore being driven by this increased workload and the key objective to maintain the service level stipulated by the contract. At the same time, BT have made continuous improvements to the staffing framework and operational processes to aid operator utilisation and retention. These have lessened the overall frontline staffing increase due to the call volume growth.

2. Call volumes and costs forecasts

For future years of operation it is assumed that call volumes will remain higher than bid estimates at around **2 450 000 calls per year**.

In accordance with this assumption, cost projection of call center staff have been adjusted for future years of operation.



Figure 5 – current cost projections

€[X]

Source: BT

3. Calculation of the CHF

The results of the cost and volume forecasts provide the inputs into the CHF calculations, using the existing CHF cost model. However the output of the cost model needs to be adjusted every year to account for unexpected factors or exceptional events which may trigger under or over recovery of costs.

Over the course of ECAS I, BT made 250k€ payments every year to the sinking fund controlled by DCCAE. At the beginning of ECAS II, in February 2019, the sinking fund exceeded €[X]. These proceeds from ECAS I sinking fund have been partially given back by DCCAE to BT in order to reduce the CHF fees paid by operators. BT has already received €[X] on 11/08/2020 and is due to receive two more payments of the same amount. BT was however supposed to receive €[X] over the current period and current CHF was based on this hypothesis. This leads to a €[X] income gap that could be compensated by a €[X] adjustment per year over the next 4,92 years (year 7 lasts only 11 months) which would translate to an additional €[X] per call.

Another payment of €[X] from the sinking fund in favor of BT is currently being considered in order to reduce CHF fees during year 3 of ECAS II operation. This effect of this refund is understood to be entirely applied on year 3 of the contract and would imply a €[X] call rebate.

If all projected cost increases were to be compensated in the CHF over the remaining years, it would imply a €[X] increase $(€[X] / (4,92 \text{ years} * 2,45\text{M calls}) = €[X])$

After discussions between ComReg and the Department it has been decided that at this stage of the project, the cost increases related to the dual running of the infrastructure (€[X]), the additional ECAS engineer (€[X]) in BT's Staff and the additional help desk costs (€[X]) should not be compensated in the CHF. This implies a €[X] decrease in the CHF.

Other small adjustments may also be considered in the CHF calculation for next period to account for future projected extra revenues or future projected depreciations.

Figure 6 – CHF computation

€[X]

Source: BT, TERA Consultants analysis

On the basis of the latest cost figures provided by BT and adjustments discussed with ComReg, **TERA Consultants proposes a CHF of €2.83 per call to be applied from February 2021 to February 2022.**



Appendix : Resource Planning Process Detail

Historical data from appropriate corresponding weeks is used to construct a call delivery profile across the days of week and time of day. Recent call volume trends are then used to derive the expected call requirement and are applied to the profile.

Industry standard staffing formula (Erlang) is used to calculate the resource needed by 15 min intervals to achieve service level. This requirement is matched against the scheduled staff, once all non-phone activities are accounted for, with a rule of thumb being a minimum of +2 difference to protect against unplanned reductions in resource.

Shifts are fixed; therefore building the schedule is an uncomplicated process, planned events and activities including holiday are applied. There is no rotation between day / night working, staff are recruited onto specific day or night shifts, so those working unsociable hours will do so continuously (it carries an hourly rate premium). Shifts are released to staff 6 weeks in advance of being worked.

Real-time service level performance for the centre and emergency services call taking is monitored in conjunction with staffing to planned levels. Adjustments to scheduled non phone activity can be made where there is a risk to service performance. In cases of significant over delivery of calls to forecast (e.g. due to weather events) then a pool of Operators is held on call and they can be bought into the ECAS centre at short notice.

As BT now manage the end to end resourcing process, there is more confidence and flexibility against the plan. Periods of forecasted over / under resourcing can be put into context against recent workload trends and management are able to release or bolster resource in advance to better manage service performance in a volatile call delivery environment.

The resource planning toolset is based in Microsoft Excel, as previously noted in past reviews. Whilst there are workforce planning systems available, the complexity and size of the ECAS operation means they are not critical to effective planning. The Excel based models are still fit for purpose. BT has purchased a WFP tool (a TeleOpti system), but there are currently configuration issues preventing its deployment.

Source: 2019 ECAS Review