Commission for
Communications Regulation

DECISION NOTICE
(AND DECISION INSTRUMENT)

Response to Consultation – Eircom's Universal Service Obligation

Quality of Service Performance Targets

Decision No:	**D02/08**
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1 Foreword

The Universal Service Obligation ("the USO") is an important part of the regulatory framework, as it ensures that all consumers can obtain an affordable, reliable telecoms service. In order for the regulatory framework to function effectively and in a way that benefits end-users, it is vital that the actual performance of the Universal Service Provider ("the USP") in delivering on this obligation is satisfactory.

One of the most important areas of the USO relates to consumers being provided with a fixed-line telephone service in a reasonable period of time. It is also vital that faults, which will inevitably occur, are limited in number and are repaired speedily. In preparing the Response to Consultation, ComReg considered what the optimal targets should be for Eircom bearing in mind its recent performance in both these areas. While some aspects of performance are satisfactory, ComReg believes that performance can be improved in a manner that will give considerable benefits to end-users. In particular, performance on the level of fault occurrence and the time taken to repair faults is not good. Improving this performance will have significant benefits for Irish consumers. ComReg is of the view that any costs to Eircom are not excessive, and indeed, that the current poor performance may be related to past issues in not ensuring a high-quality network. The responses received on foot of ComReg's public consultation on these matters indicated that the vast majority of respondents were in favour of setting binding targets in all three areas (installation times, fault occurrence, and fault repair times).

This Decision Notice requires Eircom to meet legally binding quality of service performance targets for the delivery of these obligations. ComReg believes the targets are reasonable and proportionate and will lead to a higher quality of service going forward. Achieving these targets will ensure benefits for end-users, promote greater confidence in the USP and the sector generally, and generate ancillary social benefits in terms of Irish end-users finding it easier to access communications services.

John Doherty
Chairperson

2 Executive Summary

2.1 Background[1]

2.1.1 In August 2007, the Commission for Communications Regulation ("ComReg") published a consultation entitled "Consultation Paper – Consultation on Universal Service Performance Targets" (Document No 07/55) dated 1 August, 2007 (referred to throughout the remainder of this Decision Notice as "the Consultation"). The Consultation related to the quality of service provided by the USP. Eircom was designated as the USP in 2006 until June 2010.

2.1.2 The consultation document considered recent performance by Eircom relating to a number of indicators of quality of service, and in particular focussed on whether some of these indicators should be set as binding targets, subject to potential enforcement. These included (i) targets relating to installation times; (ii) the level of line faults; (iii) the time needed to repair line faults. In each of these cases, ComReg proposed setting binding targets. It should be noted that ComReg did not propose setting binding targets in the case of some other indicators, where it was of the view that performance was reasonably satisfactory and/or it was not proportionate.

2.1.3 ComReg's main reasons for proposing binding targets were due to the importance of the performance measures to consumer welfare, allied to evidence of recent worsening of performance in some areas. ComReg carefully analysed the factors relating to these issues to ensure that the targets proposed were reasonable and proportionate.

2.1.4 ComReg received nine responses to the consultation, including from the Consumers Association of Ireland ("the CAI") Eircom, other telecoms operators plus a number of private individuals. The vast majority of respondents were in favour of the setting of binding targets, with only Eircom being opposed to the setting of such targets.

2.2 Installation Times

2.2.1 ComReg proposed setting targets for the USP to meet in terms of meeting requests for installation time. This was proposed to ensure that consumers wishing to avail of a fixed-line service would be able to obtain one relatively speedily. Observing current performance, ComReg was of the view that while many consumers did obtain their fixed-line in reasonable time, there were a small but significant number who were waiting an extremely long time for a fixed-line. ComReg thus proposed binding targets that would ensure this set of consumers were better served.

[1] Note that certain information has been removed from this public version of the document due to the need to protect confidentiality and the commercial interests of any parties who provided it.

2.2.2 ComReg also proposed setting separate targets for consumers who could be connected using in-situ connections, which are much easier for the USP to implement. It proposed that 100% of these connections should be met within 24 hours.

2.2.3 All respondents except Eircom agreed with the setting of such targets, and some respondents expressed the view that they should be stricter. Eircom did not believe that performance targets were necessary, arguing that current performance was adequate. It also argued that setting separate in-situ targets was unreasonable and that no 100% target should be set as no system could guarantee achieving a 100% success rate.

2.2.4 Having carefully analysed all the responses, ComReg remains of the view that binding targets are necessary to protect consumers from excessive and unnecessary delays in being connected. Given the efficiency and cost differences of in-situ connections as compared to other connections, it remains of the view that a separate connection for in-situ is reasonable. However, it accepts that a 100% target may be excessive and proposes to alter this level.

2.2.5 The performance target for in-situ connections is as follows:

- 80% of all in-situ connections within 24 hours.
- 99.8% of all in-situ connections within 2 weeks.
- All in-situ connections to be completed within 2 months.

• The performance targets for all other first time connections are as follows:

- 80% of all requests to be met within 2 weeks of request.
- 85% of all requests to be met within 4 weeks of request.
- 90% of all requests to be met within 8 weeks of request.
- 95% of all requests to be met within 13 weeks of request.
- All requests to be met within 26 weeks of request.

• Where the applicant agrees a date for completion with Eircom ComReg sets a performance target as follows:

- 95% of connections to be completed by the agreed date.

2.3 Fault Occurrence

2.3.1 ComReg proposed binding targets for the level of fault occurrence in the Consultation. Evidence showed a recent worsening in the level of line fault incidence, which has serious negative consequences for affected consumers. ComReg was of the view that ensuring this problem improved was important to protect consumers.

2.3.2 All respondents agreed with the setting of such targets except for Eircom. Eircom argued that setting fault occurrence targets was not appropriate and that the proposed targets were excessive and would involve Eircom incurring too high a cost. They acknowledged performance was unsatisfactory, but suggested that they had allocated funds to improve this, which would result in improved performance over the next few years.

2.3.3 ComReg carefully analysed this issue. In particular, the evidence shows increasingly poor performance from Eircom in the last 2 years. The level of fault occurrence relating to USO consumers is in excess of 21 faults per 100 lines for 2007. Although international comparisons can be difficult to make, this seems significantly higher than the vast majority of EU countries.

2.3.4 ComReg also documented the amount Eircom has spent on ensuring adequate network quality over the last few years. {confidential}

2.3.5 Eircom has argued that the costs of meeting ComReg's proposed targets are high. ComReg is somewhat sceptical of these numbers as Eircom has a clear incentive to exaggerate the cost of these proposals and ComReg, having analysed these numbers is of the view that significant benefits to Eircom in terms of lower operating costs are not included in these costs. However, ComReg would point out that in price reviews, including the review of the cost of the local loop and the retail price cap, Eircom was fully compensated for the cost of a modern, efficient network. Therefore, the network should not be generating such a high level of faults. Moreover, given Eircom's {confidential}.

2.3.6 ComReg has estimated the yearly benefits likely to accrue from improved performance. Although estimation of this form depends upon the assumptions used, it does show the benefits are likely to be considerable and have a major beneficial affect on consumers. Overall, because of the worsening performance, {confidential}, poor performance by international standards and evidence of significant consumer benefits, ComReg is of the view that it must set binding targets to protect consumers.

2.3.7 ComReg does acknowledge that improving performance may take some time. Accordingly, it now proposes that the final target of 12.5 faults per 100 lines should not be met until June 2012, and that there be a glide path towards this target. This will give Eircom more time to ensure performance is improved, which will reduce any incremental costs associated with making such improvements.

2.3.8 ComReg thus sets the following targets:

- 15.5 faults per 100 lines to be met by the end of June 2009.
- 14.5 faults per 100 lines to be met by the end of June 2010.
- 13.5 faults per 100 lines to be met by the end of June 2011.
- 12.5 faults per 100 lines to be met by the end of June 2012.

2.4 Fault repair time

2.4.1 In the Consultation, ComReg also proposed targets for improved performance in repairing faults that do occur. Performance was poor, with negative affects on consumers. In particular, ComReg suggested that repair targets should be set in calendar days, rather than the current working day measurement.

2.4.2 All respondents agreed with this proposal, except for Eircom. Eircom suggested that mandatory targets were not needed, as performance was adequate and the proposed targets would result in a significant increase in cost.

2.4.3 ComReg has carefully considered the various issues. It remains of the view that binding targets are necessary to improve current poor performance. This will significantly improve consumer welfare, as noted by the considerable consumer benefit measures attached to faster fault repair times. ComReg does acknowledge that a move to a calendar day standard could involve considerable change to working practices at Eircom with consequent increases in cost. Accordingly, ComReg does not propose to use such a standard at this time, but rather to use a working day standard. However, the proposed targets will significantly improve current performance with resulting benefits for consumers.

2.4.4 ComReg sets the following targets:

- 80% of fault repairs must be completed within 2 working days.
- 95% of fault repairs must be completed within 4 working days.
- 99.8% of fault repairs must be completed within 5 working days.
- All fault repairs must be completed within 10 working days.

Where the customer agrees a date for fault repair with Eircom, the performance target shall be as follows:

- 95% of fault repairs to be completed by agreed date.

2.5 Conclusion

2.5.1 In summary, ComReg is of the view that that the setting of legally binding targets is necessary to ensure that the USO provides a high-quality standard of service to consumers. In setting such targets, ComReg has carefully considered all the factors, and is confident that the targets are reasonable and proportionate. The achievement of these targets by Eircom will in ComReg's view, improve consumer quality of service markedly.

3 Background

ComReg is responsible for the regulation of the Irish electronic communications and postal sectors in accordance with National and EU legislation. One of the more important areas of communications regulation concerns the USO.

3.1 Universal Service Obligation

The USO ensures that basic fixed line telephone services are available to end-users at an affordable price. There are both social and economic grounds for the USO, including providing services to help vulnerable users and those in remote locations whom the market might otherwise not choose to serve. The USO is also focused on bringing benefits to those with low incomes who have difficulty in affording a telephone service as well as end-users with disabilities who need particular services or facilities.

The scope of universal service is defined in Directive 2002/22/EC of the European Parliament and of the Council of 7 March 2002 on universal service and users' rights relating to electronic communications networks and services ("the Universal Service Directive"[2]) which was implemented in Ireland by the European Communities (Electronic Communications Networks and Services) (Universal Service and Users' Rights) Regulations 2003 ("the Universal Service Regulations"). On 25 July 2003, Eircom was designated as the USP in the State. Eircom was again so designated on 25 July 2006, with the current designation period ending on 24 June, 2010. The principal obligations[3] which Eircom is legally obliged to fulfil as the USP are:

- To satisfy any reasonable request to provide at a fixed location
    - Connections to the public telephone network.
    - Access to publicly available telephone services ("PATS").
- Ensure that a comprehensive printed directory of subscribers is made available to all end-users free of charge and is updated at least once in each year;
- Ensure that public pay telephones are provided to meet the reasonable needs of end-users; and,
- Specific measures for users with disabilities including:
    - Compliance with a code of practice concerning the provision of services for people with disabilities.
    - Provision of a text relay service.

[2] Directive 2002/22/EC of the European Parliament and of the Council of 7 March 2002 on universal service and users' rights relating to electronic communications networks and services (O.J. No. L 108 24.4.2002 p.51).

[3] The full details of Eircom's USO are set out in ComReg Document 06/32.

- Provision of a rebate scheme for users of the text relay service.
- Provision of braille billing free of charge.
- Provision of special directory enquiry arrangements to allow the use of directory enquiry services free of charge.

3.2 USO Quality of Service

Under Regulation 10 (1) of the Universal Service Regulations, Eircom, as the designated USP, is required to publish information on its performance in relation to the provision of the USO. (This is available on the Eircom website under the heading of "About Us" – "Regulatory Information"). The parameters, definitions and measurement methods for such published information are set out in the Universal Service Directive. The quality of service performance indicators are updated on a quarterly basis. ComReg also publishes the information, and the latest published data set, covering the year to end of December, 2007, is available on www.comreg.ie.

3.3 Universal service requirements

Under Regulation 3 (4) of the Universal Service Regulations, ComReg specified requirements[4] to be complied with in relation to the reasonableness of requests for connections and the minimum data rate which connections were to be capable of providing. Following a public consultation in March, 2005, all requests for connections (at no more than the standard connection charge) are to be regarded as reasonable if the expenditure involved in meeting the request is less than €7,000. Requests for connections which involve expenditure in excess of €7,000 are also to be considered reasonable if the applicant agrees to pay the standard connection charge, plus the incremental costs above €7,000.

Eircom is also required to adopt 28.8kbps as the minimum data rate for the purpose of ensuring functional internet access. Where a customer's telephone line is not capable of achieving the minimum rate, Eircom is required to use all reasonable endeavours to address the line capability, following a request by a user.

3.4 Related guideline targets

Eircom is currently subjected to guideline (not legally binding) targets for both provision of fixed access and functional internet access[5].

[4] ComReg Document 05/70 Universal Service Requirements - Provision of access at a fixed location – connections to public telephone network and provision of functional internet access.

[5] ComReg Document 05/70 Universal Service Requirements - Provision of access at a fixed location – connections to public telephone network and provision of functional internet access.

The targets in relation to requests for connection were as follows:

- 60% of all requests to be met within 4 weeks of request.
- 80% of all requests to be met within 8 weeks of request.
- 90% of all requests to be met within 13 weeks of request.
- 95% of all requests to be met within 26 weeks of request.
- 100% of all requests to be met within 52 weeks of request.

In relation to functional internet access, the performance target for total installed telephone lines capable of the minimum data rate of 28.8kbps was set at 94%.

3.5 The Consultation

In setting any performance target, ComReg is required to have regard to the views expressed in a public consultation. Based on Eircom's most recent reported performance levels ComReg published the Consultation on 1 August, 2007[6], proposing the establishment of legally binding performance targets for Eircom in relation to the universal service. The Consultation sought views from interested parties in this regard.

Additional time to respond to questions in the Consultation was requested by Eircom and ComReg agreed to extend the deadline for receipt of responses to 24 September, 2007.

3.6 Responses received

ComReg wishes to thank all of those who contributed to the debate. Nine submissions were received by the extended closing date. The respondents are listed below:

- Eircom.
- ALTO.
- BT Ireland ("BT").
- Imagine Communications Group ("Imagine").
- The CAI.

[6] Consultation on Universal Service Performance Targets, ComReg Document No. 07/55.

- Desmond Gray.
- EJ Hynes.
- Martin O'Connell.
- Maurice Fitzgerald.

The responses to the Consultation have assisted ComReg in arriving at its decisions in this Decision Notice and Decision Instrument. All representations made by the respondents which were relevant to the Consultation have been considered, although readers will appreciate that it is not practical to refer in detail to every point made by every respondent.

As stated in the Consultation, ComReg is publishing all responses received, (with the exception of those marked confidential), as an Annex to this Decision Notice and Decision Instrument.

3.7 Format of this Document

This Decision Notice addresses the main issues raised during the Consultation. Each section briefly summarises the issues in the Consultation, the views of respondents, ComReg's analysis of those issues and the final position adopted having taken into account the views of respondents. ComReg's formal Decision Instrument is set out in Appendix A.

4 Recent market developments

There has been significant growth in housing stock in Ireland in recent years. Growth in population as well as significant inward migration has contributed to the rise in demand for housing. The Department of the Environment reported that over 600,000 homes have been built from 1997 and 78,027 houses and apartments were completed in 2007. This equates to approximately 1,500 new homes every week throughout 2007. During the first quarter of 2008, 14010, new homes were completed. The estimated housing demand during the period of the Government's new *Housing Policy Statement – Delivery Homes, Sustaining Communities* - is for some 600,000 new homes by 2015.

The growth in housing completions impacts on the USO due to the increase in the number of homes seeking connections to the public switched telephone network ("PSTN") and the resulting extension of the network to meet demand and fulfil the USO. For 2008 to date there is evidence that the rate of new build of homes is falling. However, there will still be new demand for houses and, as discussed below, that will ensure continued demand for new provision of fixed-line services.

Recent research from the Central Statistics Office ("the CSO") found that around 80% of households in Ireland have a fixed telephone line[7]. In line with trends elsewhere in Europe, an increasing number of households in Ireland are choosing not to avail of a fixed line for differing reasons. For example, those in rented accommodation appear a lot less likely to have a fixed-line, as are single-person households. A recent survey commissioned by the EU Commission found that 24% of Irish households had access to a mobile phone only, which is higher than the EU average of 22%.[8]

The high percentage of households that have chosen to avail of a fixed line, however, indicates that it remains important for a number of reasons. The EU Commission survey also found that 31% of fixed-line households would not give up their fixed-line as they are used to it, while 23% of households indicate that they need their fixed-line as it provides them with internet access. These findings are also supported by ComReg survey data.

Demand for broadband in Ireland has grown strongly in the past couple of years from a slow start in 2002 when mass-market digital subscribers line ("DSL") products were launched by operators. Broadband subscribers grew from around 31,000 at the end of 2003 to over 500,000 by the end of 2006. ComReg's fourth quarterly report of 2007[9] shows that current broadband take-up in Ireland stands at 886,300 subscribers. This broadband growth is above the EU average and is being driven by increased internet subscriber provider competition at the retail level, falling broadband prices as well as increased bundling of line rental, calls and broadband access. Almost 62% of broadband in Ireland is currently delivered over conventional copper telephone lines i.e. asymmetric digital subscriber line

[7] See:http://www.cso.ie/releasespublications/documents/industry/2006/ictireland2006.pdf

[8]See:http://ec.europa.eu/information_society/policy/ecomm/doc/info_centre/studies_ext_consult/ecomm_household_study/eb07_finalreport_v4.pdf

[9] Irish Communications Market: Quarterly Key Data – March 2008 (ComReg 08/22).

("ADSL"). The remaining 38% of connections are delivered over cable modem, wireless broadband satellite, mobile broadband and fibre. Average entry-level broadband packages offer between 1 and 2Mb downstream and 128-256kb upstream.

5 The Consultation

The Consultation proposed a set of performance targets to be achieved by Eircom, in order to inform all interested parties in their consideration of what performance targets are appropriate for end users. The issues discussed in the Consultation fall within the following three headings:

- Access to the network.
- Fault rate occurrence.
- Fault repair.

5.1 Provision of access at a fixed location

5.1.1 Consultation issue

Eircom is required to satisfy any reasonable request to provide a connection to the public telephone network. ComReg established guideline targets in 2005[10] in this regard. While the majority of connections are made within four weeks of a request being made, and Eircom is meeting the ComReg guideline target of 95%, ComReg is very concerned by the fact that a number of requests take longer than six months to complete and indeed, some take more than one year to complete. Delays of the nature outlined give rise to considerable inconvenience for customers.

The Consultation proposed the establishment of legally binding performance targets to protect, in particular, those customers who fall within the fraction of consumers that experience very long delays in the provision of service from Eircom. These targets would permit enforcement action to be taken by ComReg in the event of Eircom not complying with them.

A distinction was also made between connections which can be electronically enabled ("in-situ" connections) and those where varying degrees of technical work is required. Eircom's website describes the categories of connections and the processes involved for meeting orders for such connections and this can be viewed at: http://www.eircom.ie/bveircom/pdf/USO_statment_07_2006.pdf.

5.1.2 Analysis of performance throughout 2006

Table 1 shows the time distribution of connections to the network for 2006.

[10] ComReg Document 05/70 Universal Service Requirements - Provision of access at a fixed location – connections to public telephone network and provision of functional Internet access.

Table 1: Completed connections in 2006[11]

Age Profile	Q1 2006		Q2 2006		Q3 2006		Q4 2006	
	Res.	**Bus.**	**Res.**	**Bus.**	**Res.**	**Bus.**	**Res.**	**Bus.**
Less than 4 weeks	93.85%	91.98%	93.93%	94.20%	96.56%	95.23%	97.47%	95.10%
4 – 8 weeks	96.09%	96.10%	96.16%	97.45%	98.01%	98.21%	98.66%	97.85%
8 – 13 weeks	97.67%	98.22%	97.52%	98.72%	98.73%	99.13%	99.32%	99.13%
13 – 26 weeks	99.43%	99.61%	99.14%	99.56%	99.48%	99.67%	99.84%	99.79%
26 – 52 weeks	99.94%	99.95%	99.85%	99.92%	99.90%	99.95%	100.00%	100.00%

Table 1 shows that the majority of connections are made within four weeks of a request being made and Eircom is meeting the ComReg guideline target of 95%. However, a number of requests take longer than six months to complete and some take more than one year to complete.

Another important performance indicator is the percentage of connections completed by the date agreed between Eircom and the customer. In this regard, customers are required to allow Eircom staff access to the premises. For the residential segment, this requires the customer to make special arrangements to be present for the agreed appointment. If the agreed appointment does not occur through no fault of the customer, or if the work needed to be done is not completed by Eircom during the appointment; a further visit is very often necessary. The customer is therefore further inconvenienced and has still not obtained a connection to a basic telephone service.

Table 2 shows the percentage of connections completed by customer agreed date for 2006.

[11] 'Res' denotes residential connections and 'Bus' denotes business connections.

Table 2: Percentage of connections completed by customer agreed date

Sector	Q1 2006	Q2 2006	Q3 2006	Q4 2006
Residential	88%	86%	89%	92%
Business	78%	81%	82%	83%

It can be seen from Table 2 that the guideline targets established in 2005 have for the most part been achieved. However, for a relatively small but significant percentage of customers, there are unreasonably long delays in obtaining a connection. For that reason, as well as noting that the current targets are merely guidelines, ComReg considered it appropriate and justified to establish legally binding performance targets, which once established, would permit enforcement action, if necessary.

The Consultation asked the following question:

Do you agree that the establishment of binding performance is justified? Please state views.

5.1.3 Views of respondents

ALTO, BT, the CAI and Imagine generally welcomed and supported the proposed establishment of binding performance targets, emphasising that in the absence of enforcement action performance targets were meaningless.

BT also proposed that published performance should provide a split between the performances of the downstream arm in Eircom, versus the performance of other operators.

Imagine stated that performance targets should be considered across all aspects of the industry. The performance targets should provide for new installations, re-connections, in-situ installations, move lines, temporary off service, ancillary services, faults, upgrades/downgrades and billing targets.

The CAI asked ComReg to consider the introduction of a series of compensatory monetary provisions. The compensatory provisions should come into effect in the event of a default of any of the basic criteria of time related service provisions.

Eircom did not agree with the proposed binding performance targets for the following reasons:

(a) Eircom says it has established legally binding contractual agreements with its customers which include penalties. Under the *Customer Service*

Guarantee, (details of which can be found on the Eircom website) Eircom customers are entitled to claim a rebate of two months line rental should Eircom fail to:

- Provide their PSTN line within 10 working days; or
- Repair it within 2 working days, subject to certain exclusions.

A total of {confidential} customers claimed rebates from Eircom Retail from July, 2006 to June, 2007, to a value of {confidential}. The majority of the rebates related {confidential}

(b) Eircom said consideration had not been taken of the regulatory and cost implications of achieving the proposed binding targets which currently exceed the quality of service guaranteed within the other authorised operator ("OAO") service level agreement ("SLA"). The network would require improvement to facilitate customers to report faults outside working hours. Eircom also stated that targets for fault occurrence and fault repair are not appropriate for USO metrics and should not be reported against. However, if required to do so, it would be more appropriate to use the internal targets which Eircom has set for itself. Eircom said that the costs required to meet ComReg's proposed targets range between €{confidential} based on average to poor weather conditions. Eircom said that to move to calendar days from working days would require approximately {confidential} additional field resources and Eircom's estimate cost for these resources is (confidential).

(c) Eircom said that it currently complies with existing performance guidelines and also that there are no persistent failures. While Eircom agrees that its current fault repair performance is not yet satisfactory, it has recently implemented a number of initiatives geared towards improving the customer service level experience. Eircom believes that its service levels have been steadily improving over the course of these initiatives.

(d) Eircom also called into question the Regulatory Impact Assessment ("RIA") carried out by ComReg and believed it to be insufficiently detailed.

5.1.4 ComReg Analysis

ComReg welcomes the fact that the majority of respondents believe that binding performance targets are necessary.

ComReg notes the CAI's comment in relation to the introduction of a series of compensatory monetary provisions. Eircom's *Customer Service Guarantee* is of some use in this regard, but, as discussed below, it lacks transparency, appears to be overly qualified and complex and, as a consequence, it does not appear to be operating efficiently for the benefit of consumers.

In relation to Imagine's comment (stating that performance targets should be considered across all aspects of the industry) ComReg must consider whether such targets are reasonable and proportionate weighed against the objectives to be achieved by doing so. On that basis, setting targets for all aspects of the industry could be considered disproportionate, at this time.

In response to BT's proposal regarding the provision of a split between the performances of the downstream arm in Eircom versus the performances of other operators, ComReg agrees that to split performance parameters as described by BT would be very beneficial. It would help to determine whether Eircom's performance is discriminatory or not. Eircom has an obligation to ensure non-discrimination in certain wholesale (upstream) markets. However, this is a separate issue not addressed by the Consultation or in this Decision Notice.

ComReg is cognisant of the fact that in advance of setting performance parameters it is important to know how useful the data is once reported. There is little value in setting performance parameters which yield inappropriately grouped data, as poor performance in a particular sub-category will be masked by good performance in another area. This outcome is likely to lead to misleading conclusions. One possibility is to set separate targets for different geographic areas of the country, so as to ensure that each area obtains a specified level of service. However, ComReg does not consider it appropriate to pursue this approach at this time, though should evidence arise that this is becoming a problem, ComReg may decide to take action to improve matters.

In relation to point (a) raised by Eircom ComReg notes that whilst Eircom does indeed provide a *Customer Service Guarantee* ComReg is of the view that:

- The onus rests with Eircom's individual aggrieved customer to seek to enforce its claim.

- The process involved can be difficult, especially for vulnerable customers.

- The level of reimbursement may not reflect the inconvenience caused for the customer.

- Eircom reports that {confidential} customers successfully claimed under this scheme. This is {confidential} with the number of reported delays in receiving connection and fault repairs; suggesting that the *Customer Service Guarantee* is either{confidential}, or a combination of the above.

- The exclusions specified within the *Customer Service Guarantee* appear restrictive. In particular, it is noted that customers who, upon reporting delays experienced, agree with Eircom to an appointed time for connection or fault repair are deemed unable to claim credits, despite the fact that the delays experienced at the time of complaint would have been within the conditions for claiming.

- Nothing within the *Customer Service Guarantee* precludes, nor could it preclude ComReg from legally setting targets. Indeed, the fact that the *Customer Service Guarantee* is in place while performance on certain USO targets is, in ComReg's view, poor, is indicative that the current form of the *Customer Service Guarantee* is insufficient to ensure adequate delivery of the USO.

- The *Customer Service Guarantee* does nothing of itself to actually improve connection times and reduce delays. In other words it purports to address only the symptoms, but not the cause.

However, a more comprehensive and accessible *Customer Service Guarantee* would be of considerable benefit to consumers, and ComReg would welcome further progress by Eircom in this area, and will continue to work towards ensuring that consumers are fully aware of the rights they have under their contracts.

In relation to points (b) and (d) raised by Eircom, ComReg will address issues related to Eircom's estimated costs for meeting targets in the RIA (see Appendix C). In relation to Eircom's point (b) ComReg wishes to note that the current target for local loop unbundling ("LLU") is 95% of lines provisioned within 10 days. This performance target is not considered onerous for Eircom to achieve. The LLU cycle time reduction is an open issue and a planned review of the LLU SLA commenced in April, 2008. The purpose of the LLU SLA review is to consider whether it would be necessary and appropriate to tighten targets to exploit operational efficiencies and improvements, e.g. automation.

In relation to point (c) raised by Eircom, ComReg notes Eircom's recognition that its current performance is not yet satisfactory, that it is working towards achieving improvements through recent initiatives deployed by it and that it says that the improvements should be experienced by customers as these initiatives are rolled out. However, ComReg remains of the view, which is supported by published data, that there is no reason to believe that service levels have significantly improved to date and it is therefore necessary to set binding performance targets for Eircom as the USP. ComReg is simultaneously publishing an Information Notice announcing Eircom's quality of service performance in respect of Quarter 4, 2007[12] with the publication of this Decision Notice and Decision Instrument. The following figure is an extract from the Information Notice.

[12] ComReg Document No: 08/38

Figure 1: Provision of access (elapsed days)

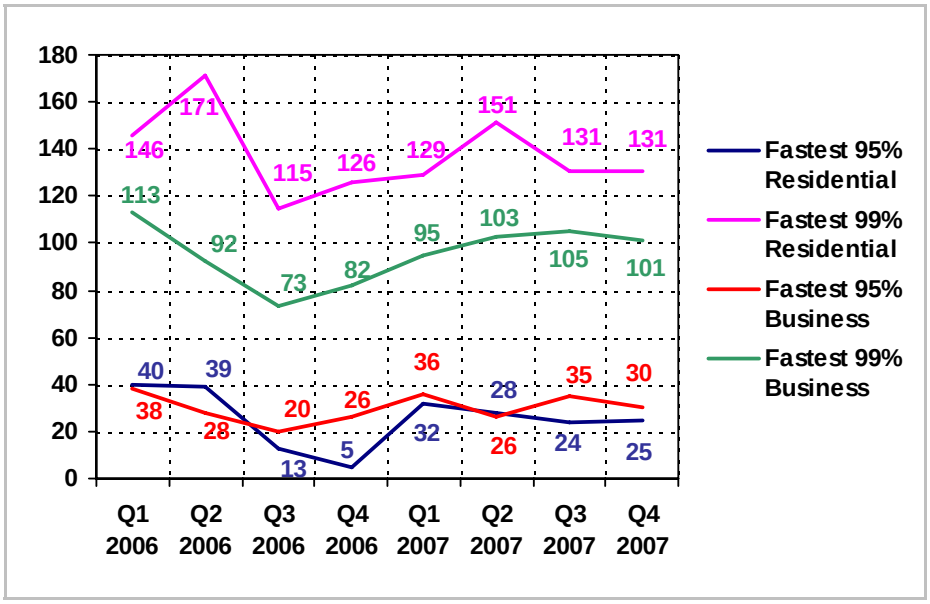

Figure 1 shows Eircom's performance for the 95% and 99% supply time fastest completions in elapsed days for both the residential and business segments from January, 2006 to December, 2007.

Figure 1 also shows that 5% of residential requests for connection to Eircom's service takes in excess of 25 days to complete and 5% of business requests for connection to Eircom's service takes in excess of 30 days to complete. Similarly for 1% of residential requests it takes in excess of 131 days to complete and for 1% of business requests it takes in excess of 101 days for completion.

Table 3: Age profile of completed connections shown as %

	Perf Targets	**Q1 2007**		**Q2 2007**		**Q3 2007**		**Q4 2007**	
		Res (%)	**Bus (%)**	**Res (%)**	**Bus (%)**	**Res (%)**	**Bus (%)**	**Res (%)**	**Bus (%)**
Less than 4 weeks	60% of requests to be met in this time period	94.63	93.25	94.90	95.26	95.47	94.11	95.39	94.77
4 – 8 weeks	80% of requests to be met in this time period	96.91	97.05	96.79	97.87	97.33	97.06	97.15	97.45

8 – 13 weeks	90% of requests to be met in this time period	98.35	98.95	97.96	98.89	98.36	98.76	98.32	98.85
13 – 26 weeks	95% of requests to be met in this time period	99.58	99.68	99.34	99.83	99.45	99.74	99.43	99.57
26 – 52 weeks	All requests to be met in this time period	99.98	100.00	99.87	99.99	99.93	99.99	99.92	99.93

Table 3 shows the age profile of completed connections. Throughout Quarter 4, 2007 both the residential and business segments met the guideline performance targets set by ComReg in 2005. However, a small but significant percentage of overall first-time connections took more than one year to complete and this cannot be considered satisfactory.

5.1.4.1 ComReg Position

Having analysed all the issues raised by the responses received, ComReg notes that the majority of respondents want binding performance targets imposed on Eircom. Despite the current guideline targets, ComReg must recognise the reported poor performance by Eircom in providing service to a significant number of consumers.

ComReg, therefore, has arrived at the conclusion that it should adopt its proposal as set out in the Consultation to set legally binding quality of service targets for connections. The decision as to what level the targets should be set at will be discussed in the following section.

5.2 Performance targets for connections

5.2.1 Consultation issue

In proposing performance targets for connection ComReg recognised the differences between the processes involved, in particular, for those in-situ connections which can be electronically enabled.

For clarity ComReg provided the following definitions:

In-situ connection

This refers to the electronic enablement of a line so as to make it usable to the consumer. A callout to the premises is not needed as the activation of the line is done remotely. In practice, it should take no more than a working day to activate such a

connection and Eircom's own provisioning statement confirms that this will be done on the same day of the request being made[13].

First time connection

This involves Eircom physically making a connection to an exchange. A callout to the premises is necessary and may involve setting up an appointment with the customer requiring connection. This may include a new line being laid during the connection process. The time taken to complete the process depends on where the customer is located, whether a network extension is necessary, the degree of civil works required and the process of obtaining consents from road and planning authorities and private landowners.

Reconnection

This involves less work than a first time connection. While a physical line may exist at the premises, because of previous disconnection, the connection back to the telephone exchange may be incomplete.

It is clear that the process for in-situ varies significantly from first time connection and reconnection. For that reason, ComReg proposed that separate performance targets should be set i.e.; one target for in-situ connections and another target for all other connections. ComReg proposed a performance target for in-situ connections providing a maximum of 24 hours for connection. This was considered reasonable as a PSTN line can be activated remotely and Eircom is in fact already committed to this.

ComReg also proposed the following performance targets for first time connection to also include reconnection:

- 80% of all requests to be met within 2 weeks of request.
- 85% of all requests to be met within 4 weeks of request.
- 90% of all requests to be met within 8 weeks of request.
- 95% of all requests to be met within 13 weeks of request.
- All requests to be met within 26 weeks of request.

It is important to note that the duration taken to meet a request will be calculated from the point in time in which the applicant enters into a contract with Eircom.

Where the applicant agrees a date for completion with Eircom, ComReg proposed a target of:

[13] http://www.eircom.ie/bveircom/pdf/USO_statment_07_2006.pdf.

- 90% of installations completed by agreed date.

The Consultation asked the following question:

What are your views on the establishment of different performance targets that could be established for in-situ connection and first time connections?

5.2.2 Views of respondents

ALTO, BT, the CAI and Imagine were all in favour of setting separate performance targets for in-situ and first time connections.

ALTO pointed to the fact that the process for an in-situ connection is much easier and quicker to deliver.

BT stated that an in-situ connection is a simple technical exercise. BT suggests that a distinction should be made between the Eircom retail and the OAO time to connect.

Imagine proposed that reconnections should also be targeted separately, as there is much less work involved compared with first time connections.

Eircom in its response stated that:

(a) That there should be one clear target for all connections. The definition of in-situ and first time connection should be combined and referred to as "PRSN Connections to Eircom".

(b) Cognisance must be had of scenarios which are outside of its control.

5.2.3 ComReg Analysis

ComReg wishes to clarify that reconnections are currently included in performance data provided for in-situ connections. ComReg notes that all respondents (other than Eircom) are in favour of a distinction being made between the two forms of connection and believes that consequently, separate performance targets should be set.

In relation to Imagine's proposal that reconnections should be targeted separately ComReg is of the view that it should be sufficient to set separate targets for in-situ connections and all other connections for the time being. However, ComReg may, if necessary, require Eircom to report separately on reconnection performance.

In relation to BT's suggestion that a distinction should be made between Eircom retail and OAO time to connect, ComReg agrees that separate measurable indicators

would be beneficial and it can only highlight how well, or not Eircom is performing at all levels.

ComReg disagrees with Eircom's belief that there should be "one clear target for all connections." The difference between first time and in-situ is in ComReg's view clearly distinguishable. The resource inputs for each differ considerably. It would be wrong to ignore that in-situ connections are significantly different in terms of cost and time required to meet other connections and thus there is justification for them being treated differently. The Eircom Policy Statement on the provision of access to the public telephone network can be viewed at[14]: Eircom itself appears to recognise that resources required for in-situ are different to all other first time connections. This is also reflected by Eircom setting a reduced installation charge (€49.99) for an in-situ connection[15].

Accordingly, ComReg is firmly of the view that it is appropriate to require different targets and reporting for these distinct situations. As Eircom has noted before in its responses to ComReg consultations, ComReg should be cognisant of the costs and benefits of different obligations. Given this, it would seem unreasonable not to set a stronger target for in-situ connections, which, as was not challenged by any respondent, clearly requires a much lower cost of installing.

It should be noted that ComReg is not attempting to require specific proportions of in-situ connections, merely that any connections that are in-situ should be made in a timely and efficient manner, thus recognising that they are easier and quicker to establish. ComReg would also note that splitting the entire installations metric into two categories should not be overly complex and difficult to monitor, as it is not proposing to sub-divide further any remaining categories. Appendix C, containing the RIA, provides additional detail on the potential benefits to consumers of improved performance on installation times.

A further relevant issue is to consider whether, if a separate target for in-situ connections is set, this would encourage Eircom to stop using in-situ connections so as to ensure that more of its connections could fall into the less strict target. ComReg recognises that it is generally efficient to have more connections being made using in-situ. However, ComReg is of the view that Eircom itself would appear to have good commercial reasons to invest in using in-situ technology and that while there might be some substitution at the margin, setting separate targets is not likely to have a significant effect on the overall number of in-situ connections.

Table 4 shows a split between in-situ and all other connections provided by Eircom over the 12 month period from mid-2006 to mid-2007. Eircom currently provides information to ComReg, which is not published, on a quarterly basis which splits connections between in-situ and all other connections.

[14] See: http://www.eircom.ie/bveircom/pdf/USO_statment_07_2006.pdf.

[15] Eircom's installation charges are set out in its Telecommunications Scheme, 2008 and can be viewed on the Eircom website.

Table 4: Split between in-situ and all other connections from mid-2006 to mid-2007 (confidential data removed)

In-situ	All other connections (incl. new build and pre-cabled)	Total

Figure 2 also shows the split between in-situ connections and first time connections from the beginning of 2006 to end December 2007.

Figure 2: Split between Eircom in-situ and first-time connections from 2006 (confidential data removed)

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5.2.3.1 ComReg Position

Based on data provided by Eircom on a quarterly basis which provides a split between in-situ and first-time connections to its network, it is reasonable and proportionate to make a distinction between in-situ connections and all other connections when setting targets in this regard. To combine all connections and set only one target may be considered disproportionate and discriminate negatively in relation to in-situ performance. Going forward, it is considered that reported quarterly performance will therefore show performance in a more transparent fashion.

In conclusion, having analysed all the issues from the submissions received ComReg proposes to set binding performance targets to distinguish between in-situ and all other first time connections.

In relation to the performance target levels to be set the Consultation asked the following question:

What are your views on the values proposed for the performance targets?

5.2.4 Views of respondents

ALTO, BT, the CAI and Imagine all proposed performance targets more challenging than those proposed in the Consultation, signalling that quality of service performance targets need to be stricter for Eircom.

ALTO agrees with the performance values proposed in the Consultation. However, ALTO is of the view that these targets should be published by ComReg as interim

six month performance targets. Once the six month interim targets have elapsed, ALTO suggests that the bar should be increased by 5% across each step so that the performance targets should read as follows:

- 85% of all first time connections to include reconnection to be met within 2 weeks.
- 90% within 4 weeks.
- 95% within 8 weeks.
- 99% to be completed by 13 weeks.
- 1% falling to be completed within 26 weeks of request.

Imagine proposed that higher targets should be set for in-situ connections. This would mean that if the order arrives before noon the connection should be completed on the same day and, if the order arrives in the afternoon, it should be completed the following day. Imagine also states that wholesale customers should be given the opportunity of similar offerings. Imagine argues that the targets proposed for first time connection and reconnection are not stretching enough. Imagine proposes:

- 80% of first time connections to be delivered within one week.
- 95% to be delivered within 3 weeks.
- 5% remaining to be met within 6 weeks.

Imagine argued that a 26 week lead time is unacceptable and is damaging to the perception of the industry. Imagine further states that:

> *"We understand that a small level of connections may not be possible to be delivered as quickly due to physical constraints or geography but suggest that exceptions are dealt with on an exception basis by allowing a maximum of 5% of all line orders per quarter to be designated exceptions and therefore not subject to the binding targets. This creates incentives to move 95% of all areas into the service standards over a period of time."*

Imagine has subsequently contacted ComReg to clarify its position in relation to the above extract from its submission. Imagine wishes to clarify its point by rephrasing the above paragraph as follows:

> *"We understand that a small level of connections may not be possible to be delivered as quickly due to physical constraints or geography and would propose a 6 week timeframe in these exceptional cases."*

BT agreed with the 2-4 week timeframe for engineering visits, so long as the average of 3 weeks is also measured. BT Ireland proposed:

- 95% within 8 weeks.
- 99% within 13 weeks.
- Only where it can be shown that there is no infrastructure in place should the timeframe fall outside of these targets.

In relation to the proposed 90% target for installations agreed by date BT states that this is below the current Q4 2006 performance and therefore, a higher minimum target of 95% is suggested.

The CAI believed that any target stretching beyond 13 or 14 weeks is totally unacceptable.

The CAI proposed values as follows:

- 85% of all requests within 2 weeks of requests.
- 90% of all requests within 4 weeks of request.
- 95% of all requests within 8 weeks of request.
- All requests to be met within 15 weeks of request.

Eircom stated that it does not have an issue with the proposed values for the performance targets once the following principles are taken on board:

(a) Targets must be consistent with the existing wholesale framework agreement between ComReg and industry.

(b) Targets must be feasible, proportionate and based on current performance.

(c) Targets of 100% are not practical.

(d) Only one set of metrics to be reported.

(e) Performance should not be calculated from date of call to completion date but from the required by date. Date of call to completion date is unrealistic. Eircom claims that there is a long lead in time from when the customer requests connection to the time they actually require service. Eircom claims that in-situ requests have a lead time of {confidential} while field completed requests had a lead time of {confidential} from request date.

(f) Certain scenarios will fall outside the control of Eircom.

5.2.5 ComReg Analysis

ComReg notes that the majority of respondents are of the view that the proposed performance targets are not sufficiently demanding.

Imagine suggests higher targets for in-situ connections. In this regard, while aspiring to meet targets within 24 hours or less is operationally viable, delays of less than 24 hours to complete requests has no bearing on quality of service performance for publication. All requests met within 24 hours or less will be considered as having met the performance target. With regard to proposing performance targets ComReg is required to propose and set quality of service targets based on Eircom's current reported performances.

In relation to Imagine's proposal that wholesale customers should be given the opportunity of similar offerings, it is understood that Imagine is referring to being able to offer similar levels of service to its customers as Eircom retail provides. In that regard, ComReg would agree, with the exception of LLU. LLU is different as it is considered impossible at this time to reduce the time required to connect the lines from Eircom's network to the OAO's.

While BT's targets support the creation of challenging performance targets ComReg disagrees with the suggestion that where it can be shown that no infrastructure is in place, the timeframe can fall outside stated targets. Taking this position would relieve Eircom of its obligation to provide access and therefore, would leave certain end-users in a more vulnerable position.

In response to Eircom's point at (a) above, it should be noted that the performance targets for wholesale products are based on commercial terms and conditions that are negotiated between the OAO(s) and Eircom. The wholesale performance targets are not agreed with ComReg. ComReg has facilitated these negotiations, but does not currently have an active role in agreeing the performance targets for wholesale products in the context of commercial SLAs. ComReg believes it is not appropriate to draw direct comparisons between performance targets agreed as a result of industry level negotiations and performance targets arising as a result of Eircom's USO.

In response to Eircom's point (b) above ComReg would note that in proposing performance targets for connections, consideration was given to Eircom's current performance. While ComReg notes that overall performance in the area of connections is considered acceptable in some areas, current reported performance data shows that there are a significant number of Eircom customers waiting a very long time for connection to the service. For that reason, ComReg is of the view that it is reasonable to impose performance targets to protect those customers who Eircom, as the USP in the State is legally obliged to provide with a connection. Moreover, current performance could be improved by ensuring that consumers in a position to benefit from rapid connection (due to in-situ connections) should do so. Accordingly, based on current performance ComReg further believes that the performance targets proposed are reasonable and proportionate in all of the

circumstances and not onerous for Eircom to achieve. This matter is examined in more detail in the RIA in Appendix C.

In relation to Eircom's argument at point (c) above that targets of 100% are not practical, ComReg recognises that 100% is not always achievable for various reasons, mainly related to the fact that technical systems do not always function with 100% accuracy. Accordingly, ComReg will reduce the proposed target level from 100% within 24 hours for in-situ connections, to 80% within 24 hours.

In relation to Eircom's argument at point (d) above for only one set of metrics, this was discussed in the previous sub-section, and, as argued there, ComReg does not see any reasonable argument to negate the fact that the inputs required to complete first-time versus in-situ connections vary significantly. Accordingly, ComReg believes it is appropriate to establish separate performance targets to reflect the workload involved. It should again be noted that an in-situ connection {confidential} refers to the electronic enablement of a line which can be completed at a central point; there is no requirement to make an appointment with the customer to visit the premises and it can amount to, in the majority of cases, a "flick of a switch".

The contrary arises for many of the remaining customers requiring first time connection to Eircom. Some premises may already have been pre-cabled, while others require Eircom to physically make a connection to an exchange. An appointment with the customer is required. New lines may need to be laid which, depending on where the customer is located, may require an extension to the network. The time taken to connect may also be impacted by the degree of civil works required and the process for obtaining consents from road and planning authorities and private landowners.

In relation to Eircom's argument at point (e) above, ComReg notes that a {confidential} of Eircom's overall connection requests are logged with lead times of up to {confidential} in the case where field work is required. This may signal an expectation on the behalf of customers that service will be slow and for that reason, it is best to order early. Of the connections requested with lead times, {confidential} of these are in-situ requests with the remaining {confidential} requiring field work. The in-situ requests should have no real bearing on performance due to the nature of the work required.

However, the "ETSI standard", which is the approved tool used to measure performance in this area, requires the measure to record the time taken to connect service from the date of request to completion date. For that reason, it makes sense to set performance targets which can be measured accordingly. It would be useful if Eircom could also report on the number of field completed connections which were requested with significant lead times.

In relation to Eircom's argument at point (f) above regarding scenarios which fall outside the control of Eircom ComReg cannot, in advance of setting performance targets, consider every factor which may have a direct bearing on Eircom

performance. It should be noted that ComReg is attempting to set realistic targets for Eircom based on current performance.

The Consultation proposed a target of 90% of connections to be made by the agreed date (where a date has, in fact, been agreed). At least one submission (in the area of fault repair times) suggested that when a date was agreed, it was vital that it be adhered to. Accordingly, ComReg believes that it is appropriate to raise this value of 90% to 95%, to ensure that consumers are protected in this area.

European data for connection targets and reported performance against targets are attached, where available, in Appendix B. The graphs in Appendix B shows that half of the countries listed have set performance targets for connections. It is also worth noting that the majority of these countries have specified the target for connection in calendar days.

5.2.5.1 ComReg Position

Setting binding targets for installation times will give considerable benefits to consumers (see the RIA for more analysis of this) and will require limited costs to be incurred by Eircom, as procedures for rapid in-situ enablement are already in place. Accordingly, ComReg has decided to set such targets as legally binding ones. It is clear that the process for in-situ is distinguishable from all other first time connections. Having considered all of the representations of respondents, ComReg has decided to set one target for in-situ connections and another target for all other connections. ComReg is of the view that these targets should be capable of being achieved by Eircom in a relatively short period of time. Accordingly, it has been decided that they should be achieved by June 30, 2009.

It should be noted that Eircom currently provides performance data to ComReg with regard to numbers of in-situ connections on a quarterly basis. To date performance in this regard has not been reported publicly.

- The performance target for in-situ connections is as follows:

  - 80% of all in-situ connections within 24 hours.
  - 99.8% of all in-situ connections within 2 weeks.
  - All in-situ connections to be completed within 2 months.

- The performance targets for all other first time connections are as follows:

  - 80% of all requests to be met within 2 weeks of request.
  - 85% of all requests to be met within 4 weeks of request.
  - 90% of all requests to be met within 8 weeks of request.
  - 95% of all requests to be met within 13 weeks of request.

- All requests to be met within 26 weeks of request.

It is important to note that the duration taken to meet a request will be calculated in accordance with the ETSI standard.

- Where the applicant agrees a date for completion with Eircom ComReg sets a performance target as follows:

  - 95% of connections to be completed by the agreed date.

These targets are being set as legally binding obligations. Non-compliance with these obligations will attract the enforcement procedures as outlined in section 6 of this Decision Notice.

5.3 Reported Faults

5.3.1 Consultation issue

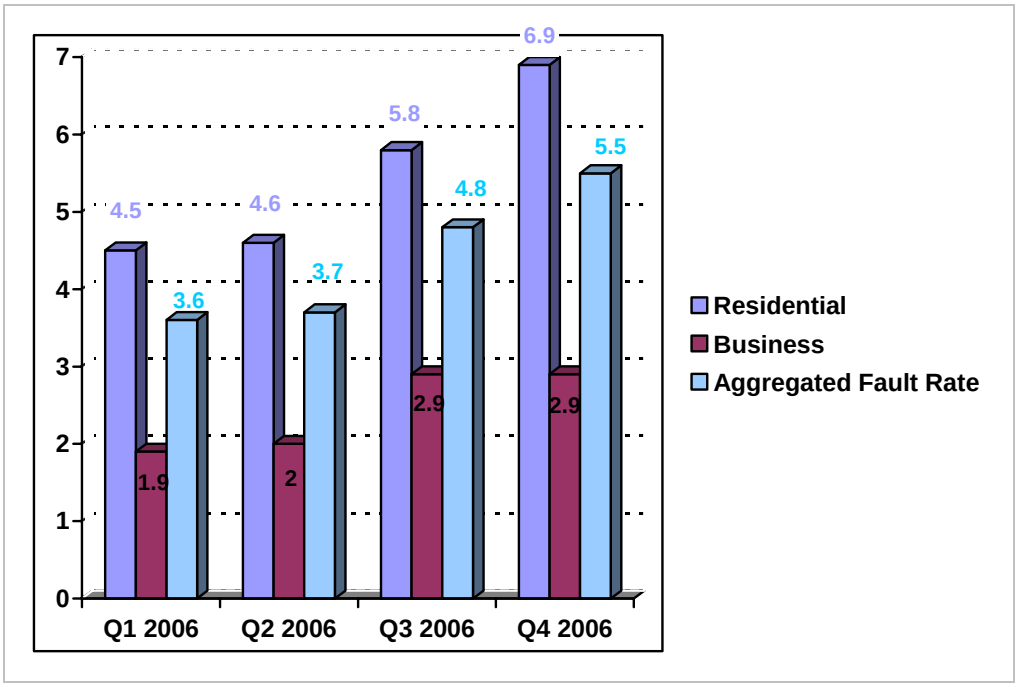
Eircom is required to ensure that a connection is capable of allowing the end user to make and receive telephone calls, fax communications and data communications.

It should be noted that while guideline targets have been in place for meeting requests for connection to Eircom's service, there have not been any guideline targets in place for reported faults and repairs in the system, although such performance is measured and reported. Having assessed performance levels throughout 2006, ComReg proposed that performance targets were required to provide an incentive for Eircom to improve its performance.

Throughout 2006, the number of reported faults by Eircom's USO customers increased significantly. Figure 3 shows Eircom's fault rate per 100 lines throughout 2006. The aggregated line fault index for Eircom's USO customers throughout 2006 is therefore calculated as 17.6 per 100 lines.

Figure 3: Eircom's fault rate per 100 lines for 2006[16]

[16] Faults reported by Eircom's USO customers only.



An out-of-order telephone is not of use to anyone and can be a source of considerable stress to users in a variety of circumstances, in particular, for those who live alone, are elderly, or are vulnerable users. Services such as fixed-line broadband, monitored alarms for both property and persons or satellite television also depend on the continuous availability of a telephone service. Non-availability of the telephone service can also have a detrimental effect on businesses, as being non-contactable by customers can seriously affect the reputation of the business and the confidence that its customers will have in it.

In considering what would constitute a reasonable and proportionate target, ComReg examined other countries, notably the reported performance of BT UK faults per 100 lines. It was noted that both Eircom and BT UK use the ETSI standard to calculate fault occurrences. ComReg also examined recent Eircom performance. ComReg proposed a three-stage target for the maximum number of fault reports arising as follows:

- 15 faults per 100 lines (3.75 faults per quarter) to be met by the end of 2007.
- 13.5 faults per 100 lines (3.375 faults per quarter) to be met by the end of 2008.
- 12.5 faults per 100 lines (3.125 faults per quarter) to be met by the end of 2009.

The Consultation asked the following question:

What are your views on the proposed targets for fault occurrence?

5.3.2 Views of respondents

BT, Imagine and the CAI supported the proposed targets levels for fault occurrence.

Other submissions were varied in their responses.

ALTO stated that ComReg should examine the state of the network to ensure that upgrade/replacement programmes are adequate.

Imagine did not agree with the 3 stage target to improve the network. Imagine stated that this matter needs to be prioritised to ensure an acceptable standard in a shorter timeframe.

BT agreed that it should be possible to achieve improvements year on year, until the network is at an acceptable standard. In saying this, BT was of the view that targets for businesses are not tight enough. BT also stated that BT UK does not present faults in this manner and that performance is much better than suggested.

The CAI stated that the number of faults reported is symptomatic of Eircom's failing to invest in the network. In view of this the CAI states that the targets seem reasonable.

Mr E J Hynes raised the issue of area targets, highlighting that certain areas may be overstating the national fault occurrence. He queried how fault occurrence is measured, giving the example where one fault can knock out 16 lines.

Eircom stated that it recognises the need for a robust and reliable telephone service. However, it states:

(a) That it believes that fault occurrence is not a useful metric to measure USO performance against. It suggested that the measure would mean little to the ordinary consumer. It further said that any actual target must be balanced against the capital investment required to achieve this standard. (It should be noted that ComReg sought clarification of the financial impact submitted in the Eircom response. Eircom responded stating that the targets proposed would have an unreasonable financial impact on Eircom involving an additional spend ranging from €{confidential}depending on weather conditions).

(b) That there is a level of investment at the moment that exceeds the return from the network and the services it supports.

(c) That mandating performance targets where the weather impacts on fault occurrence is of little value and operationally unmanageable.

(d) That it opposes ComReg's comparison against another network stating that environmental issues unique to Ireland must be recognised.

(e) That it considers benchmarking "fault rates per 100 lines" with BT UK to be inappropriate, as there are structural differences which make the data unusable and it creates imprecise results.

5.3.3 ComReg Analysis

A number of respondents highlighted the state of Eircom's network and the need to invest in the network to ensure a better quality product. It seems reasonable to assume that the fault rate index and network investment are strongly linked. Accordingly, it is reasonable to suggest that failing to adequately invest in network maintenance, will trigger a higher number of fault reports.

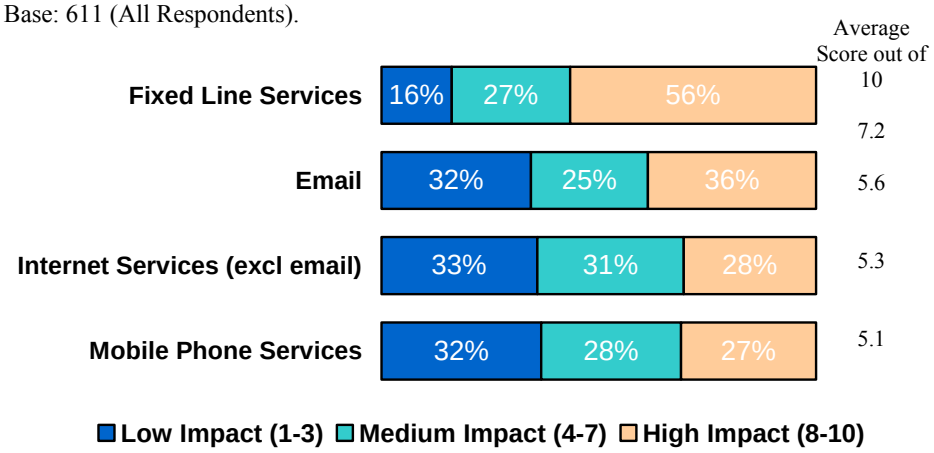
In response to Mr Hynes comment regarding the number of lines affected by a reported fault, ComReg notes that the metrics used to measure Eircom performance are those in the ETSI standard. The standard provides that only the number of faults is reported. The number of lines affected by the fault is therefore not reported.

In relation to BT's comment regarding data presented by ComReg in the Consultation, ComReg would like to clarify that the BT UK performance data used by ComReg was drawn from the UK industry comparator website (Topcomm). The UK regulator, Ofcom, requires all operators submitting data on the Topcomm website to audit performance data due for publication.

With regard to Imagine's comment that the proposed targets for fault occurrence are too generous and will take too long to implement, it should be noted that ComReg must have some regard for current performance levels. Taking current performance into account, ComReg considers that the targets are realistic and achievable by Eircom over the next period of years.

In relation to the points raised by Eircom, ComReg would firstly note that fault occurrence can have very detrimental consequences for consumers, particularly business consumers, and aged or vulnerable consumers. ComReg therefore strongly disagrees with Eircom's view that fault occurrence is not a reasonable USO metric. The level of faults that occurs can have a major effect upon consumers' use of communications services, and it seems entirely proper to ComReg that it should be included when considering the quality of delivery of the USO. The fact that fault occurrence is detrimental to consumers should of course be self-evident – but survey evidence also suggests that this is true. In ComReg's surveys of telecoms consumers, faults were repeatedly cited as having highly negative consequences. For instance, in a joint ComReg/Chambers Ireland survey from 2007 (set out in Figure 4 below) indicated that this is the case.

Figure 4: Impact of a One Day Breakdown of Services[17]



Respondents were asked to rate the impact of a breakdown of services on their company, using a scale from 1 to 10, where 1 means not at all critical and 10 means extremely critical. If the occasion were to arise that there was a one day breakdown of technology, the loss of fixed line telephone services would have the greatest impact on businesses.

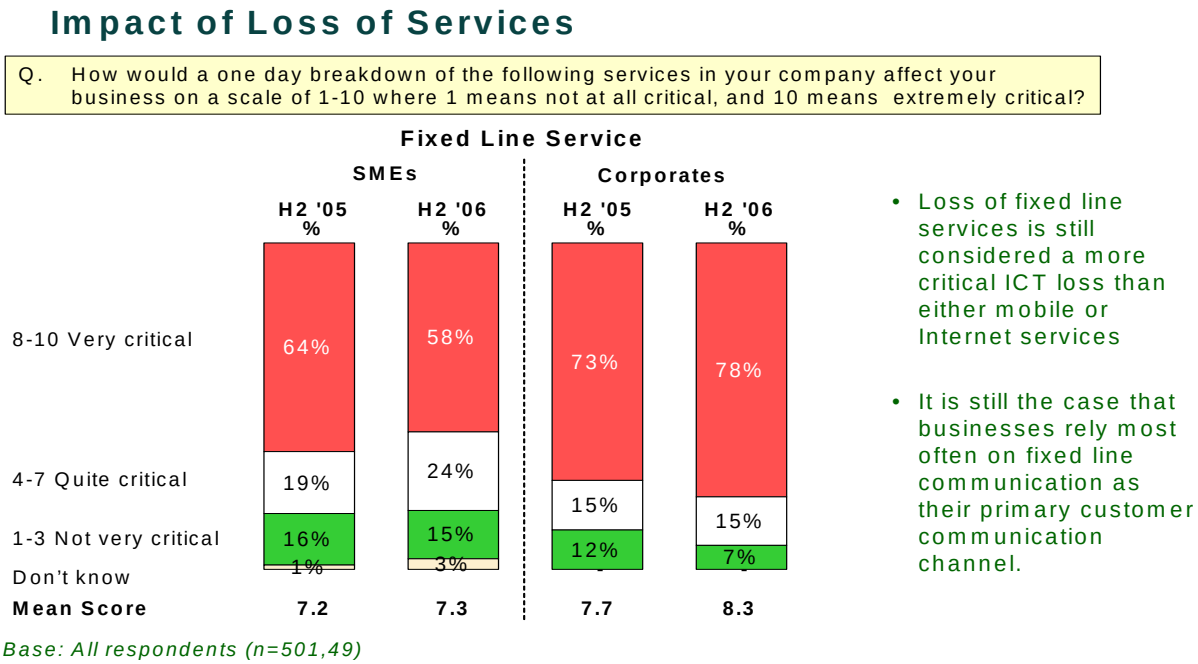
Over one in two businesses rated the impact of the loss of fixed line services as high impact (56%). The loss of email would have the next greatest impact (36% rate it as high impact). Opinions are somewhat mixed over the impact of the loss of internet services and mobile services. However, the majority of businesses believe the loss of any of these services would have at least a medium impact.

The larger organisations (100+ employees) would experience the impact of a breakdown of services to a greater extent and hence rate the impact for all four services as more critical than the smaller organisations. Financial service providers tend to rate the impact of a one-day loss of technology as more critical than other sectors.

[17] eBusiness Survey 2007 – Vol 1 – joint ComReg/Chambers Ireland survey.

Further evidence comes from a ComReg survey from 2006.[18]

Figure 5: Impact of Loss of Services



Impact of Loss of Services

Q. How would a one day breakdown of the following services in your company affect your business on a scale of 1-10 where 1 means not at all critical, and 10 means extremely critical?

	Fixed Line Service				Mobile Service*				Internet Service^			
	SMEs		Corporates		SMEs		Corporates		SMEs		Corporates	
	H2 '05 %	H2 '06 %	H2 '05 %	H2 '06 %	H2 '05 %	H2 '06 %	H2 '05 %	H2 '06 %	H2 '05 %	H2 '06 %	H2 '05 %	H2 '06 %
Mean Score	7.2	7.3	7.7	8.3	5.9	7.3	6.0	6.1	5.5	5.7	6.0	7.4

Base: All respondents (n=501, 49).
*Base: All businesses with company mobiles (n=270, 45).
^Base: All businesses with Internet access (n=438, 49).

[18] See ComReg 07/23a–The Internet and Broadband Experience for Business Users–Business Telecommunications Survey

The importance of a fixed-line phone to users with disabilities can also be seen from a recent survey that ComReg conducted in relation to users with disabilities experiences of using electronic communications.[19] When asked whether they agreed with the statement *"my fixed-line telephone service is vital so that I can contact people, and am contactable",* 64% of the sample agreed strongly with it, while a further 21% agreed slightly with it (with only 6% disagreeing). ComReg sees this as indicative of the importance of having a fixed-line phone to users with disabilities, primarily because it is their main source of contacting others, including whatever support structures they might need. Accordingly, losing that ability to contact others can be extremely detrimental and damaging. The survey also indicated that the proportion of users with disabilities with a mobile subscription was 18% lower than the general population, which suggests that users with disabilities (who may be particularly badly affected by not being able to contact others) are less likely to be able to contact others through a mobile phone when their fixed-line is non-operational.

Having examined survey evidence, we now move on to consider the proposed targets more fully. First, ComReg examined Eircom's historical performance.

5.3.3.1 Past performance

We show below Eircom's USO faults per 100 lines for 2007. ComReg currently publishes Eircom USO performance on a quarterly basis and, as such, the sum of all four quarterly results will indicate annual performance. This is in accordance with the ETSI standard.

Table 5: Reported faults per 100 lines - Eircom USO customers - 2007

	Q1 2007		**Q2 2007**		**Q3 2007**		**Q4 2007**	
	Res	**Bus**	**Res**	**Bus**	**Res**	**Bus**	**Res**	**Bus**
Faults per 100 lines	7.5	3.1	6.1	2.8	6.4	2.8	6.3	2.7

[19] See 07/78, "Research on the experiences of electronic communications services by users with disabilities", www.comreg.ie

Figure 6: Proportion of faults per 100 lines reported quarterly from January, 2006 to December, 2007

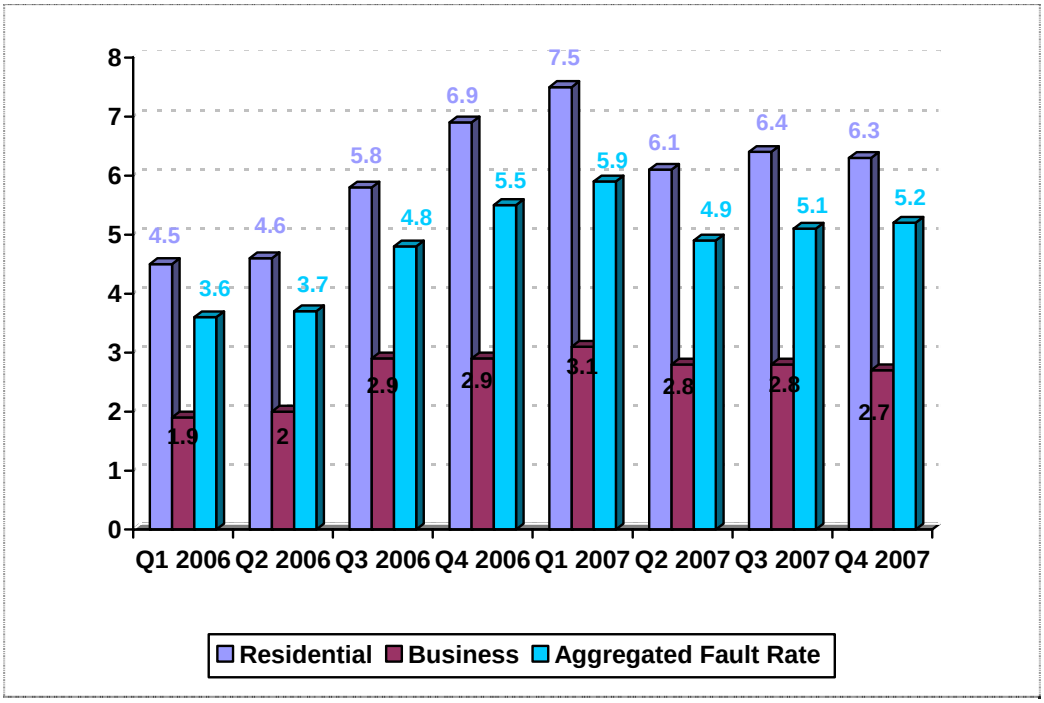


Figure 6 shows that the rate of fault reports increased steadily since the beginning of 2006, with only a slight improvement to be seen in Q2 2007, before deteriorating again for both Q3 and Q4 2007. The annual rate of faults per 100 lines for 2006 was 17.6 faults per 100 lines. For 2007, the annual rate increased to 21.1 faults per 100 lines.

Table 7 shows Eircom's line fault index ("LFI") over a period of 11 years from 1995/1996 -2005/2006. It should be noted that this refers to line faults, which are by far the main part of the overall set of faults per 100 lines. There are, however, exchange faults and "other" faults which are added to this to give the overall number of faults per 100 lines.

Table 6: Eircom LFI (confidential data removed)

Year (April – Mar)	LFI
1995/1996	
1996/1997	
1997/1998	
1998/1999	
1999/2000	
2000/2001	
2001/2002	
2002/2003	
2003/2004	
2004/2005	
2005/2006	

Fault occurrence for Eircom's entire business (relating to line faults) is represented in Tables 6 and 7. Most recent available information to ComReg splits Eircom/OAO subscribers as 78:22[20].

Table 7: Eircom LFI (Confidential data removed)

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Tables 6 and 7 show that Eircom achieved an LFI rate of around {confidential} over an 11 year period. Looking at recent data, exchange faults seem to increase this level by about {confidential} per 100 lines, while "other" faults seem to increase this by around another {confidential} faults per 100 lines. It should be noted that, according to Eircom, "other" faults are predominantly reported faults that, when tested by Eircom, do not actually appear to be leading to loss of service for the consumer. This may reflect customer misdiagnosis or alternatively, the intermittent nature of the fault. ComReg has in fact required that an external audit of the reporting mechanism be conducted to ensure, amongst other things, that it is fully compliant with the ETSI standard.

5.3.3.2 International comparisons

It is also instructive to compare Eircom's performance with USPs in other jurisdictions. In relation to Eircom's specific points at (a) and (b) above, Article 11 of the Universal Service Directive requires designated USPs to publish information on a number of measures of quality of service including fault rate, in accordance with standardised definitions of parameters and measurement methods[21]. The fault rate (usually expressed as the number of faults per 100 lines per year) for an operator will

[20] It should also be noted that Eircom currently has obligations in relation to non-discrimination in the provision of its services to all customers.

[21] ETSI EG 201 769-1, as updated by ETSI EG 202 057.

to a large degree reflect the current state of the access network which will in turn to a large degree reflect the past level of investment in the network.

Appendix B sets out data outlining faults per 100 lines for a large sample of European countries. Looking at this data, there is a wide range of performance, with some countries reporting extremely low rates, while others have significantly higher rates. In points (d) and (e) above, Eircom rejects comparison with other networks. ComReg recognises that, although all countries are supposed to report according to an agreed standard (the ETSI standard) there may, in practice, be some variation in types of measures used across countries. However, the idea of comparing Eircom's performance against other networks seems an inherently reasonable approach, and an examination of the figures suggests that, within the set of countries who report, Eircom is one of the poorer performers.

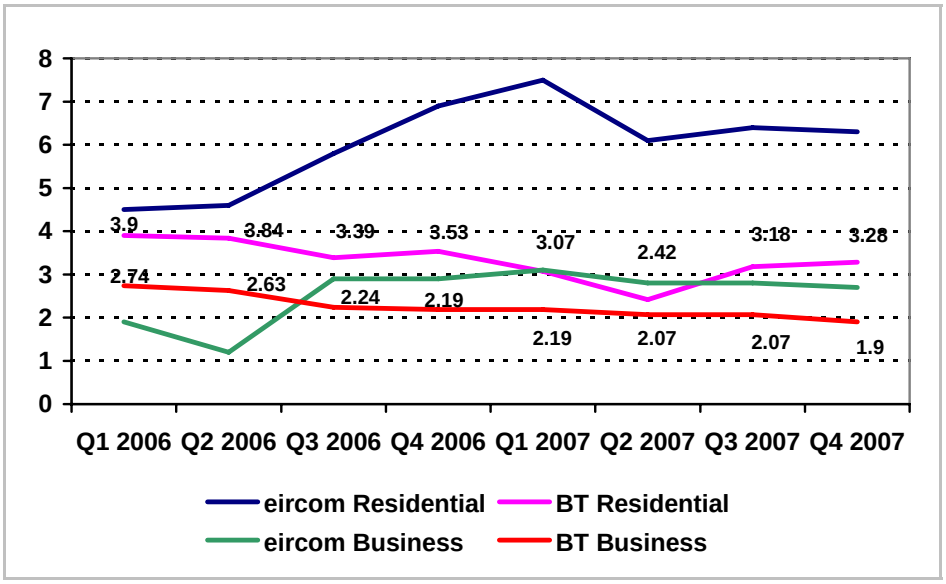
In relation to Eircom's points raised at (d) and (e) above regarding the appropriateness of making comparisons with another network due to environmental and structural differences, ComReg would also note that many other European countries have achieved significantly better performance, despite having potentially negative weather patterns. Many European countries have also succeeded in setting performance targets using similar costing models. Therefore, given that weather in Ireland does not seem to be excessively extreme and, taking account of the fact that Ireland's loop price is the highest in Europe, it seems reasonable to demand at least an average level of fault occurrence for Irish consumers.

In examining what other countries have done in this regard ComReg considered the UK as a very useful comparator for a number of reasons. The UK is a neighbouring country with a similar environment and climate. ComReg accepts that Ireland has longer lines than those in the UK due to the greater dispersal of the Irish population. However, this factor was addressed in both the determination of the local loop price and in the regulatory controls imposed in the retail narrowband access markets. Both the cost of the loop and the cost of line rental are significantly higher here than in the UK, mainly because of the need to account for longer lines. Therefore, Eircom is already fully compensated for the length of its lines, and it would seem unreasonable for Eircom to further claim that it should not be required to meet similar standards for line fault occurrence on these lines.

Eircom specifically refers to ComReg's benchmark with BT UK. It should be noted that a formal benchmark exercise was not conducted, but there was a comparison of performances between BT and Eircom. Performance data as reported on the UK industry comparator website (Topcomm) were used. Ofcom requires all operators submitting data on the Topcomm website to audit performance data due for publication.

Figure 5 illustrates a comparison with Eircom and BT in the UK. Although faults are quite high for Eircom Residential, Eircom Business rises slightly above BT Business between Q1 and Q4 2006. It is important to note that both Eircom and BT UK use the ETSI standard when calculating fault rate occurrences.

Figure 7: Comparison of Eircom and BT UK faults per 100 lines (BT figures are highlighted on the graph)



It can be seen that overall UK performance (the weighted average of the Residential and Business) is continuing to fall, and that over the last year, has reached a level below 12 faults per 100 lines, as measured by the ETSI standard. When this is compared with the proposed targets for Ireland, ComReg believes that the targets proposed are not onerous or harsh. As stated above, comparisons with other European countries are not perfect[22], but they do indicate that Eircom's performance is relatively poor. Some countries have not set performance targets, and measurements reported show considerable variations across countries. However, the UK measures performance in the same way as Ireland, in accordance with the ETSI standard, and for that reason, the UK is considered appropriate for comparison.

5.3.3.3 Cost estimates

As discussed in point (a) above, Eircom is of the view that attempting to achieve the proposed levels of LFI would involve an extra expenditure of between {confidential} million euros. These figures were not given by Eircom in its initial response, but as a result of further inquiries by ComReg this estimate was provided[23]. In order to assess fully the pattern of expenditure on ensuring efficient delivery of the USO and a relative minimisation of the number of faults, ComReg also required Eircom to provide data on recent and planned expenditure on ensuring that the network was maintained to a reasonable standard.

[22] See Appendix B which provides European data.

[23] It should be noted that Eircom reverted with revised estimates which are discussed later in this paper.

Table 8: Eircom Opex and Capex data from 1999 onwards (confidential data removed)

Year	99/ 00	00/ 01	01/ 02	02/ 03	03/ 04	04/ 05	05/ 06	06/ 07	07/ 08	08/ 09	09/ 10
Opex €m											
Capex €m											
Total €m											

Table 8 shows Eircom's Opex and Capex spend from 1999 and budgeted spend from 2007/2008 to 2009/2010.

The data above, provided by Eircom, refers to what is said to be "operational programme spend on LFI management". Data for years from 99/00 refer to actual spend, while data for years 07/08 to 09/10, (the figures are denoted in italics) refers to projected spend in this area for the next three years. Eircom says that the projected spend in the next three years should be sufficient to attain an LFI of {confidential} (assuming average weather conditions). Eircom refers to Opex as being spend that falls into the category, preventative maintenance, while Capex is categorised as network replacement. Network renewal is driven by two reasons – (i) health and safety issues and (ii) network performance.

It should be noted from the above table of data that in relation to Capex, the distinction between the two types of programme is not available prior to 2002/2003 and the figures provided prior to this date include both categories (i) and (ii) outlined above. Figures provided from 2002/2003 refer to category (ii) only.

In relation to Opex, the distinction between the two categories of programme is not available prior to 2004/2005 and the figures provided prior to this date therefore include both categories (i) and (ii). Figures provided from 2004/2005 refer to category (ii) only.

Figure 8: Eircom Opex and Capex Data (confidential data removed)

On examining these figures, ComReg would {confidential} In 06/07, total spend (Capex and Opex) was less than {confidential} of total spend in 04/05, and this is using nominal figures. In real figures the level is closer to {confidential}. As noted above, recent performance in the level of fault occurrence has also worsened, notably in 2007, with the number of faults per 100 lines increasing by roughly 3.5 faults per 100 since 2006.

The italicised figures from Table 8 above represent Eircom's proposed spend on this area over the next 3 years. While ComReg welcomes {confidential}, it would note that, even if this is delivered on, total Capex and Opex in 09/10 would still be {confidential}. Indeed, given the overall increase in the general price level since that period, in real terms {confidential }– if one assumes an increase at the rate of inflation in the Consumer Price index ("CPI") between 04/05 and 09/10, the adjusted level of spend in 09/10 will be {confidential} of the amount spent in 04/05. Moreover, while the figures do represent proposed level of spend; there is no guarantee that this amount will actually be spent. The establishment of binding targets will, as Eircom suggests, entail increased expenditure on the network, but it will also result in a declining fault rate and a better quality of service.

Table 9: Investment per Eircom working line (confidential data removed)

Year	**99/00**	**00/01**	**02/02**	**02/03**	**03/04**	**04/05**	**05/06**	**06/07**
Working Lines (incl PSTN, BRA, PRA)								
Spend per working line €								

Eircom calculated the investment per working line using data from total spend on Opex and Capex (see Table 8) and dividing it by the total number of working lines as provided in Table 9 above.

Figure 9: Eircom Investment per working line (confidential data removed)

Table 10: Eircom's investment net of capital-labour from 2000 (confidential data removed)

Year	00/01	02/02	02/03	03/04	04/05	05/06	06/07
Opex €m							
Capex €m							
Total €m							

Table 10 shows Eircom's investment with capitalised labour extracted from the Capex data provided in Table 8 above.

Figure 10: Capex net of capitalised labour (confidential data removed)

As discussed above, Eircom also provided estimates (based on average weather conditions) on what it envisaged would be required on extra spend in order to meet the proposed targets for fault rate occurrence. All figures are in millions of euros.

Table 11: Spend required to meet ComReg proposed fault rate occurrence targets, in addition to Eircom current approved budget (confidential data removed)

Fault level	Opex	Capex	Total
.150			
.135			
.125			

Thus, according to Eircom, should ComReg proceed with its proposed targets, Eircom would be required to spend, over three years, {confidential} million more than its proposed level of spending in order to meet them.

Some time after this set of cost estimates was received; Eircom provided further estimates to ComReg which it believed to be more appropriate. This appears to have been due to (i) the initial set of estimates were based on line faults only, and Eircom believed it needed to adjust them to take into account exchange faults and "other" faults; (ii) since the original estimates were provided to ComReg, Eircom suggested that worse weather conditions and poorer results than expected on the number of faults indicated that achieving the proposed targets was likely to be more costly than they had anticipated.

Table 12: Revised cost estimates provided by Eircom to meet ComReg proposed targets (confidential data removed)

Fault level	Opex €m	Capex €m	Total €m
.125			

ComReg has a number of points with regard to figures presented in Table 12. Firstly, incumbent operators in general when faced with obligations would have an incentive to overstate the cost of meeting those obligations. Given that the information supplied consists of forecasts it is possible that the actual expenditure required to meet a given level of target is lower than the forecasts. ComReg has analysed these figures, and is of the view that they are likely to be over-estimates of the actual amount. There are a number of reasons for this, but a particularly important one is the very considerable savings in general operating costs that would accrue to Eircom from a significant reduction in the level of faults.

Secondly, and fundamentally, Eircom's regulated prices are based on the long run cost of an efficient modern network through its regulated wholesale loop price and price control on narrowband access services. In order to give full context to this, the price of the local loop (Eircom's access network) was determined by ComReg in late 2004 as being €14.65. It has increased at CPI levels since then. The price cap on retail narrowband access services (which allows Eircom to be compensated for line rental and connections) was set in 2007, and included the regulated loop price as a basis for the overall level of charges. The price cap included assessing the level of line cards, fault repair (which is discussed further in the next section) and retail costs to add to the cost of the loop.

Thirdly, ComReg is mindful of the incentive that any operator with market power facing a price control would, in the absence of controls on the quality of service have an incentive to minimise spend, even if this may reduce the offered quality of service. This will lead to the operator receiving the price which reflects costs of providing at one quality level, but providing it at a lower quality level. ComReg is strongly of the view that this kind of behaviour could have highly negative consequences for Irish consumers, and is determined that it should not take place.

Fourthly, ComReg would note that the cost of the local loop, and indeed of line rental, is the highest in the EU. In particular, when the local loop was priced, it was costed on the basis of an efficient, modern network based on the Modern Equivalent Asset ("MEA") principle. This would imply that such a network should deliver a high level of network performance, which would include a relatively low level of fault occurrence. In particular, data from the model employed shows that Eircom was given a considerable allowance for maintaining it at an efficient level. The model allowed {confidential} million direct Opex and {confidential} million indirect Opex per year to maintain a new efficient network. This was based on data from 2004, and this will have increased at the level of CPI since that period.

In particular, in assessing the impact of the proposed targets, ComReg believes it is unreasonable to assess the cost to Eircom purely on what Eircom suggests is the incremental cost of applying the obligation in the short term, compared to the counterfactual of maintaining performance at a lower level than assumed when setting price controls. Price controls have been set such that the level of revenues

should provide a reasonable return in the long run to an efficient operator operating a modern network. ComReg does not attempt to specify exactly how much Eircom should spend on every specific aspect of its operations. However, Eircom is supposed to ensure sufficient spend as to give consumers satisfactory service. The evidence clearly shows {confidential}, as well as a clear decline in performance. In this case, ComReg is of the view that that it is unreasonable to argue that the incremental cost of improving performance is too high, when it would appear that {confidential}. Overall, ComReg is of the view that the only way to reverse this pattern is to set clear and legally binding performance targets.

Finally, in response to Eircom's point raised above at (c) - that mandating targets for fault occurrence where the weather impacts performance is of little value and operationally unmanageable – ComReg would note the following. First, poor weather conditions are not unique to Ireland, and indeed, Ireland does not experience the extremes that some other Northern European countries experience. While individual quarters may experience extreme weather events – particularly in the winter months – the effect is likely to even out over a year.

In summary, ComReg's view is that all of the evidence shows that legally binding targets are a reasonable and proportionate regulatory requirement. This is primarily because of the fact that Eircom is already fully compensated for a modern network. With regard to the information Eircom has provided to ComReg which purports to estimate the costs of complying with ComReg's proposed performance targets, ComReg has carefully examined this data. ComReg's examination would indicate that there is a strong *prima facie* basis to suggest that Eircom's estimates are over-stated, possibly to a considerable degree. (Indeed, there are also good reasons to suggest that incumbent operators in general, may have an incentive to over-estimate the costs of improving performance). However, ComReg is firmly of the view that the proposed measures are reasonable even if the estimates provided by Eircom are correct. ComReg would therefore stress that even if it allows for Eircom's estimates as being accurate and reasonable, it is firmly of the view that the imposition of these binding performance targets is still necessary, proportionate and justified in all of the circumstances.

ComReg is thus firmly of the view that legally binding targets are necessary and justified. However, ComReg also recognises that improving performance from its current unsatisfactory level may take time, as increased spend on reducing fault occurrence will need time to be effective. It would note that in the Consultation, ComReg did allow for this by specifying a glide path over a number of years. Having considered all the submissions and evidence, ComReg is of the view that the final target of 12.5 faults per 100 lines should still be achieved, but that, considering the time needed for increased investment to have a positive affect, a longer time period should be given to achieve it.

ComReg is therefore suggesting a target of 15.5 faults per 100 lines to be complied with by end June 2009. Performance should improve over time until a level of 12.5 faults per 100 lines is achieved by the end of June 2012.[24] This glide path will

[24] Note: Eircom's designation as the USP currently lasts until 30 June 2010. If it is not designated as the USP at that time, then the targets after this will not apply after that date.

deliver better quality of service for consumers, while allowing Eircom sufficient time to improve the network to an acceptable level of fault occurrence. It should also be noted that this should reduce the cost expenditure estimates that Eircom has suggested it would have to make in order to achieve the targets. As noted above, ComReg is of the view that it is unjustified for Eircom to argue that costs to meet the targets will increase when {confidential}. However, the extended glide path will lower the level of incremental expenditure required to meet the targets.

5.3.3.4 ComReg Position

The above analysis discussed some of the issues about the cost of setting legally binding targets. The RIA discusses, in depth, the considerable benefits that consumers are likely to experience, resulting from lower fault occurrence.

Having taken into account the evidence and the responses received in the Consultation, and indeed all the issues from the submissions received, ComReg has decided to impose performance targets for fault occurrence as follows:

- 15.5 faults per 100 lines to be met by the end of June 2009.
- 14.5 faults per 100 lines to be met by the end of June 2010.
- 13.5 faults per 100 lines to be met by the end of June 2011.
- 12.5 faults per 100 lines to be met by the end of June 2012.

These targets are being set as legally binding obligations. Non-compliance with these obligations will attract the enforcement procedures as outlined in section 6 of this Decision Notice.

5.4 Fault repair timescales

5.4.1 Consultation issue

The previous section referred to the occurrence of faults to USO customers. This section deals with the related, yet separate, issue of the time required to repair such faults. Obviously, Eircom's ability to repair faults promptly will partly depend on the number of faults reported at a given time. ComReg believes that it is also appropriate to have a realistic service commitment in place for consumers. Eircom's current commitment is to attend to faults within 2 working days, with exceptions. However, ComReg expressed the view that fault repair work should not be restricted to working days only, bearing in mind that the service should be available for use by consumers on a continual basis. For that reason, ComReg proposed that targets for fault repairs be expressed in calendar days and calculated from the day after the fault is reported, as follows:

- 80% of fault repairs to be completed within 2 calendar days.

- 95% of fault repairs to be completed within 4 calendar days.
- 100% of fault repairs to be completed within 7 calendar days.

Where the customer agrees a date for fault repair with Eircom, the performance target shall be as follows:

- 90% of faults to be repaired by the time agreed with the consumer.

The Consultation asked the following question:

What are your views on the proposed targets for repair times?

5.4.2 Views of respondents

ALTO, BT, the CAI and Mr EJ Hynes supported the move to calendar days while BT stated that ComReg should be applauded for this customer-friendly proposal.

ALTO accepted the proposed targets and welcomed the move to calendar days.

BT was supportive of calendar days. However, BT proposed the measurement to be reported in 'clock hours' and that time taken to repair faults should be calculated from the time the fault is logged. BT also pointed to the issue of 'confirmed clear windows', which can be problematic if the customer is at work and the timeframe is too short to confirm. A 24-hour customer clear time would be practical, it suggested. BT also suggested a move towards a more transparent approach to engineer appointments to ensure that the customer is at home to facilitate access.

Imagine did not accept the proposal that fault repair should be calculated from the day after the fault is logged. While Imagine accepted that the proposed targets for repair times, it stated that fault recurrence needs to be addressed. Imagine expected that fault recurrence should be given priority and should be resolved within 24 hours. From a business perspective Imagine was of the view that a 2 day calendar timescale for repair is not acceptable. Imagine proposed the following targets:

- 80% of faults repaired within 24 hours.
- 90% of faults repaired within 48 hours.
- Recurrence of faults to be given priority and resolved within 24 hours.

The CAI was supportive of targets being expressed in calendar days. The CAI questions why a 100% target cannot be applied for faults to be repaired by the time agreed with the customer.

Mr EJ Hynes welcomed 2 calendar days as opposed to Eircom's working day standard. Mr Hynes queried whether it would be possible to have shorter targets for business lines bearing in mind that consequences for businesses, in terms of costs, are greater.

Maurice Fitzgerald stated that all repairs should be resolved within 5 working days. Mr Fitzgerald views the proposed target for repair time to be agreed with the consumer as a "cop-out clause" in favour of the operator.

Eircom did not support the move to calendar days as proposed in the Consultation.

(a) Eircom believed that the working day is a fair and reasonable approach for measuring its standard of service. Drawing on its experience, Eircom said it was of the view that residential customers would not appreciate encroachment on recreational time to accommodate service appointments. Eircom further stated that a move from working day to calendar day would have an unreasonable impact both, from an operational and financial perspective. ComReg sought clarification of the financial impact submitted in the Eircom response. Eircom responded stating that the proposal to move from working day to calendar day would involve an estimated {confidential} additional field staff at a cost of approximately {confidential} per annum.

(b) For the business sector Eircom contended that the premises are not open for business to either report faults or accommodate access for repair.

(c) Eircom further stated that ComReg is attempting to impose on the civil liberties of the workforce proposing such a move. It also should be borne in mind that weekend attendance attracts additional "premium" costs.

(d) With regard to the proposed target for faults to be repaired by the time agreed with the customer, Eircom maintained that it is impossible to agree a repair time with a customer in advance of the fault analysis being completed.

(e) In relation to fault repairs, there are no guideline targets in place which could be measured through existing Retail and Wholesale contracts.

5.4.3 ComReg Analysis

As stated previously, while aspiring to meet targets within 24 hours or less may be operationally viable, delays of less than 24 hours to complete requests has no bearing on quality of service performance measurement. Calculation of performance is based on whole days and not hours. This is in line with the ETSI measurement standard.

Imagine's point is well-made in that it is timely for Eircom to look at its operations and assess whether it is an efficient operation. This could help identify the issue of

fault recurrence and provide a platform for Eircom to develop a plan to minimise cause for fault recurrence. Taking the needs of businesses into account, perhaps it is timely also for Eircom to pursue the prospect of providing an added value service for the business sector, while at the same time ensuring that resources are not deflected from its USO with regard to residential customers.

Mr Hynes point in relation to shorter targets for businesses is interesting and it seems like a reasonable request. As stated above, ComReg believes there is no reason why Eircom could not facilitate business customers if the demand is there to be met. Again there would be a need to ensure that existing resources assigned to meet the needs of residential customers would not be diverted to meet business needs.

It is clear from Eircom's response at point (a) above, that it does not welcome the suggested move from working day to calendar day. However, the increase in fault occurrence and delays experienced in repair work sends out a clear signal that a new approach is necessary to ensure that end users receive a standard of service that is acceptable for a modern business. Many customers bitterly complain about having to take time off work to wait for repairs to be conducted, sometimes in vain, when it transpires that the work required will necessitate a return visit and more time is required to be taken off work or alternative plans are required.

As with the previous section relating to line fault occurrence, it seems appropriate to examine both Eircom's recent performance, and performance in other countries. The data below examines recent data on times needed to repair faults.

Table 13: Reported fault repair time – 2007

	Q1 2007		**Q2 2007**		**Q3 2007**		**Q4 2007**	
	Res	**Bus**	**Res**	**Bus**	**Res**	**Bus**	**Res**	**Bus**
Fastest 80% completed (working hours)	38.8	33.9	31.6	29.5	32.2	29.6	28.6	24.2
Fastest 95% completed (working hours)	74.5	71.7	66.9	65.0	67.1	65.3	65.8	59.5

Table 13 displays reported fault repair performance for 2007 to date. As will be explained below, throughout Q4 2007, for 20% of fault repair cases Eircom Residential customers waited in excess of 28 working hours for repairs and Business customers waited in excess of 24 working hours for repair. For 5% of fault repair cases Eircom Residential customer waited in excess of 65 working hours and Business customers waited in excess of 59 working hours for repair.

Figure 11: Trend for fault repair times from January, 2006 to December, 2007 (in working hours)

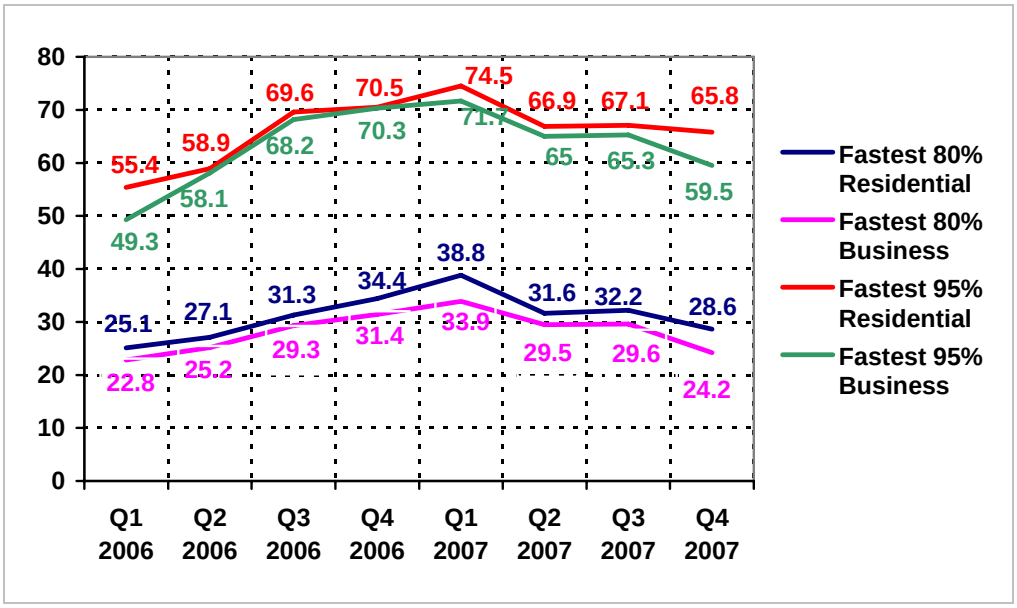


Figure 11 is an extract from the Information Notice outlining Eircom's most recently reported quality of service performance for Q4 2007[25]. The figure highlights the consequential impact on the increase in fault rate per 100 lines by the time taken to repair faults and restore service to customers. However, as acknowledged by Eircom, performance is not satisfactory. While the trend from Q2 2007 seems to indicate an improvement in the speed of fault repair, this should be set against the basic trend which saw an increase in time needed for repair throughout 2006.

ComReg also examines performance[26] in other European countries. Again, there is a degree of variation across countries, but it should be noted that a large number of countries have set performance targets for fault repair times. Again ComReg would note that comparisons should be regarded as indicative rather than definitive. That said it appears that the proposed targets are not unreasonable when compared with a large number of other countries.

5.4.3.1 Cost estimates

According to a presentation provided to ComReg in June 2007, Eircom clears over {confidential} line faults per year and {confidential} staff is dedicated to this effort.

Assuming 250 days per year (i.e. discounting weekends and bank holidays) this represents a clearance rate of 1200 per day and {confidential} per resource per day. If the proposed targets were put in place, then, to cover weekends, Eircom proposes

[25] ComReg Document No 08/38

[26] See Appendix B which provides European data.

to place {confidential} extra resources in the field. Assuming there is no increase in faults, per resource efficiency reduces to {confidential}. ComReg finds this difficult to understand. ComReg accepts that this analysis is necessarily crude (e.g. it discounts holidays, supervisory overhead, absenteeism), but it does seem to provide some evidence that the estimate of the increase in costs may be somewhat overstated.

Also, at the moment there is no facility for Eircom customers to report faults at the weekend. It is not unreasonable therefore to assume that if faults are not reported at the weekend, there must be a surge of reporting on Mondays (i.e. effectively three days of faults). This in itself must place huge pressure on Eircom's commitment to 48 hour clears.

The cost-base used to set the retail price cap for Eircom includes explicit estimates for repair costs. It should be noted that this does not derive from the local loop model, as the cost of fault repairs is subtracted from the Opex allowed in that model. However, when the price cap level was calculated, Eircom received an allowance for fault repair reflecting an estimate of the level of costs of an efficient operator. This was set at over {confidential} million in 2007/2008. Eircom is therefore already compensated for its fault repair activities. Eircom has communicated to ComReg that it does not agree with the estimate used in calculating the price cap. However, this estimate was identified, consulted on, and then formed part of the final decision as to price cap level, which was, ComReg would note, not legally challenged by Eircom.

With regard to Eircom's argument at (b) above, that businesses are not open to report faults or accommodate access at weekends, it seems clear that the issue of weekend attendance does not arise. If companies are open and willing to do so, it appears sensible that Eircom develops a service to meet the needs of the business sector on a commercial basis.

With regard to Eircom's argument at (c) above in relation to the possible interference with the civil liberties of Eircom workforce, ComReg recognises that weekend attendance generally attracts higher costs. However, this phenomenon is not exclusive to Eircom. Providing a service over a weekend is something that is well established by other service providers. In the energy sector – a utility with similar network characteristics to the fixed-telecom sector - faults are worked on at weekends. While it would clearly necessitate some restructuring of attendance, and additional costs may need to be borne, it should be recognised that there are benefits to be gained also, such as greater customer satisfaction.

Further analysis and discussion of the benefits to be gained by consumers is contained in the RIA. However, ComReg is of the view that one of the main costs to consumers is the length of time taken by Eircom to repair faults despite the fact that a service has been paid for and is therefore expected to function. It is this disruption, this failure of a service which is expected to be relied on, that seems most damaging to consumers. Obviously, this will also seriously impact business customers, whose business and reputation may depend upon being able to be reliably contacted by their customers. It should also be noted that being without a phone may be particularly harmful for aged and vulnerable residential customers, who may not be able to

contact relatives or friends they depend upon. These points are developed more in the RIA.

With regard to Eircom's argument at (e) above, it is not entirely clear to ComReg what point is being made here but the crux of the statement appears to be that if a parameter is not measured by retail or wholesale, it should not be measured. This seems illogical to ComReg. There is no reason not to collect data that is beneficial. Furthermore there are performances targets in place for wholesale products. In terms of the percentage of faults that must be repaired within a given period, a performance target of 73% within 3 working days is set. As outlined in the LLU SLA, comparable targets are detailed in contracts associated with other Wholesale Products.

In relation to the point that there are no existing retail guideline performance targets for fault repair, it is true to say that ComReg did not set guideline targets for fault repair when setting guideline targets for connections in 2005. However, this does not at all mean that guideline targets must be necessary to commence measurement of performance. It should be noted that Regulation 10 of the Universal Service Regulations permits ComReg to set binding performance targets, not only for connections, but also for such other elements of the USO as are appropriate. Based on current Eircom performance, ComReg is of the view that that its performance is sufficiently poor as to make it appropriate to set binding targets.

Eircom also makes reference to the wholesale framework which implies that the proposed USO performance targets are constrained in some way by the wholesale performance targets. This was discussed in the previous section relating to line fault occurrence. In ComReg's opinion, the targets are not directly linked and equating the wholesale performance and USO performance targets is inappropriate. The wholesale performance targets are negotiated between Eircom and OAOs on a commercial basis, which is quite a different matter to the principles of minimum service, set at a certain quality level associated with the provision of the USO. The wholesale performance targets agreed with industry are normally a commercial compromise with the OAO(s) choosing specific market segments based on commercial logic. Furthermore, OAO(s) may choose to compensate customers when targets contained in its customer contract are not achieved. However, ComReg agrees with Eircom's linkage of the USO and wholesale performance in one respect as it is desirable that the USO performance targets are set as minimum acceptable performance targets and that any wholesale performance targets are at least equal to or possibly better than the USO performance targets.

Overall, ComReg disagrees with many of the arguments made by Eircom on this issue. However, while it questions Eircom's estimates of costs, it is recognised that moving from a "working day" standard to a "calendar day" standard is likely to require some change to work practices and existing contractual arrangements which could lead to significant extra costs being imposed on Eircom.

ComReg has considered Eircom's representations and believes many of them are reasonable. Accordingly, ComReg does not propose to move to a "calendar day" standard at this time. However, it is clear that, as discussed above, Eircom's

performance in fixing faults is poor, and ComReg is of the view that legally binding targets are necessary. However, they will be expressed in working days rather than calendar days. ComReg believes that, while setting such targets may involve extra costs, they should not involve significant changes to work practices, or existing contractual arrangements and should be much easier and less costly for Eircom to meet while still delivering considerable benefits to consumers. Moreover, as significant new investment is not required, the targets should be capable of being met relatively quickly. Accordingly, it is not proposed to set a "glide path", but rather to set targets which should be capable of being met by 30 June, 2009.

Recent performance shows that the top 80% of faults require nearly 4 working days to fix. This performance has worsened since the start of 2006. The Consultation suggested that 80% of faults should be repaired in 2 calendar days. ComReg has decided that 80% must be repaired in 2 working days, while 95% must be repaired within 4 working days, with 99.8% in 5 working days and all fault repairs must be completed within 10 working days.

The Consultation also suggested that 90% of faults should be repaired by the agreed date. It could be argued – taking up the point raised by Mr Fitzgerald in his response to the Consultation - that this target, which is designed to ensure that there are limited inefficiencies due to the fault repair team not being able to gain access to the premises, should be stricter, as once a date is agreed, the repair should be carried out. Accordingly, ComReg is setting a target of 95% for this metric.

5.4.3.2 ComReg Position

Overall, ComReg is of the view that fault repair times are poor, and that setting binding targets is needed to improve on this. It would also note that reducing the level of fault occurrence (as proposed in the previous section) will reduce the level of faults and have a "knock-on" effect on reducing the amount of fault repair costs. It further notes that the proposed increase in costs by Eircom seems high, and would note again that considering the incremental cost hardly seems appropriate when previous performance has been poor due to underinvestment. The benefits to faster fault repair times are discussed in some detail in the RIA, but they are likely to lead to considerable consumer benefit. Having considered all the issues from the submissions received ComReg is setting performance targets for fault repair times as follows:

- 80% of fault repairs must be completed within 2 working days.
- 95% of fault repairs must be completed within 4 working days.
- 99.8% of fault repairs must be completed within 5 working days.
- All fault repairs must be completed within 10 working days.

Where the customer agrees a date for fault repair with Eircom, the performance target shall be as follows:

- 95% of fault repairs to be completed by agreed date.

These targets are being set as legally binding obligations. Non-Compliance with these obligations will attract the enforcement procedures as outlined in section 6 of this Decision Notice.

6 Enforcement of the performance targets

The Decision Instrument in Appendix A formally sets out the performance targets that Eircom must achieve. These targets are legally binding and enforceable obligations on Eircom.

A failure by Eircom to achieve any of the targets as set out in the Decision Instrument in Appendix A would be considered by ComReg to be non-compliance by Eircom with its regulatory obligations and would have the potential to attract enforcement action by ComReg in accordance with the procedures provided for under Regulation 32 of the Universal Service Regulations.

In summary, these procedures would involve ComReg notifying Eircom of a finding of non-compliance with its obligations imposed under Regulation 10 (4) of the Universal Service Regulations and if appropriate, ComReg applying to the High Court for all orders appropriate by way of enforcing compliance by Eircom with its obligations.

Amongst the orders that ComReg could apply for would be an order for the payment by Eircom to ComReg of a financial penalty. ComReg would also expect to seek a declaration from the High Court that Eircom had breached its obligations, orders directing Eircom to comply with its obligations in the future and any further ancillary orders and conditions that should be attached to such orders.

Note that, as discussed earlier, should Eircom not be designated as the USP beyond June 2010, then the targets beyond that date will not apply. ComReg stresses that the decision as to any USP designation will be fully consulted on before any decision is made.

APPENDIX A - DECISION INSTRUMENT

1 STATUTORY POWERS GIVING RISE TO OBLIGATIONS

1.1 The obligations in this Decision Instrument are imposed on Eircom Ltd ("Eircom") by the Commission for Communications Regulation ("ComReg"):

1.1.1 Pursuant to Regulation 10 (4) of the European Communities (Electronic Communications Networks and Services) (Universal Service and Users' Rights) Regulations 2003 and s 10 (1) (a) of the Communications Regulation Act, 2002;

1.1.2 Having regard to s 12 (2) (1) of the Communications Regulation Act, 2002, Regulation 3 of the European Communities (Electronic Communications Networks and Services) (Universal Service and Users' Rights) Regulations 2003, ComReg Decision Notice entitled *"The Future Provision of Telephony Services Under Universal Service Obligations"* dated 25 July, 2006 and the reasons set out in the preceding sections of this Decision Notice; and

1.1.3 Having regard to the views expressed by interested parties, including those expressed pursuant to the public consultation carried out in accordance with Regulation 27 of the European Communities (Electronic Communications Networks and Services) (Universal Service and Users' Rights) Regulations 2003 entitled *"Consultation Paper - Consultation on Universal Service Performance Targets"* dated 1 August, 2007.

1.2 The reasons and rationale for the individual decisions as set out in the preceding sections of this Decision Notice shall where necessary be construed together with this Decision Instrument.

2 GENERAL

2.1 Eircom hereby has imposed on it the obligations to achieve and to fully comply with performance targets in respect of the services referred to in Regulation 3 of the European Communities (Electronic Communications Networks and Services) (Universal Service and Users' Rights) Regulations 2003 and as specified in sections 3, 4 and 5 hereof.

3 OBLIGATIONS ON EIRCOM WITH RESPECT TO CONNECTIONS

3.1 Eircom shall achieve and fully comply with the following performance targets for in-situ connections:

1. 80% of all in-situ connections shall be completed within 24 hours of request.

2. 99.8% of all in-situ connections shall be completed within 2 weeks of request.

3. All in-situ connections shall be completed within 2 months of request .

3.2 Eircom shall achieve and fully comply with the following performance targets for all other connections:

1. 80% of all requests shall be completed within 2 weeks of request.

2. 85% of all requests shall be completed within 4 weeks of request.

3. 90% of all requests shall be completed within 8 weeks of request.

4. 95% of all requests shall be completed within 13 weeks of request.

5. All requests shall be completed within 26 weeks of request.

3.3 Where the applicant agrees a date for completion with Eircom, the performance target shall be 95% of connections to be completed by such agreed date.

3.4 The targets referred to in this section 3 shall be achieved and fully complied with by Eircom by 30 June, 2009.

4 OBLIGATIONS ON EIRCOM WITH RESPECT TO FAULT RATE OCCURRENCE

4.1 Eircom shall achieve and fully comply with the following performance targets with respect to fault rate occurrence:

1. A maximum fault rate of 15.5 faults per 100 lines shall be achieved and fully complied with by 30 June, 2009.

2. A maximum fault rate of 14.5 faults per 100 lines shall be achieved and fully complied with by 30 June, 2010.

3. A maximum fault rate of 13.5 faults per 100 lines shall be achieved and fully complied with by 30 June, 2011.

4. A maximum fault rate of 12.5 faults per 100 lines shall be achieved and fully complied with by 30 June, 2012.

5 FAULT REPAIR TIMES

5.1 Eircom shall achieve and fully comply with the following performance targets with respect to fault repair times:

1. 80% of fault repairs shall be completed within 2 working days.

2. 95% of fault repairs shall be completed within 4 working days.

3. 99.8% of fault repairs shall be completed within 5 working days.

4. All fault repairs shall be completed within 10 working days.

5.2 Where the customer agrees a date for fault repair with Eircom, the performance target shall be 95% of fault repairs to be completed by such agreed date.

5.3 The targets referred to in this section 5 shall be achieved and fully complied with by Eircom by 30 June, 2009.

6 PERFORMANCE MEASUREMENT

6.1 Performance by Eircom relating to the obligations in sections 3, 4 and 5 shall be determined by reference to the information normally set out in ComReg information notices published every quarter and entitled *"Provision of Universal Service by Eircom - Performance Indicators"* or as may be published by ComReg in such other format from time to time.

7 NON-COMPLIANCE WITH OBLIGATIONS

7.1 The failure by Eircom to achieve any of the targets referred to in sections 3, 4 and of this Decision Instrument will constitute non-compliance giving rise to the enforcement procedures set out under Regulation 32 of the European Communities (Electronic Communications Networks and Services) (Universal Service and Users' Rights) Regulations 2003.

8 GUIDELINES WITH RESPECT TO CONNECTIONS SUPERCEDED

8.1 The provisions of this Decision Instrument supersede the guideline targets in relation to requests for connection at a fixed location set out in the ComReg document entitled *"Decision Notice and Response to Consultation: Universal Service Requirements - Provision of access at a fixed location – connections to*

public telephone network and provision of functional Internet access" dated 7 September, 2005.

9 EFFECTIVE DATE

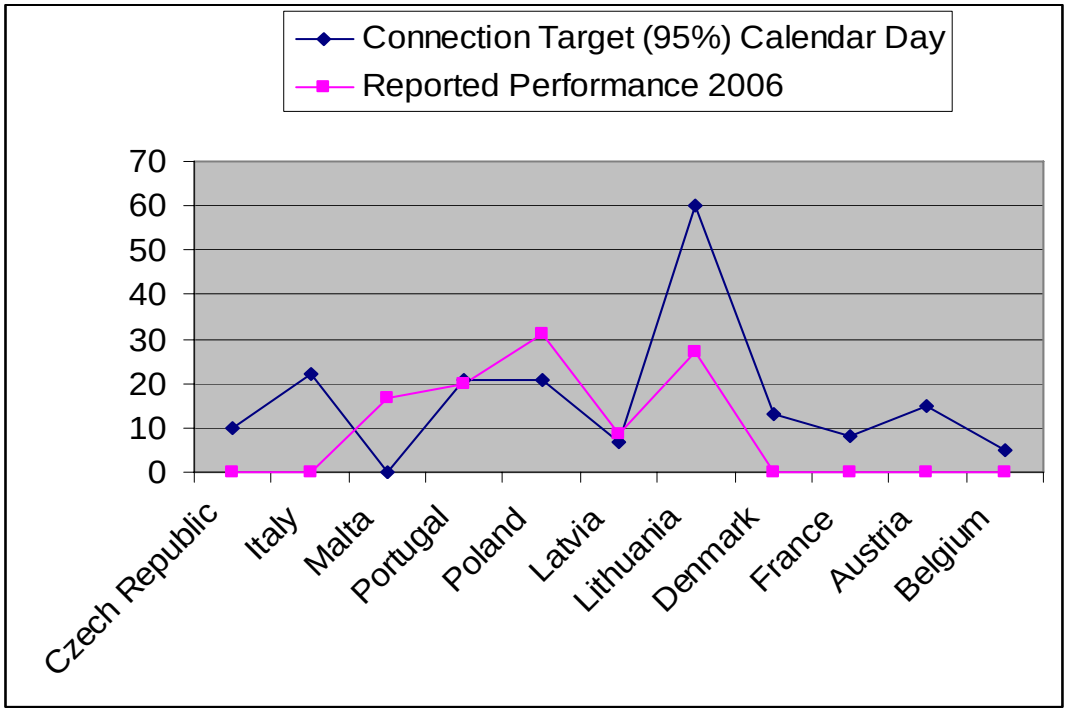
9.1 This Decision Instrument is effective as of the date of its publication.

JOHN DOHERTY
CHAIRMAN
COMMISSION FOR COMMUNICATIONS REGULATION

28 MAY, 2008

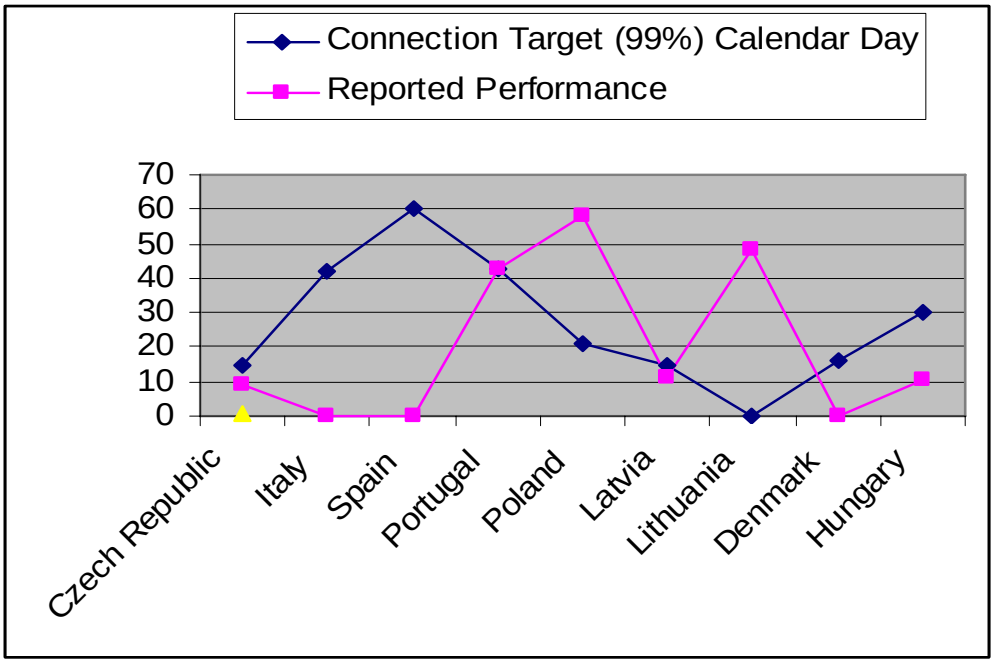
APPENDIX B – EUROPEAN DATA

European Connection Targets and Reported Performances – 95%



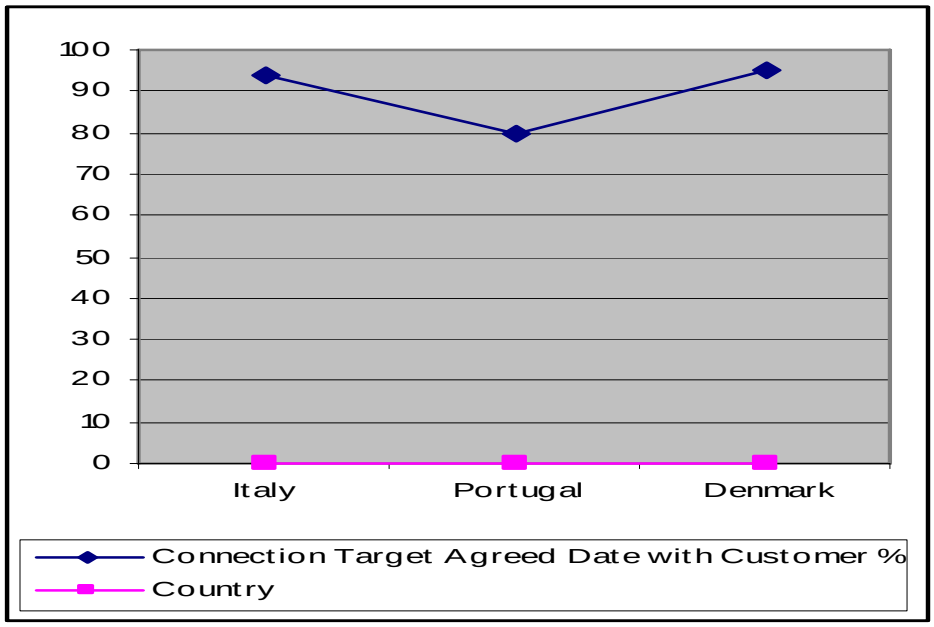
- Performance Data relates to 2006 except for Czech Republic which refers to 2005 data.
- Where reported performance = 0 on the X Axis, this indicates reported performance data are not available.
- UK does not set performance targets in this area but does report performance in accordance with the ETSI Standard.
- Targets set for Austria and Belgium are set as Working Day Targets.
- Denmark and France has not distinguished whether the Target is set as a Calendar or a Working Day.

European Connection Targets and Reported Performances – 99%



- Performance Data relates to 2006 except for Czech Republic which refers to 2005 data.
- Where reported performance = 0 on the X Axis, this indicates reported performance data are not available.
- UK does not set performance targets in this area but does report performance in accordance with the ETSI Standard.
- Targets set for Austria and Belgium are set as Working Day Targets.
- The Connection Target in Denmark is set at 98% and does not distinguish whether the target is set as Calendar Day or Working Day.
- The Connection Target in Hungary is set at 100% and performance is reported by Magyar Telekom.

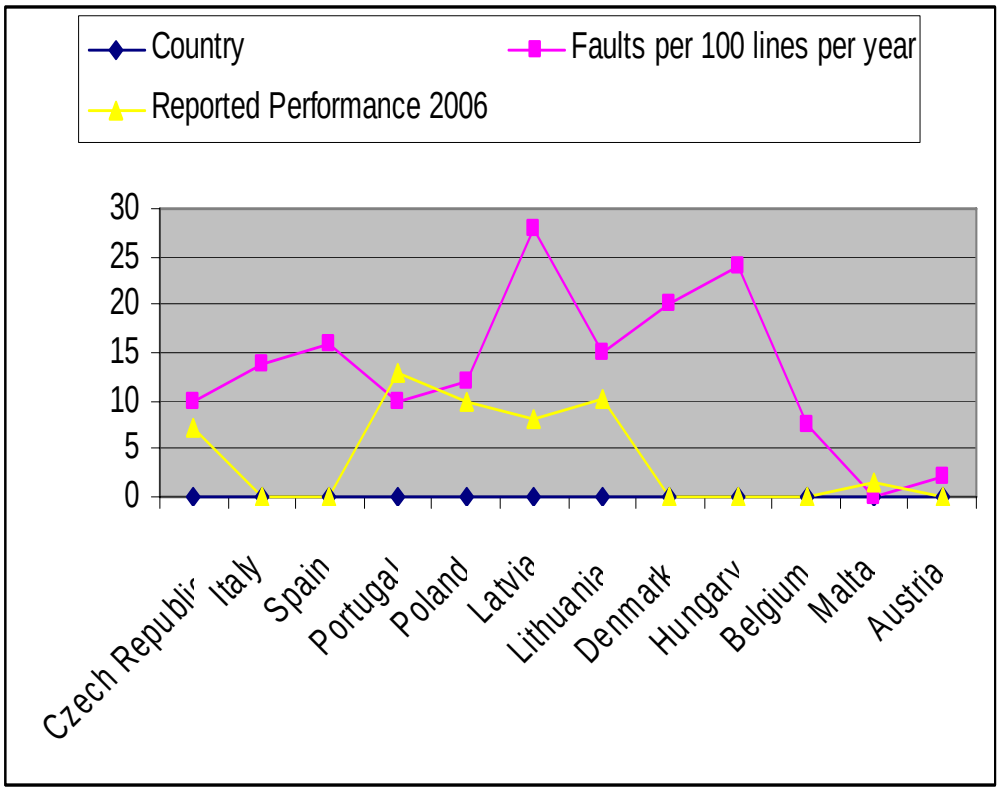
European Connection Targets – Agreed date with the Customer



- Limited availability of data in this area.

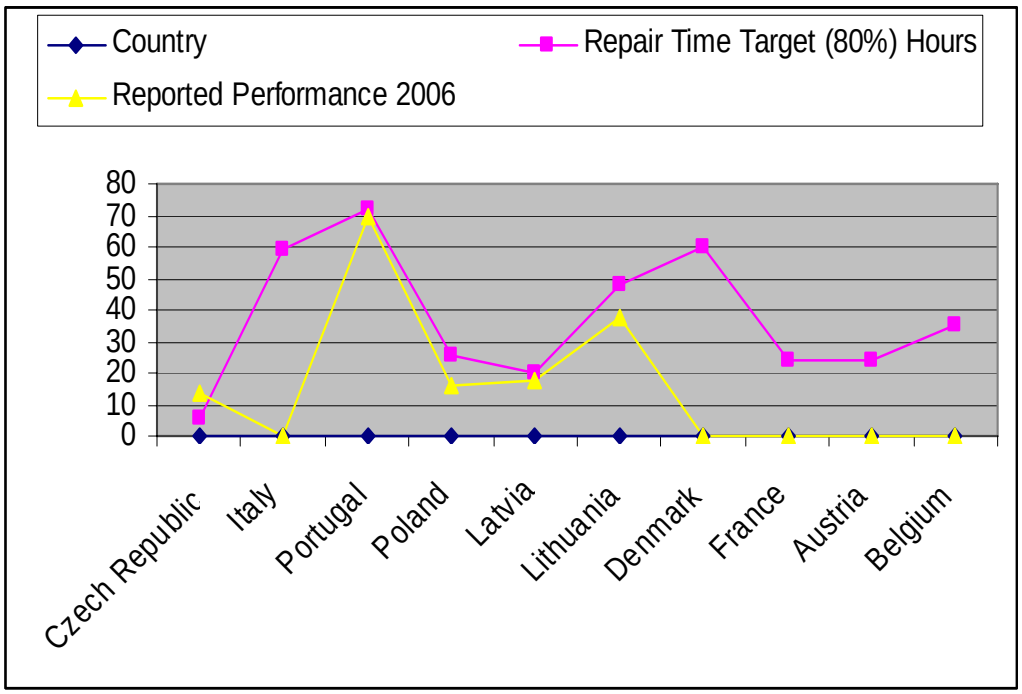
European Fault Rate Occurrence Targets and Reported Performances

The following figure provides data regarding faults per 100 lines per year for a number of European countries with reported performances where available.



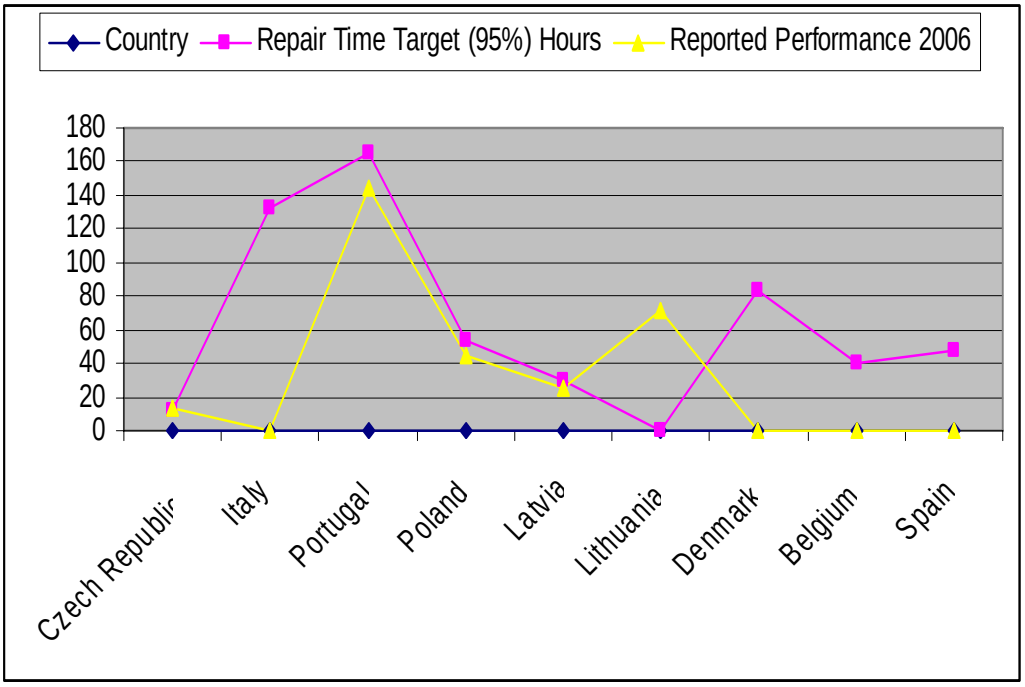
- Performance Data relates to 2006 except for Czech Republic which refers to 2005 data.
- Where reported performance = 0 on the X Axis, this indicates reported performance data not available (Malta performance is however 1.36).
- UK does not set performance targets in this area but does report performance in accordance with the ETSI Standard.
- France and Greece are currently publicly consulting on Quality of Service performance measurement.

European Fault Repair Targets and Reported Performances – 80% Target



- Performance Data relates to 2006 except for Czech Republic which refers to 2005 data and performance is reported as 13.39 hours for 100% Fault Repair.
- Hungary set a target of 72 hours for 90% of repairs and reported performance by Magyar Telekom is 95.85%.
- Malta has not set a target in this area but reported performance for 100% repairs is 46.18 hours.
- Where reported performance = 0 on the X Axis, this indicates reported performance data not available.
- The UK does not set performance targets in this area but does report performance in accordance with the ETSI Standard.
- France and Greece are currently publicly consulting on Quality of Service performance measurement.

European Fault Repair Targets and Reported Performances – 95% Target



- Performance Data relates to 2006 except for Czech Republic which refers to 2005 data and performance is reported as 13.39 hours for 100% Fault Repair.
- Hungary set a target of 72 hours for 90% of repairs and reported performance by Magyar Telekom is 95.85%.
- Malta has not set a target in this area but reported performance for 100% repairs is 46.18 hours.
- Where reported performance = 0 on the X Axis, this indicates reported performance data not available.
- The UK does not set performance targets in this area but does report performance in accordance with the ETSI Standard.
- France and Greece are currently publicly consulting on Quality of Service performance measurement.

APPENDIX C - REGULATORY IMPACT ASSESSMENT

1 Introduction

1.1 In this Regulatory Impact Assessment (RIA), we consider the effects of any obligations upon relevant stakeholders. In particular, we will consider the effect on consumers, the Universal Service Provider (USP) itself, plus any other relevant stakeholders.

1.2 The Consultation set out a draft RIA. This was commented on by only one of the respondents. Eircom argued that the level of analysis was insufficient as to provide evidence of the need for the proposed obligations. In this Annex, we consider the impact of the obligations in greater depth.

1.3 ComReg's approach to RIA is set out in its Guidelines on RIA[27]. They note that a RIA will attempt to set out the impact, both direct and indirect, of any obligations upon a range of stakeholders. The Guidelines note that cost-benefit analysis may be extremely difficult due to a lack of reliable data, and that, in particular, estimating the effects on consumers, including intangible benefits, can be particularly hard. Nevertheless, ComReg believes it is worthwhile to do some extra work in this area, and, in this Annex, sets out some estimates for indicative use. It should be noted that such estimates will inevitably be imperfect, but ComReg is of the view that that it is of value to think seriously about the kinds of benefits the targets are likely to bring.

2 Installation Targets

2.1 We first consider the potential benefits to consumers of setting installation targets. A key question is measuring the effect on consumers of the targets as compared to the current situation. As shown in the text, ComReg's major concern with current performance is (i) the very long "tail" where some consumers are waiting for up to a year or more for their telephone to be installed; (ii) the length of time that consumers who already have "in-situ" lines are waiting for service. Estimation of benefits will therefore concentrate on these two groups of customers, though it should be noted that this will only be a portion of the entire benefit.

2.2 Estimating the benefits to consumers involves an estimation of the increase in consumer surplus they would derive from faster installation times. Essentially, this is the benefit an entire group of consumers would obtain from use of a product in excess of the amount they actually pay for it. In graphical terms, this constitutes the area under the demand curve above the amount paid. This requires us to make some assumptions about demand. Note that in estimating consumer surplus, a key point is that many consumers may benefit from the service by far more than the price they

[27] See 07/56, *"Guidelines on Regulatory Impact Assessment"*, www.comreg.ie

actually have to pay. In this impact assessment, we use the standard linear demand curve but also discuss the possible effects of other forms of demand specification.

2.3 We also need to make estimates about the elasticity of demand, which is essentially the responsiveness of the quantity demanded to a chance in price. There is a paucity of estimates of this for the Irish economy, but international study of the demand for access to fixed-line telephony services indicates that demand is generally seen as highly inelastic. It should be noted that this refers to access (generally considered as line rental and connection), as the demand for calls, notably international calls, is more elastic. Gassner (1998) includes a survey of international evidence of the elasticity of access, as well as detailed estimation for the UK, and found that the average estimate for elasticity was -0.1.[28] This seems a reasonable estimate for Ireland, given its similarity to the UK and the continued prevalence of demand for fixed-line services. Mobile telephony has, of course, grown considerably in usage since Gassner's study, and, to the extent that there is substitutability between the two, this may have increased the elasticity of access demand. On the other hand, internet usage has also grown, and the majority of internet users still access the internet through their fixed-line. Overall, it seems reasonable to make an upwards adjustment to Gassner's estimate.

2.4 We also need to make an estimate of the price paid for fixed-line services. One option is to use the cost of standard line rental plus a "typical" package of calls and Internet use. However, it may be more reliable to use the Household Budget Survey's (HBS) estimate of the average level of fixed-line spend across households. Data from 2005 shows that the average household spent €11.21 per week on fixed-line voice services. [29]For convenience, we multiply this by 4.2 to obtain monthly spend. Given that line rental has increased in price since that period, and is likely to increase at CPI levels over the next 3 years, it seems appropriate to make a final adjustment to €50. However, the total amount spent also included retail calls, where it is generally considered that elasticity is higher than for access. Therefore, we should adjust the elasticity estimate upwards. A key point when considering the benefits of faster installation times and fewer faults is that the elasticity is probably different, as the latter deals with shorter time periods when the consumer is unlikely to have good alternate options. We thus use the figure of .3 for installation times and .2 for the areas of fault occurrence and fault repair.

2.5 The HBS only covers households, but we should also account for business spend. There are a variety of estimates of average business monthly spend. Recent survey data from Chambers Ireland found that average business monthly spend was €2,227.90 on fixed-line services. However, this includes large corporates whose demand for services might not be considered as relevant to the USO. ComReg surveys from end-2006 found that average SME monthly spend on fixed-line services was €406.50.[30] This seems a more reasonable estimate, though it is likely to have increased since the results were published.

[28] See K. Gassner, "An estimation of UK telephone access demand using pseudo-panel data", *Utilities Policy*, December 1998, pp 143-154.

[29] See www.householdbudgetsurvey.com

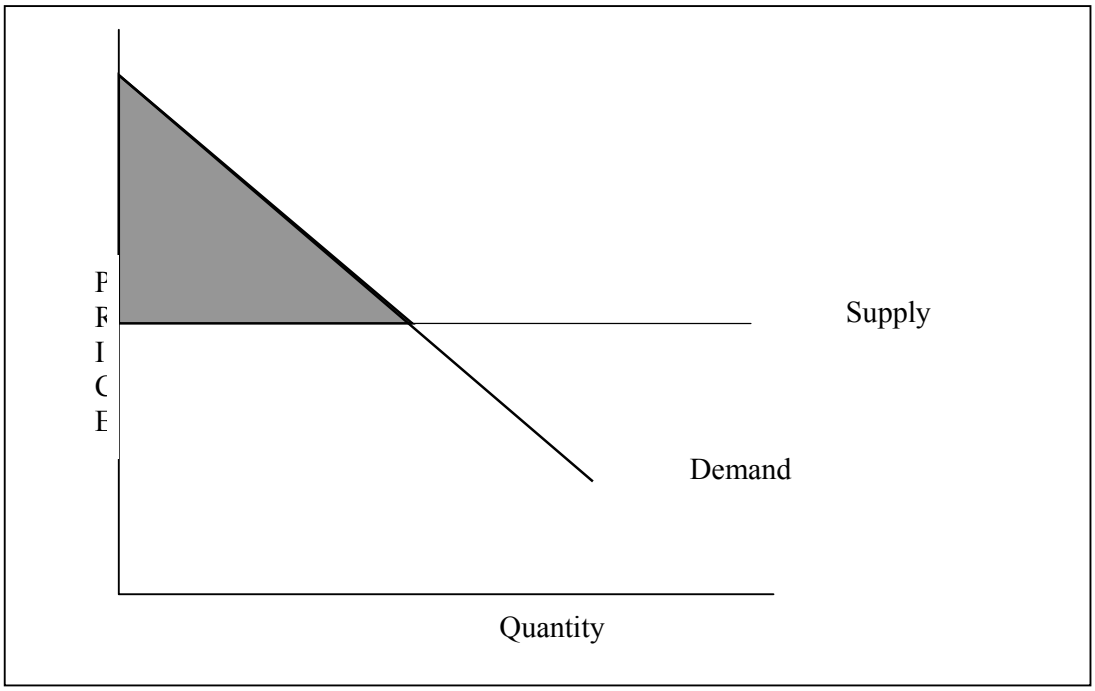
[30] See www.comreg.ie, Document 07/23a

2.6 In terms of combining the two estimates, there are obviously far fewer SMEs than residential customers. However, it should be remembered that SMEs may be particularly dependent on fixed-line telephony being installed, and are likely to derive a higher monthly value from it. As against that, it is possible that SMEs are less subject to installation delays than residential consumers, though there is currently limited evidence of this. Examining the number of residential lines compared to business lines produces a figure of nearly 1/3 of lines being SME lines. ComReg accepts that this may be somewhat high as a reflection of the number of lines which have an average spend of over €400. The Department of Enterprise, Trade and Employment suggests that there are around 200,000 SMEs in the country, while CSO estimates indicate a figure of around 100,000.[31] We make the relatively conservative assumption that 10% of the total number of USO lines is SME lines, which gives a weighted average expenditure of around €85 per month. However, reflecting the possibility that SMEs have shorter installation times, we reduce this figure to a level of €65. We assume this is the average spend on fixed-line across the set of USO customers.

2.7 Estimating the change in consumer surplus (as a result of setting binding targets) for the entire set of USO consumers is complex, as we will need to compare the new targets with current performance. For simplicity and as an illustrative example, we focus on the two categories of consumers described above (i) consumers waiting for more than 6 months for a fixed-line; (ii) consumers with in-situ lines.

2.8 A key point in segmenting consumers in this way is that we need to assume that each set of consumers has the same distribution of preferences (ie, the same structure of demand) as the general set of consumers. This seems a reasonable assumption, as while it is possible that the marginal consumers – those waiting for connections - may have lower values than those consumers already connected, we do not believe there is significant evidence of this effect. This allows us to apply the general demand curve to the set of consumers waiting to be connected, and thus measure their consumer surplus. We assume the supply curve is flat, which is appropriate given the nature of the network and the USO obligation – that the USP (Eircom) will supply as many connections as needed at the market price. We show the basic idea below (the shaded area is consumer surplus):

[31] See www.cso.ie, "Small business in Ireland", May 2007.



2.9 Looking at the specific set of consumers waiting for more than 6 months, we note that the number is relatively small. Looking over recent performance, a rough average is .5% of the total number of new connections. If we assume Eircom's figures of new connections going forward as 150,000, this will give around 750 affected consumers. We also note, however, that currently over 1000 consumers have been waiting more than 6 months for their fixed-lines. However, we use the conservative assumption of 750 consumers. Under the proposed targets, we assume that this set of consumers will now enjoy significantly faster installation times. We note that some of the 750 are in fact waiting for more than a year, thus we would suggest that, with the overall time limit now being reduced to 6 months, this will result in, on average, faster installation times of 4 months. This means that this set of consumers would have paid (on average) 4 months of €65 each, which makes €260.

2.10 This allows us to infer the demand curve for this set of consumers. Using the elasticity estimate of -0.3, we can use the formula that $\varepsilon = dq/dp\ (p/q)$. This allows us to obtain the slope of the demand curve, which then can be used to solve for the intercept (the point where the demand curve hits the price axis). We can then solve the area under the demand curve as the increase in consumer surplus obtained by this set of consumers. Using the numbers obtained, we find the total surplus is €.325 million. This is the yearly benefit that would be obtained if this set of consumers gained from shorter installation times as suggested by the proposed targets.

2.11 We now look at in-situ consumers. Examining Eircom's figures, we see that roughly {confidential} consumers were installed using in-situ connections in the relevant year. We assume that all of these received installation within the minimum 4 week reporting period. We now consider what the benefits to them from a target where 80% (which works out as {confidential}) are guaranteed connection within 24 hours.

Approximately, this should lead to an average connection time for in-situ connections of around {confidential} calendar days (allowing for some "outliers" to increase the average). Current data suggests that the average time of connection for in-situ consumers may be just less than {confidential}. Thus the average gain in connection time may be around (confidential} days, but we make the conservative assumption that the average gain in connection times is {confidential} days, which works out as €{confidential} (which would have been paid on average by those standing to benefit from faster connection times). We can then obtain the demand curve as before, and calculate the consumer surplus, which amounts to €1.6 million. Thus we have the result that performance meeting the proposed target for in-situ performance is likely to result in a yearly benefit of €1.6 million to affected consumers.

2.12 We have obtained yearly benefits for the proposed targets relating to two categories of consumers, which produces a total of €1.925 million. One way to think about these benefits is to consider them as[32] a yearly effect – which this set of consumers will, on average, benefit by nearly €2 million a year as a result of the setting of targets.

2.13 However, it is also useful to consider what the aggregate effect of this would be over a number of years. It is likely that improved performance in fixed-line installation times will be more important for quite some time. However, we limit the number of years over which benefits may accrue to 20. We also assume a yearly discount factor of 5%. This is taken from the Department of Finance's Guidelines for Public Infrastructure Policy, and thus should be a good measure of the appropriate social discount rate that should be used. The exact quantity of demand for new lines is difficult to predict. The estimate of around 150,000 new connection discussed earlier in the paper is actually an underestimate, as it does not include non-standard connections. Being relatively conservative, we suggest 150,000 new connections for 10 years, and 120,000 for the next 10 years, and scale down the yearly benefit accordingly. This produces a total discounted benefit to consumers of €23.4 million.

2.14 This figure should be considered as only a portion of the total benefit for a number of reasons. First, this is only focussed on two types of consumers. There are over {confidential} of consumers demanding installations that do not fall into this category. It is true that performance for each of these consumers is likely to be improved less than for the two types formally considered, but an examination of the proposed targets compared to current performance suggests that they will still benefit by some extent, and when that effect is considered for the number of consumers over a ten-year period, it is probable that the benefit to those consumers is likely to be a multi-million euro figure also.

2.15 Second, we have focussed only on benefits to the actual consumer involved, but there may also be external benefits to the general economy. It is usually accepted that access to rapid communications is likely to augment productivity and competitiveness. While the USO only refers to narrowband access, a significant percentage (over 60%) of Ireland's broadband subscriptions use a fixed-line connection to provide broadband. Ensuring fast average access to fixed-lines, and therefore broadband, would ensure that

[32] See Department of Finance, "Guidelines for the appraisal and management of capital expenditure proposals in the public sector", February 2005.

SMEs, in particular, will gain productivity. While these benefits are actually not external to the SME, it is likely that a general increase in productivity across a wide range of firms could generate external benefits for the economy generally.

2.16 Third, there is the fact that those consumers using fixed-lines to access the Internet will not access the consumer benefits associated with Internet usage if they do not have a fixed-line phone. It is accepted that consumers could decide to access another form of Internet access, but (i) that may not be available in their area, and (ii) they may decide that they only want to pay for one form of access and that they will wait until the phone is ready rather than obtain another Internet access technology now which they would have to try dispose of once the phone arrived. Given average consumer Internet spends is now roughly 2/3 of consumer spends on voice services, the benefits derived above should be increased appropriately.

2.17 Fourth, there will be external benefits to non-business consumers of having ready access to public information and news. Having an informed citizenry is an important goal of public policy, and having consumers who cannot access other consumers through voice services or cannot access the Internet as a source of news and information, is likely to be costly to society as a whole. This effect is likely to be less important for a large fraction of consumers – the benefits of access to public information for an individual household are likely to be limited when considering a difference in installation time of a week. But for consumers who are waiting for fixed-lines for a considerable period of time, improving their ability to access information is likely to be of significant benefit to them. Again, this is not an external benefit to these consumers but the overall effect on society of better-informed citizens is likely to be considerable

2.18 We have concentrated on the effect on consumers. But also faster installation times may accrue some benefits to Eircom, which will offset, to a degree, the cost to Eircom meeting these obligations. Obtaining a phone more rapidly may have three effects: (i) it may be more likely to persuade the consumer to retain a fixed-line service rather than move entirely to using mobile services. Given the generally inelastic nature of demand for fixed-line services, this may not be a major effect, but it should still be considered; (ii) it may persuade the consumer to use other fixed-line products (such as broadband); (iii) providing fixed-line services in a short time may make it more likely that the consumer will stay with Eircom should the consumer move to a different geographical area; (iv) it will allow Eircom to generate revenue from the calls made by consumers in addition to the line rental charges they pay. We have not attempted to quantify these benefits, but improving general confidence in the fixed-line network and its ability to deliver services quickly should benefit the USP.

2.19 In summary, we have discussed a range of benefits likely to accrue should the targets be implemented. We obtained a figure of €1.925 million as a benefit to some consumers, but also argued that there are likely to be further external benefits that could greatly augment this figure. Indeed, the USP itself may gain from improved consumer confidence in the fixed-line system. We note that this estimation was based on certain assumptions, and thus the numbers should only be considered as indicative. However, ComReg is of the view that it is likely the benefits to these targets are likely to exceed any costs by a large amount. Eircom did not argue that imposing these

targets was likely to cost it a significant amount. Indeed, the main changes required are (i) ensuring that in-situ consumers are served within 24 hours, which is a process that Eircom has already in place, and thus should not be costly to implement fully, and

(ii) ensuring that consumers waiting for a very long time for fixed-line service are all served within a shorter period. Again, this should not be too costly for Eircom, as it is protected by the fact that the price cap allows it an average connection fee to be charged to all consumers, and that when the costs of providing an individual consumer with service exceed €7,000, the consumer must pay the excess. Overall, ComReg is firmly of the view that setting these targets is likely to be beneficial.

3 Fault Occurrence

3.1 We now consider the area of fault occurrence. The main paper spent considerable time discussing Eircom's estimates of the potential costs of improving the rate of fault occurrence. Here we focus mainly on the potential benefits

3.2 Faults in the network are clearly extremely annoying for users. Specifically, it is the removal of a service that is expected to function that is one of the main sources of consumer harm. Businesses expect their phone to work and make plans on the basis of this expectation, thus a removal of this service could be very costly to their business and reputation, particularly where they need frequent contact with their customers. Also, vulnerable or aged consumers may find the removal of a communications system upon which they were relying for contact with their support networks extremely damaging (this was referred to in the main paper and was supported by the recent ComReg survey of users with disabilities).

3.3 In this section of the RIA, we attempt to quantify the cost of a fault in an average consumer's fixed-line. Unfortunately, quantitative evidence on the cost of a break in fixed-line service is rare, and we cannot use existing measures from Ireland or overseas. Instead, we attempt to measure the cost using two different methods. Firstly, we use a similar method to that discussed above, where we attempt to calculate the consumer surplus lost by estimating the area under the demand curve. The second employs a different approach, where we attempt to measure directly what a consumer would have to pay to obtain the same level of service that they would have had should the fixed-line have continued to function.

3.4 As discussed in the main paper, there is considerable survey evidence that consumers, notably business consumers, are extremely concerned both about the high level of fault occurrence and the time taken to report faults. Over half those surveyed regarded a breakdown in fixed-line service as being of high importance to their business. This provides useful *prima facie* evidence of the serious impact that faults have on consumers.

3.5 We now move on to the first method of estimating the cost of a fault to a consumer. The material on installation times used elasticity estimates to measure directly consumer surplus from having access to a phone line service. The installations section derived a measure of how much consumers would benefit from having a phone a

certain number of months in advance of what they would have had in the absence of targets. In attempting to apply that mechanism here, we consider the total number of faults in a given year, and compare that to the reduced number that would be likely to occur if binding targets were set. We then obtain an estimate of the overall number of calendar months of service that would be gained from setting fault occurrence targets.

3.6 In considering the total impact on consumers we should compare the proposed targets with current performance. It should be noted that it is proposed that Eircom achieve a level of faults of 12.5 per 100 lines by June 2012. This should be compared against current performance, which, as noted in the main paper, is deteriorating. One possibility is to measure this against the level of 15.2 per 100 lines that Eircom has stated is its target for the next three years. However, it seems more appropriate to measure it against recent performance, which seems a more accurate counterfactual of what performance would be if the proposed targets were not put in place. Recent performance suggests a rate of 17.6 faults per 100 lines as performance without targets in 2006, and a level of over 21 for 2007. We use a measure of 18 faults as the counterfactual to not having targets.

3.7 A level of 18 faults per 100 lines gives around 310,000 faults per year. Reducing this to a level of 12.5 should result in over 95,000 fewer faults in any given year. We note that roughly 80% of faults are repaired within 4 working days, but the harm to consumers should also include calendar days. On the assumption that faults are evenly distributed across working and non-working days, 4 working days should be roughly equivalent to 5.6 calendar days. If 80% of faults are repaired within 5.6 calendar days, then we can probably assume that the average fault time is 3.5 calendar days. This would suggest that improving performance to a level of 12.5 as the steady state should imply 332,500 more days of access to fixed-line telephony services. Assuming a month is 30 days, this would mean that approximately 11,083 months of access every year would be gained from these targets.

3.8 We again assume that affected consumers represent the “average” type of consumer, which allows us to extrapolate the total number of months lost directly into the demand curve. In the section dealing with installation times, we note that, when looking at consumers who were waiting for more than 6 months for a fixed-line, the proposed targets were assumed to result in 3,000 months more access each year, which gave an estimate of €.325 million. We argued earlier that the elasticity for fault repair is likely to be significantly higher than the elasticity for installations, as the short time duration and unexpected nature of the removal of service leaves the consumer with very few short-run substitutes. Thus we use an estimate of -.3 as the elasticity in this case. Modifying the installation analysis, we obtain the result that, in the case of faults, where 11,083 months would be gained, this would work out as an approximate yearly gain of around €1.804 million per year.

3.9 When looking at the case of installation times, although the benefits of having access to Internet as a result of a fixed-line were discussed, they were not factored directly into the calculations, as there are other possibilities for Internet connection. However, when looking at the issue of fault occurrences, when a consumer loses Internet access for a short period of time, it would not make sense that they could easily obtain an

alternative source of access for that period. We should thus make an explicit allowance for lost Internet benefits due to faults.

3.10 The Quarterly Report for Q4, 2007[33], showed 1.213 million Internet subscriptions in Ireland, of which 880,000 were delivered using fixed-line phone services. Access to these services will also be lost when the phone is out of service. This represents just fewer than 60% of total PSTN users. Valuing the loss of Internet services is not straightforward, as the majority of consumers are now on a flat-rate package which charges a certain quantity per month. One way to capture the consumer harm through loss of Internet services is to use the ratio of the amount paid for Internet service as compared to for voice. Broadband packages sold over DSL are often sold as bundled packages, with the DSL being sold as an add-on to the voice services. However, broadband packages sold over cable or FWA are often sold at around €25, which is somewhat less than the amount spent on fixed-line voice. To allow for the fact that just over 40% of fixed-line Internet subscriptions still use narrowband, we assume that the relative benefit of losing Internet services is approximately 2/3 of the value of voice services. Thus, when this is aggregated, and assuming that those affected by faults are of average likelihood to have an Internet connection, just under 60% of people using fixed-line phones will lose 2/3 of the benefit they obtain from Internet services. This works out as .39 of the benefits gained from not having a loss of voice services, which works out as €.704 million per year.

3.11 Taken together, this gives a value of approximately €2.508 million benefits deriving to consumers as setting the baseline target of 12.5 faults per 100 lines. Again, one way to think about this measure is of a yearly benefit to consumers accruing from fewer faults. What the number shows is that it is a significant amount.

3.12 A variant on this approach is to assess the total benefit over a number of years. A lower level of fault repair is likely to yield benefits indefinitely, but again ComReg will limit the assessment to 20 years, using a discount factor of 5%. The 20 year figure seems reasonable, as an access network is likely to be maintained for at least 20 years, though the actual benefits may last for longer than this time period. We assumed in the previous section that the number of new lines would reduce, but, in a situation of rising population, there seems no reason to believe that the number of total fixed-lines will decrease, and it could even rise. We assume a constant number of lines, and thus a constant yearly benefit for fewer faults, and obtain a total value of €32.86 million of consumer benefits from setting the proposed target level of fault occurrence.

3.13 We now move on to the second method of estimation, where we attempt to model directly what the consumer would need to do to obtain the same level of service they would have had should the fault not have occurred. Obviously, we will need to make assumptions, but they will, as much as possible, be grounded in empirical data and industry norms.

3.14 First, we focus on voice services derived from a consumer's fixed-line. The consumer will lose the ability to make outgoing calls, so we need a measure of the

[33] See www.comreg.ie

amount of calls an average consumer would make in a given day. There are no direct estimates of the average time per day spent by consumers on outgoing calls. However, ComReg Quarterly Report data for Q3 2007[34] showed that there was 2.33 billion minutes originating on the fixed network for that quarter. This was amongst 2.1 million PSTN and ISDN subscriber lines, which translates into 12 minutes per line per day. However, the majority of ISDN lines, although they may carry voice, are more likely to be used for data services, which might suggest using a higher figure. However, we make the conservative assumption that the average consumer uses their voice line to make outgoing calls for 15 minutes every day.

3.15 If a consumer no longer has access to their fixed-line, what will they do? We assume that most consumers will instead make calls on their mobile.[35] This will result in a significantly higher cost per minute as compared to fixed usage, as mobile calls are significantly more expensive than fixed. In order to derive the "average" price of a fixed call, we examine Teligen data on prices for Q3 2007.[36] This shows that for consumers on a standard Eircom package, a peak call to a local fixed-line number was approximately 2.5c per minute, while a peak call to a national fixed-line number was approximately 4.2c per minute. Off-peak calls were significantly cheaper, averaging around half this amount, while calls to mobile were more expensive, averaging about 11c per minute, with off-peak being just over half this level. On this basis we cannot precisely determine the average rate without knowing exactly consumer calling patterns. However, given that the Quarterly Report shows that 3 ½ times as much calls went from fixed-lines to other fixed-lines as compared to mobile, we can assume that the average is likely to be closer to the fixed-to-fixed rate. If we assume that 50% of calls were made at peak times (which seems reasonable, as off-peak includes evenings, nights and weekends) and that 65% were made to local rather than national levels, then we obtain a rough average of under 3.5c per minute for an average fixed-line call.

3.16 We need to compare this with the cost of calling from a mobile. The set of mobile plans is quite large, which makes it difficult to determine the marginal cost of a call. Post-pay plans, in particular, often offer a bundle of calls for a fixed amount with extra calls being charged at a specified rate. However, pre-paid mobile services are the main payment method used in Ireland, with nearly 75% of subscriptions being of this form. Looking at a typical plan for Vodafone, the largest mobile company, shows 2 options, the first of which has rates of around 19c per minute for calling fixed-lines plus making on-net mobile calls at all times, with 49c for calling all off-net mobiles at all times.[37] Assuming that the consumer will use the mobile to make the same pattern of

[34] See www.comreg.ie

[35] Another possibility is that they will attempt to call from a payphone. We have not explicitly tried to incorporate this into the calculations as (i) there are a limited number of payphones, with less than 10,000 in the entire country, and a continuing reduction in this number likely to continue; (ii) Since faults usually tend to affect specific geographical areas, the likelihood of there being sufficient number of payphones in that specific area to accommodate the number of people affected is small; (iii) payphones may be inconvenient to get to, particularly for older consumers; (iv) payphones are unsatisfactory for receiving calls (v) the per-minute cost of using a payphone is usually similar to the cost of a mobile phone, with most calls starting at 75c for 3 minutes.

[36] Date from Teligen, as used in the ComReg Quarterly Report, see www.comreg.ie, Document No. 07/106.

[37] See www.vodafone.ie

calls as they would have with their fixed-line phones, this would mean an average price per call of around 24c. The second plan charges 49c for all types of peak calls, with 19c for all types of off-peak calls, which would give an average price of around 34c. Normally, one would assume that the consumer would choose the package that best suits her needs, but, given they may be relying on making fixed-calls at certain times and mobile at other times, it is highly possible that the unexpected disruption caused by a fixed-line fault will mean they are not on an optimal mobile plan. We adopt a conservative estimate of an average of 28c per minute for mobile calls.

3.17 We would note that both fixed and mobile operators frequently offer flat rate packages which include a certain number of calls for free. We assume that the relative effect of these net out. This is likely to underestimate the difference between the price of mobile and fixed calls, as it is probable that the consumer selected the optimal combination of packages for her needs. Therefore, she may not be able to access the free calls she is entitled to under her fixed-line contract, and, due to the unexpected extra volume of calls being made from her mobile, is likely to exceed whatever level of free calls she was entitled to under that package. Therefore, the estimate of 24.5c as the average difference between the price of fixed and mobile for non-international calls may actually be an underestimate.

3.18 However, we need to make further adjustments to reflect the difference between the average price of international calls and non-international calls, where mobile is particularly expensive. Fixed line international calls vary considerably in price, with the peak rate for the UK being about 12.5c per minute, many continental European countries averaging about 25c, and the US being about 16c. Off-peak rates tend to be about only slightly lower on the standard package, with bigger reductions on Talktime packages. Mobile international calls are significantly more expensive – most of the packages suggest prices of around 90c to the UK and close to €1.50 for many other countries. We thus assume that the average is 75c more per minute, which seems a conservative estimate. The Quarterly Report for Q3 2007 indicated that fixed international calls are just over 17% of total fixed minutes. Thus we have 83% of calls with an extra cost of 24.5c per minute, and 17% with an extra cost of 75c per minute, which averages to a difference of approximately 33c per minute.

3.19 There is a question of whether the consumer will actually make the same level of calls as before. One view would suggest that, since we are trying to model the loss of welfare compared to what would have happened should the fault not have occurred, that this is a reasonable assumption. It is likely, however, that faced with a higher price, the consumer will substitute towards a lower level of calls. The elasticity of voice-calls, while relatively low, is likely to be higher than the elasticity of access, though as against that, over the relatively short period of a fault, demand for calls may be more inelastic than usual. We assume a 16.67% fall in the level of calls, which should mean that the total amount of calls per line falls to 10 minutes.

3.20 If we assume that 10 minutes of outgoing fixed-line calls is replaced by mobile calls, we then obtain an increase of €3.30 per user. However, this is only true for those users who possess a mobile phone. Although Ireland's mobile penetration rate is over 110%, most estimates (including recent CSO data) suggest that about 80% of the population have a mobile. However, a recent ComReg survey suggested that 90% of

residential consumers had a mobile phone.[38] We would note that this estimate is higher than previous estimates, and, moreover, does not include some senior citizens, who may be less likely to have a mobile phone. Moreover, it is probable that those that have fixed-lines are slightly less likely than the overall population to have a mobile phone. Thus, an assumption that 15% of those with fixed-lines will not have immediate access to a mobile may be conservative. For this 15%, loss of fixed-line services is likely to be more problematic. They can attempt to borrow a mobile, buy one specifically for the time the fault is out, or use another person's fixed-line. This is likely to be costly and time-consuming. It is difficult to estimate directly the cost of this, but, given it will involve taking time to make arrangements with other people, and may involve direct financial costs of having to buy or rent a mobile phone, an estimate of six times the cost seems reasonable. This gives a figure of €19.80.The opportunity cost of time alone could account for this – spending an hour having to make alternative arrangements would, if a person's time was valued at an average of €30 an hour, result in a cost of €30. A recent study of the value of lost load in electricity supply in Ireland by Tol (2007) used an estimate of the hourly value of time using an estimate of an average of after-tax GDP per worker for employed consumers, and 50% for of after-tax GDP for non-employed consumers.[39] This gave an average of €39.4 as the opportunity cost of an hour of a consumer's time. As such, our estimate may actually underestimate the inconvenience involved.

3.21 We thus have an estimate of €3.30 for 85% of users and €19.80 for the remaining 15%. Averaging this out gives a value of €5.78 per day. However, using a mobile phone as a substitute is not likely to give the same level of quality of service. ComReg surveys have consistently shown that most fixed-line users would be reluctant to use their mobile as a substitute citing poor quality of reception and breaks in coverage as reasons. For instance, in a survey from Q3 2006 74% of the 721 in the sample agreed with the statement that they preferred to use their fixed line as the quality of the line was better - 45% strongly agreed, whereas only 8% disagreed. In a survey from Q4 2006, significant majorities (all over 60%) said they agreed that they preferred using a fixed-line as it was more comfortable, more private and they could avoid possible emissions from using a mobile. In a survey from Q4, 2007, 92% said quality of reception was an important factor in determining whether to use a fixed-line or a mobile – with 75% saying it was very important and only 2% saying it was not important. In the same survey, 66% agreed with the statement that their mobile phone was not a substitute for their fixed-line phone, with 17% disagreeing.[40] Thus using a mobile as a direct substitute for fixed-line calls is not likely to produce the same level of consumer satisfaction. We model this by increasing the cost of €5.78 by 20% to reflect the consumer dis-satisfaction engendered by poor reception and quality of the line. This produces a figure of €6.93

[38] See www.comreg.ie, Document No. 08/16.

[39] See R. Tol, "The value of lost load", Chapter 7 of Sustainable Energy Ireland's report, *Security of supply in Ireland*, 2007. He obtains estimates, for consumers and varying types of business, of the cost of losing electricity supply due to faults. Note that his estimates suggest values that are far greater than the values suggested here for loss of fixed-line telecoms supply.

[40] All these surveys are available at www.comreg.ie

3.22 There is then the issue of incoming calls. First, we assume that, since every call has 2 parties, the average volume of incoming calls will be the same as outgoing calls. Thus a fault implies a loss of 10 minutes of incoming calls as well. Valuing incoming calls is more difficult, as the consumer does not directly pay for calls – whether using a fixed or mobile, the calling party pays (CPP) principle is such that the receiving party does not pay. Not being able to receive incoming calls may actually be more damaging to some consumers than not being able to make outgoing calls. First, there is the fact that callers will not necessarily know who to call, and the volume of calls, and the associated consumer benefit may be drastically reduced. While callers may decide to try the consumer's mobile instead, this may take some time, or they may not have the number. Second, this is likely to be particularly problematic for business consumers, where, if they are seen as un-contactable, this could have negative long-term repercussions on their business. Third, as discussed above, some users may not have mobiles to be called on. Fourth, even if potential callers have the consumer's mobile number, they are likely to be considerably more reluctant to call, knowing that, as the calling party, the cost to them is considerably higher due to higher mobile termination rates.

3.23 Overall, it is difficult to come to a final view on this. For some consumers, it would be reasonable to assume that the overall cost to consumers of not receiving incoming calls should be at least as great as not being able to make outgoing calls. Indeed, given the frustration and loss of control over not being able to be contacted, it may well be more severe, particularly for business. In terms of standard economic analysis the harm to welfare could be understood as follow: with loss of service re outgoing calls, the consumer can still have the same quantity of calls made, but the main loss of consumer surplus comes through the increase in price. With loss of service re incoming calls, the consumer does not face a change in price, but instead faces a loss of consumer surplus due to a decrease in quantity. However, we make the assumption that the cost to consumers of not receiving incoming calls is half the cost of not being able to make outgoing calls. We thus add the cost of outgoing and incoming calls together to obtain a value of €10.40.

3.24 Finally, as discussed in the earlier method, we control for the loss of non-voice services due to the loss of a fixed-line. The Quarterly Report for Q4, 2007, showed 1.213 million Internet subscriptions in Ireland, of which 880,000 were delivered using fixed-line phone services. Access to these services will also be lost when the phone is out of service. This represents nearly 60% of total PSTN users. Valuing the loss of Internet services is not straightforward, as the majority of consumers are now on a flat-rate package which charges a certain quantity per month. The average spend referred to in the HBS data is (a) almost certainly an underestimate of Internet usage over the next few years and (b) only captures the amount paid, rather than the consumer surplus. One way to capture the consumer harm through loss of Internet services is to use the ratio of the amount paid for Internet service as compared to for voice. This is likely to be an underestimate of the marginal value of Internet, as the vast majority of such subscriptions now have unlimited use, which can lead to very high usage and high consumer surplus, without any increase in tariffs. Broadband packages sold over DSL are often sold as bundled packages, with the DSL being sold as an add-on to the voice services. However, broadband packages sold over cable or FWA are often sold at around €25, which is somewhat less than the amount spent on fixed-line voice. To

allow for the fact that just over 40% of fixed-line Internet subscriptions still use narrowband, we assume that the relative benefit of losing Internet services is approximately 2/3 of the value of voice services. Given we have a cost of €10.40 for voice; this means adding €6.94 for Internet. However, given only 60% of users have Internet subscriptions we must adjust for this, which gives a total cost of €14.58, as a cost to consumers. One point to note about this analysis is that the fraction of fixed-lines with Internet subscriptions is likely to continue to rise in the future, which may mean that the portion relating to the cost of losing usage of the Internet is likely to increase in absolute terms over time.

3.25 We now have an estimate of €14.58 per day. As discussed above, we use a figure of 3.5 calendar days as the length of time of the "average" fault. In order to examine the consumer harm of the average fault, we multiply €14.58 by 3.5 to obtain €51.04.[41]

3.26 We have not attempted to capture the general irritation and annoyance caused by having a fault, but it clearly is a factor, as backed up by survey data, and is perhaps most significant for business consumers.

3.27 We have an average cost per fault of €51.04. Obviously, this is dependent upon a variety of assumptions, but it seems to ComReg that these assumptions are reasonable, and are backed up by evidence. Using the counterfactual discussed above of changing from 18 faults per 100 lines to 12.5 faults per 100 lines gives an improvement of 5.5 fewer faults per 100 lines going forward. This gives a level of nearly 95,000 fewer faults per year once the 12.5 target has been reached. This gives a yearly benefit of €4.85 million. Again, this provides an estimate of the yearly gain to consumers of improving the level of fault occurrence to the proposed target.

3.28 As before, we can obtain a variant of this measure by assessing the benefit over a number of years. A lower level of fault repair is likely to yield benefits indefinitely, but again ComReg will limit the assessment to 20 years, using a discount factor of 5%. We assumed in the previous section that the number of new lines would reduce; here we need to consider the number of total lines. This has been gradually falling over time, but as population continues to rise, and as mobile penetration gradually becomes saturated, as well as rising use of the Internet, it sees reasonable to assume that the number of total fixed-lines will, on average, stay constant. We assume a constant number of lines, and thus a constant yearly benefit for fewer faults. Aggregating up gives a discounted value of €63.45 million benefit to consumers.

3.29 We now have two measures of the benefits of lower fault occurrence. Both involve significant consumer benefits, though the second is nearly twice the value of the first. In terms of the question of which estimate should be used, the first is consistent with the measure used when discussing installation times. It is based on the surplus consumers are likely to enjoy from having a fixed-line service over a significant period of time. It is smaller than the second measure because, over time, it is likely that

[41] As discussed below, there is an interaction between the two variables of fault occurrence and fault repair times: fewer fault occurrences should mean fewer fault repairs. When considering the actual consumer harm suffered by fault occurrence, we need a working assumption about the amount of time needed to repair the fault, which of course will be influenced by any decisions ComReg makes about setting performance targets for fault repair times.

consumers are more able to find better substitutes for fixed-line services. The relative harm of not having a fixed-line is likely to be lower, as consumers will be able to substitute to the use of alternative services in a less costly manner. The second measure assumes that such substitutes are going to be more costly to access (given the short period of time involved) and, given this, the surplus consumers enjoy from having a fixed-line is likely to be higher. Another possible reason for the discrepancy is that the first method – using elasicities – made relatively conservative assumptions about the number of SME lines. Given the amount of calls made by SMEs and the expenditure incurred by them, is significantly higher than for residential consumers, this could imply that the total benefit using the first metric is understated compared to the second, which uses the actual value of minutes of use. Exactly which method should be used is not entirely clear, but they are indicative of some of the range and order of magnitude of benefits involved

3.30 There may be other external benefits to fewer faults, as discussed in the previous sub-section. First, there are potential benefits to competitiveness and productivity from having greater access to quality communications services. While some of this is probably captured in the direct estimates, greater confidence in the efficiency of the system as represented by a lower level of fault occurrence, should make business consumers more likely to use improved communications services going forward. Second, there are external social benefits to consumers from having access to information. ComReg recognises that these are likely to be limited in the case of reducing faults, as consumers can always catch-up with information when the fault is repaired. However, another factor that has not been fully captured is the potentially disastrous consequences of a vulnerable or aged person being placed in a situation of harm by not being contactable over their fixed-line. This could lead to extremely negative situations; even to the extent of loss of life which could have been avoided should the fixed-line be working. ComReg recognises that such situations are thankfully likely to be rare, but a general reduction in fault occurrence should somewhat reduce the probability of them occurring.

3.31 Finally, as discussed before, there may be benefits to Eircom from a reduced level of faults. We are thinking of three possible types of benefit here. First, consumers may have greater confidence in the network and may be more likely to remain Eircom customers and to use more Eircom products. For instance, if 1% of Eircom's customers decided not to un-subscribe to their fixed-line telephone as a result of the reduction in faults, then this would result in revenues for Eircom of well over €5 million per year that would be retained by reducing the number of faults.

3.32 Second, while the line is down, consumers cannot make calls. We have already modelled the loss of consumer surplus for this, but we should also look at the loss of revenue to Eircom of not having consumers make calls. Using the average spend of €65 per month and assuming, as discussed above, that approximately 11,083 months are lost every year due to an excessively high fault occurrence, we first subtract the access spend from overall consumer spend. Basic line rental charges are approximately €25, but we allow for some consumers (notably business) spending more than this. We thus assume that roughly €35 per month is lost to Eircom in terms of revenue foregone. Again, we should subtract the incremental cost to Eircom of this. The actual incremental cost to Eircom of a call is very low – we make the conservative

assumption that they earn a 50% profit margin on this level. This implies the direct loss to Eircom from not having customers make calls is €.194 million per year. It might be noted that this does not depend upon consumers actually having to apply for refunds. In reality, they may suffer more loss than this if consumers demand refunds of their line rental, though as discussed earlier, this appears to happen very rarely in practice.

3.33 Third, as discussed in the main paper, this analysis ignores the potentially very significant savings in operating costs accruing to Eircom from a reduction in the number of faults. Eircom have in fact acknowledged that there would be such a savings, but ComReg is of the view, which is has backed up by external experts, that this is likely to be greater than Eircom has estimated. For instance, internal data from Eircom based on 2006/2007 data indicates that the "unit cost per field fault report" is {confidential}. Thus, reducing faults by 95,000 per year would represent a very large saving in operating costs for Eircom.

3.34 ComReg acknowledges that direct estimation of benefits of this kind can be imprecise, so the numbers should be seen as indicative only, as they do depend upon a number of assumptions. It is appropriate to consider the sensitivities of the estimates to two of the assumptions (i) the elasticity and (ii) the average length of fault.

3.35 The elasticity estimate used was for the UK, and is now 10 years old. As discussed earlier, ComReg is of the view that the elasticity for Ireland is likely to be close to the UK. We also increased the estimate to reflect the possibility of demand becoming more elastic due to increased fixed-mobile substitution, though it was also noted that increased usage of the Internet may counteract this to some extent. We do consider the effect of the benefits for a different elasticity, choosing .5 as a possible alternate value.

Elasticity estimate	Installations benefit	Fault Occurrence 1	Fault Occurrence 2
.5	(approx) 14.1	(approx) 13.1	63.45

3.36 As can be seen, a more elastic demand reduces the benefits re installations and the first measure of fault occurrence. The linear demand structure used tends to accentuate the reduction as compared to a constant elasticity framework. It must be noted that the "fault occurrence 2" measure is not affected, as it does not rely directly on a measurement of elasticity.

3.37 ComReg's view is that the demand for fixed-line voice is still likely to be strongly inelastic. In particular, it is of the view that, even if the elasticity of demand for connections has risen, using such an estimate for the case of fault occurrence is likely to underestimate the consumer benefits. The short-run elasticity, which would be more appropriate in the case of fault repairs where the consumer is unlikely to be able to access substitutes easily, is likely to be very low.

3.38 As well as the actual level of elasticity, there is the question of how different shapes of demand affect the level of welfare. Using a linear demand curve is fairly standard in welfare analysis, but other forms may affect the results. For instance, using a constant elasticity of demand curve (a log-linear demand specification) is likely to give lower estimates of consumer surplus.

3.39 Another assumption is the average time of a fault. In the main text, ComReg has taken the view that an average time of 3.5 days is appropriate. ComReg is also proposing fault repair targets which would act to lower the average time of a fault. We are of the view that the appropriate standard should be the current level of performance, but do consider what the effect would be if there was a lower average fault time. Installation times are unaffected by this, but that fault occurrence benefits fall in a linear fashion.

Average fault length	Installations targets	Fault occurrence 1	Fault occurrence 2
3.5 days	23.4	32.86	63.45
2.5 days	23.4	23.46	38.07

3.40 In terms of comparing benefits and costs, ComReg is wary of direct quantitative comparison, as estimates of the general benefits as well as the potential cost to Eircom of implementation are approximations. As the above analysis has shown, the numbers are sensitive to changes in the assumptions. It should be noted, however, that some assumptions were relatively conservative, such as not assuming a significant increase in Internet usage and spend over time. Moreover, even for the sensitivities discussed in the tables above, the benefits are still highly significant in terms of their effect on consumers.

3.41 In the Consultation Eircom initially argued that the incremental cost of moving to a figure of 12.5 faults per 100 lines would be {confidential}. As noted there, however, ComReg has some doubts about this figure as, given Eircom's regulatory incentives; it is likely to be a high estimate, and analysis by ComReg suggests that the amount is likely to be overstated. Moreover, ComReg has now suggested that this figure should be achieved by June 2012 rather than December 2009, which will give Eircom more time to improve performance, and this should lower the cost of achieving the target and allow Eircom to smooth the level of expenditure over time. A key point to re-iterate, however, is that even if the figures are correct, they are based on the incremental cost of moving from the current level to a level much more consistent with a modern, efficient network. As discussed in the main paper, Eircom is already compensated, both through the local loop price and the retail price cap, for such a network and thus it can be argued that this incremental expenditure reflects under-investment and/or inefficiency in the past.

3.42 In any case, the figures for benefits accruing from fault repair tend to {confidential}. Crucially, perhaps, the estimate of benefits does not include a number of factors, including the benefits to Eircom as discussed in paragraphs 1.53-1.55, the general external benefits discussed in paragraph 1.52, nor does it attempt to estimate the general annoyance and "hassle" caused people by unexpected breakdowns of their fixed-line service. While ComReg has not attempted to directly estimate the level of such benefits, it seems clear that they are likely to be extremely important. On balance, even if the costs produced by Eircom are such that they do exceed the direct estimates of benefits calculated, ComReg tends to the view that the non-estimated benefits are

likely to be significant enough to overcome any shortfall, particularly since Eircom's direct costs estimated, even if originally accurate, are now likely to be lower due to the extra period allowed. When all these factors – as well as the important argument that Eircom is already fully compensated for a modern, efficient network – are taken into account ComReg is of the view that that there is sufficient evidence to suggest that the benefits to setting the performance targets proposed are very considerable.

4 Fault Repair

4.1 As discussed in the main paper, fault repair is clearly related to fault occurrence – the fewer faults there are, the fewer resources will be needed to repair them. Accordingly, ComReg considers that ensuring a lower level of fault occurrence will have a positive effect on fault repair issues. However, a situation where faults were fewer in number but took a very long time to repair would not be acceptable to ComReg and would not ensure high-quality delivery of USO services. Therefore, ComReg is of the view that it may also be necessary to mandate targets for fault repair times. In this sub-section, we consider the likely benefits to consumers from faster repair times.

4.2 Currently, repair times seem to be such that the fastest 80% are completed within about 32 working hours of occurrence, which (on an average working day from 9-5) translates as 4 working days. The target now set is that 80% of faults should be repaired within 2 working days. As discussed in the previous section, we estimated a daily cost to each consumer of €19.58. When considered over 2 days, this gives a total benefit of €39.16. Thus, if as a result of setting binding performance targets on fault repair times, and assuming that the distribution of improvement is uniform, this should give an average improvement of fault occurrence length of 2 days, which should result in an average benefit of €39.16 per fault.

4.3 As discussed above, we assume that roughly 95,000 fewer faults will occur if the fault occurrence targets are met, which means roughly 215,000 faults under the proposed steady-state of 12.5. Assuming this as the level of faults is very favourable to Eircom given that current performance is considerably above this level. Repairing these by an average of 2 days more rapidly than before will give a yearly increase in consumer benefit of over €8.42 million.

4.4 Eircom's estimate for the increase in cost from having to change to a calendar day system was {confidential} million. As discussed in the text, ComReg is of the view that estimate could be somewhat large in any case, particularly so when the effect of a lowering of fault occurrence is factored in. However, as discussed in the text, and as put forward by Eircom itself, moving to a calendar day system would involve having to change existing work practices. Retaining the working day system would not involve such costs, and would primarily involve obtaining greater efficiency out of the current framework. Given that the costs are thus likely to be much less than Eircom has argued, and given that the yearly estimate of consumer benefits is likely to be an under-estimate, ComReg is of the view that that the benefits from setting such targets are likely to exceed the costs.

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