

FINAL DECISION ON

PRICES OF MAM AND INTER-ISLAND LINES

ANACOM

2017

Contents

1. FRAMEWORK	1
2. ANALYSIS.....	2
2.1. Traditional MAM and Inter-island lines	2
2.2. MAM Ethernet lines.....	2
2.3. Inter-islands Ethernet lines.....	5
3. DETERMINATION.....	8

1. Framework

Taking into account the important role of connections between the Mainland and the Autonomous Regions (AR), in particular to ensure competition in those regions, ANACOM analysed - in the context of the market for wholesale high-quality access provided at a fixed location (Market 4¹) - the cost of connections between the Mainland and the AR of the Azores and Madeira (MAM lines) and lines between the various islands of the Azores (Inter-island lines) that rely on submarine cables owned by MEO, in order to check whether prices charged were cost-oriented.

As a result of that analysis, ANACOM took the view² that MEO should decrease the price of MAM and Inter-island lines, by adjusting it to real costs, in order to improve market competition conditions, to the benefit of operators and service providers (OSP), who must lease that infrastructure to carry out their activity, and of consumers in general, so that they may enjoy a wider range of offers.

In fact, costs with MAM and Inter-island lines, namely Ethernet lines, weigh heavily on the cost structure of these operators, and as such, the increase of traffic to the AR, to meet the increasing demand, leads to an increase of operational costs. This circumstance may lead to a rise in retail prices or restriction in offers, an effect which ANACOM seeks to avoid.

In the scope of that analysis, ANACOM determined that prices of MAM and Inter-island lines would be reviewed on an annual basis, and, for this purpose, MEO was required to make available every year cost data (including operating and maintenance (O&M) costs, as well as incurred and forecasted investment costs) and data on capacity contracted by OSP and reserved by MEO itself.

In this context, ANACOM requested, on 14 February 2017, detailed information on the referred costs, having MEO replied by letter of 7 March 2017.

By determination of 20 April 2017, ANACOM's Management Board decided to conduct a prior hearing of stakeholders and a general consultation procedure on the draft decision it intended to adopt on prices of MAM and Inter-island lines, which ran up to 23 May 2017. Comments

¹ As provided for in Commission Recommendation (Commission Recommendation 2014/710/EU of 9 October 2014) on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation.

² ANACOM determination of 1 September 2016, available at <https://www.anacom.pt/render.jsp?contentId=1395262>.

received, the respective analysis and grounds for the decision have been laid down in the “Report of the public consultation and prior hearing on the draft decision on prices of MAM and Inter-island lines”, which is an integral part hereof.

2. Analysis

In its letter of 7 March 2017, MEO refers that annual costs of submarine cables on which MAM and Inter-island rings and associated activities rely are determined in the scope of its Cost Accounting System (CAS) in the course of the first half of the year following that to which they relate, being provided to ANACOM by 30 June. In this context, MEO informed that, at that time, the determination of results for 2016 was still underway, and it was not possible for the company to provide final values of submarine cable costs of for that year. For this reason, MEO submitted cost data with final values established for 2015 and estimated values for 2016.

As such, this analysis uses MEO cost estimates for 2016.

To avoid an analysis based on cost estimates, in the future the annual review of prices of MAM and Inter-island lines shall take place in the second half of the year.

2.1. Traditional MAM and Inter-island lines

According to data from the Leased Lines Reference Offer (LLRO), submitted on a quarterly basis by MEO, by the end of 2016, the pool of traditional lines comprised only 4 Inter-island lines (one 2 Mbps line, one 64 Kbps line and two 128 Kbps line) leased by two OSP.

As such, and bearing in mind the downward trend of the (already very narrow) pool of (and demand for) traditional lines³, ANACOM takes the view that it should not undertake any substantial changes to prices in force for traditional MAM and Inter-island lines, regulated in the scope of the LLRO.

2.2. MAM Ethernet lines

As regards MAM Ethernet lines, according to estimates produced by MEO itself for 2016, costs associated to the “MAM Submarine Cables”⁴ activity amounted to **[beginning of confidential**

³ The average annual pool decreased from 8 to 4 traditional lines since 2015.

⁴ MEO informed that, with the adoption of the *Network Costing Model* (NCM), costs are broken down to a more elementary level at the beginning of the procedure for the determination of CAS results. There no longer is an overall activity for submarine cables with landing points in Portugal, there are different activities for each submarine cable. In this specific case, activities concerned are “MAM Submarine Cables” and “Inter-island Submarine Cables”. This model has been fully integrated in MEO’s CAS, however the rationale for cost allocation is different from the former model, and as such, activities considered are different. For this reason, MEO declares that it is

information - hereinafter BCI] [end of confidential information - hereinafter ECI]⁵ Euros, and the capacity used by the end of 2016 was **[BCI] [ECI]** Gbps⁶.

Bearing in mind the cost of this activity and the capacity used by the end of 2016, it is estimated that the annual cost per Gbps of a MAM Ethernet line associated to the referred activity, in 2016, amounts to **[BCI] [ECI]** Euros.

To this value must be added the cost of demultiplexing equipment located in exchanges for access to the underwater part of MAM lines⁷, which amounted in 2016 to **[BCI] [ECI]** Euro per Gbps and per (non-secured) section.

Costs estimated in the preceding paragraph must be added also a percentage to meet other costs, namely common costs and commercial costs (including customer service, invoicing and collection costs), which represent (in 2015 and 2016) **[BCI] [ECI]** % of network costs of MAM Ethernet lines, corresponding to **[BCI] [ECI]** Euros per Gbps.

Finally, and taking into account also the cost of capital resulting from the transfer of ex-Marconi, allocated to “MAM Submarine Cables” activities, which amount to **[BCI] [ECI]** Euros per Gbps, it is estimated that the total cost of a non-secured MAM Ethernet line⁸, in 2016, amounts to **[BCI] [ECI]** Euros per Gbps per year.

Bearing in mind that the price of a MAM 1 Gbps line in RELLO amounts at present to 2,534 Euro per month⁹, it is verified that the current price of the MAM Ethernet leased line service exceeds the respective costs calculated for 2016, of **[BCI] [ECI]** Euro per Gbps per month, a margin below 6% being estimated, specifically by **[BCI] [ECI]**%.

It is noted, however, that MEO stressed again that the substantial cost reduction that occurred between 2014 and 2015 was due to the fact that a large part of the investment in the Atlantis-2 and Columbus-III cables reached the end of its accounting useful life in 2014, a more stable

not possible to provide costs of MAM and Inter-island lines in the format required in ANACOM's request for information.

⁵ Includes investment costs (depreciation and cost of capital) and O&M costs.

⁶ Estimated by ANACOM on the basis of data submitted in MEO letter, corresponding to:

- (a) **[BCI] [ECI]** Gbps connected/reserved for MEO in the MPLS network;
- (b) **[BCI] [ECI]** relying on the SDH network; and
- (c) **[BCI] [ECI]** relying on DWDM.

⁷ Which include the exchanges of Carcavelos (01CV01), Picoas (01LX00) and Boa-Hora (01LX22), in the Mainland, the exchange of Fajã de Baixo (96PD02), in S. Miguel, in the Azores and the exchange of Nazaré (91FX03), in the Madeira Island, as well as the exchange of Ponta Delgada (96PD01) in the Azores.

⁸ That is, a connection/section between the Mainland and the AR of the Azores (ARA) or between the Mainland and the AR of Madeira (ARM), or between the ARA and the ARM.

⁹ Price set further to ANACOM's decision of 1 September 2016, on the analysis of Market 4.

evolution of the respective costs being forecasted from 2015 onwards, with the reduction of the value of depreciation and cost of capital and a similar increase of O&M costs. In addition, in case these two cables are deactivated by the respective consortiums (on account of their high costs compared to their low capacity), MEO will incur in an increase of the annual cost with the O&M of the underwater part between the AR and the Mainland, in case the company decides that the fibre optic pair on which domestic connections rely should be maintained active.

In addition, MEO draws attention to the new upgrade in the MAM ring, to the expansion of **[BCI]** **[ECI]** Gbps per section of the MAM ring, although this is expected to occur only in 2018 (not in 2017, as initially forecasted by MEO).

As regards the determination of capacity in 2016 for the purpose of this analysis, MEO stressed **[BCI]** **[ECI]**, requesting ANACOM to take into account line migrations from the MPLS network to the SDH network.

In fact, MEO believes that, according to ANACOM's method, there will be an increase of capacity used in the SDH network, while the capacity in the MPLS network remains intact, "however, strictly speaking, it is the same capacity over a different network, and there is no reason for a reduction of unit costs via a 'virtual increase' of the capacity used."

Although a position is not taken on the methodology proposed by MEO for the definition of the capacity to be considered in this analysis, ANACOM decided to assess the potential impact of the migration occurred in 2016 in the cost per Gbps, and, consequently, in the margin towards prices, estimated for 2016.

Taking into account that:

- The increase of capacity used by **[BCI]** **[ECI]** in the SDH network, of **[BCI]** **[ECI]** Gbps, in 2016, was exclusively due to the referred migration;
- This increase of capacity does not correspond, in fact, to an effective increase of capacity used by OSP in the MAM ring,

the estimated margin of prices compared to costs for MAM Ethernet lines (having been removed this "virtual" increase of capacity) would be below 5%, specifically by **[BCI]** **[ECI]** %.

In conclusion, in the light of the evolution expected in the short-medium term, namely capacity upgrades in the ring (although available capacity exists at present in all sections) and the potential increase of O&M costs, the impact of changes on regulated prices in terms of investment prospects, and in view of the narrow margin estimated for 2016, ANACOM takes the view that current prices (ceilings) per MAM Ethernet non-secured section/line (between any

of the exchanges for access to the underwater part), in the scope of RELLO, should not be changed¹⁰.

Table 1. Price ceilings per MAM Ethernet non-secured section/line¹¹

Speed	Monthly price (Euros)
10 Mbps	349
100 Mbps	768
1 Gbps	2,534
10 Gbps	25,337

2.3. Inter-islands Ethernet lines

As regards Inter-island lines that rely exclusively on submarine cables owned by MEO, a similar methodology to the one used for MAM Ethernet lines was adopted, bearing in mind, for this purpose, the following:

- (a) Costs with Inter-island lines, associated to the “Inter-island Submarine Cables” activity¹²;
- (b) Occupation of sections that make up the Inter-island ring in the ARA, namely to total pool of self-owned and leased lines that uses resources in this submarine cable, per section;
- (c) The length of the Inter-island ring, per section.

In this context, ANACOM began by calculating the capacity used throughout the ring, which was estimated¹³ to be, by the end of 2016, **[BCI]** **[ECI]** Gbps, with the following breakdown according to section:

¹⁰ Prices published in Annex 2 to RELLO (version 15). To prices of MAM Ethernet section/line must be added prices of the respective land trunk segments (where appropriate) and of internal extensions/or terminating segments.

¹¹ Where operators request one or two MAM sections/lines with a given capacity to be secured, MEO must propose an appropriate solution; however, the price must not exceed, in any case, three times the price due for contracted non-secured sections/lines.

¹² *Vide* footnote No. 4.

¹³ On the basis of data submitted in MEO’s letter of 7 March 2017.

Table 2. Capacity per section in the Inter-island ring, in 2016

[BCI]

Inter-island Sections	Capacity in 2016 (Gbps)
Sta. Maria – S. Miguel	
S. Miguel – Terceira	
Terceira – Graciosa	
Graciosa – S. Jorge	
S. Jorge – Faial	
Faial – Pico	
Pico – Sta. Maria	
Total	

[ECI]

Subsequently, the cost per section of the “Inter-island Submarine Cables” activity was calculated, considering that the allocation to each section of the total cost of activities should be conducted on the basis of the respective length, as proposed by MEO, which resulted in the following cost per section:

Table 3. Cost of the “Inter-island Submarine Cables” activity (including operational costs) per non-secured section for 2016¹⁴

[BCI]

Inter-island Sections	Totals per section (Euros)
Sta. Maria – S. Miguel	
S. Miguel – Terceira	
Terceira – Graciosa	
Graciosa – S. Jorge	
S. Jorge – Faial	
Faial – Pico	
Pico – Sta. Maria	
Total	

[ECI]

To this value must be added the cost of demultiplexing equipment located in exchanges for access to the underwater part of inter-island lines, which amounted in 2016 to [BCI] [ECI] Euro per Gbps and per (non-secured) section¹⁵.

To estimated costs must also be added common and commercial costs (including invoicing and collection costs), that represent (in 2015 and 2016) [BCI] [ECI] % of network costs allocated

¹⁴ Includes investment costs (depreciation and cost of capital) and O&M costs. MEO stressed that, on account of the expected migration from the MPLS network to the SDH network, investments were made during 2016, for the purpose of expansion of DWDM capacity of Inter-island submarine cables, that amounted to [BCI] [ECI] Euros. This investment was capitalized by MEO in December 2016, thus the estimate only considers a one-month depreciation and the respective cost-of-capital, amounting to [BCI] [ECI] Euros.

¹⁵ The estimate made by MEO for MAM lines also applies to Inter-island lines.

to inter-island connections, that is, costs of the “Inter-island Submarine Cables” activity, operational costs and demultiplexing costs.

Taking additionally into account the cost of capital resulting from the transfer of ex-Marconi, allocated to the referred activity, in 2016, which amounted to [BCI] [ECI], and which according to MEO must be allocated to each section on the basis of the respective length, a total cost of Inter-island Ethernet lines of [BCI] [ECI] Euros per Gbps is estimated for 2016, with the following breakdown per section:

Table 4. Total annual cost per non-secured section and per Gbps of Inter-island lines, in 2016

[BCI]

Inter-island sections	Total annual cost per section and per Gbps in 2016 (Euros)
Sta. Maria – S. Miguel	
S. Miguel – Terceira	
Terceira – Graciosa	
Graciosa – S. Jorge	
S. Jorge – Faial	
Faial – Pico	
Pico – Sta. Maria	

[ECI]

Table 5. Prices of 1 Gbps Inter-island Ethernet lines

Inter-island sections	Monthly price (Euros)	Total annual price (Euros)
Sta. Maria – S. Miguel	845	10,140
S. Miguel – Terceira	1,304	15,648
Terceira – Graciosa	686	8,232
Graciosa – S. Jorge	782	9,384
S. Jorge – Faial	629	7,548
Faial – Pico	599	7,188
Pico – Sta. Maria	1,743	20,916

Prices of 1 Gbps Inter-island Ethernet lines, as currently defined in RELLO, thus appear to be slightly higher than the respective costs in 2016, in average for the various sections that make up the Inter-island ring, a margin of the same order of magnitude as the one estimated for MAM Ethernet lines, specifically by [BCI] [ECI], being estimated.

For Inter-island lines also, MEO forecasts for 2017 an additional investment, resulting from expected migrations from the MPLS network to the SDH network, amounting to [BCI] [ECI] Euros, resulting in an annual cost of [BCI] [ECI] Euros. As regards the investment for 2016, MEO estimates that, in future years, the respective full depreciation leads to an annual cost of [BCI] [ECI] Euros. This investment was made by the end of 2016, thus costs presented for 2016 do not reflect a correct level of depreciation.

As such, according to MEO, during 2017, and all other costs remaining constant, the total cost of the “Inter-island Submarine Cables” activity will be **[BCI] [ECI]**, which involves an increase by **[BCI] [ECI]**.

Therefore, in the light of the evolution expected in the short-medium term, namely capacity upgrades in the Inter-island ring, the impact of changes on regulated prices in terms of investment prospects, and in view of the narrow margin estimated for 2016, ANACOM takes the view that current monthly price ceilings of non-secured Ethernet lines, for submarine sections of the Inter-island ring, in the scope of RELLO, should not be changed¹⁶.

Table 6. Monthly price ceiling of a (non-secured) Inter-island Ethernet line, per section

Inter-island sections	Price per speed (Euros)			
	10 Gbps	1 Gbps	100 Mbps	10 Mbps
Sta. Maria – S. Miguel	8,453	845	256	116
S. Miguel – Terceira	13,037	1,304	395	180
Terceira – Graciosa	6,857	686	208	94
Graciosa – S. Jorge	7,821	782	237	108
S. Jorge – Faial	6,293	629	191	87
Faial – Pico	5,989	599	181	82
Pico – Sta. Maria	17,429	1,743	528	240

It should be noted, as laid down in RELLO, that:

- (a) The price of a fully secured line in the Inter-island ring corresponds to the sum of prices of the seven sections that make up the ring.
- (b) The price of a line that uses inter-island sections in the ARA corresponds to the sum of prices of inter-island sections corresponding to the route that occupies fewer sections between the origin and destination, on the basis of the structure of MEO’s inter-island ring.

3. Determination

Taking into account the analysis carried out and whereas:

- (a) MEO is subject, as regards the leased lines offer, and further to the analysis of the wholesale market for high-quality electronic communications at a fixed location (access

¹⁶ Prices published in Annex 2 to RELLO (version 15). As is the case with MAM lines, to prices of Inter-island lines must be added prices of the respective land trunk segments (where appropriate) in terminal islands and of internal extensions/or terminating segments.

and trunk segments), to the obligation, among others, for price control, including the obligation for cost-orientation of prices;

(b) In that analysis, ANACOM determined that prices of MAM and Inter-island lines would be reviewed on an annual basis, in order to monitor compliance with this obligation,

ANACOM's Management Board, in the scope of assignments provided for in points a), b) and h) of paragraph 1 of article 8 of ANACOM's Statutes, approved by Decree-Law No. 39/2015, of 16 March, in the exercise of powers provided for in point a) of paragraph 1 of article 9 of its Statutes, and in the pursue of regulatory objectives and principles, especially the one provided for in point a) of paragraph 1 and in paragraph 6, both of article 5 of the Electronic Communications Law (ECL - Law No. 5/2004, of 10 February, as it currently stands), under paragraph 3 of article 68 of the ECL, and to implement measures determined further to the analysis of Market 4, hereby determines:

1. To maintain prices (ceilings) of MAM and Inter-island lines, in the scope of the LLRO and RELLO offers, until the next annual review of referred prices.