



PÓST- OG FJARSKIPTASTOFNUN

Draft Decision

**Review of the Míla wholesale tariff for
copper local loops
(Market 4/2008)**

Case no: 2018040002

11 March 2019

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1 Introduction

- 1) Míla ehf. tariff (Míla) for access to copper local loops and distribution frames here under discussion is based on the obligations imposed on the company with the Decision of the Post and Telecom Administration (PTA) no. 21/2014.
- 2) The products covered by the Míla tariff belong to the market for wholesale network infrastructure access at a fixed location which is Market 4 according to the EFTA Surveillance Authority (ESA) Recommendation from 2008¹.
- 3) The Draft PTA Decision on the wholesale tariff for access to copper local loops and distribution frames was submitted for national consultation which lasted from 21 December 2018 until 23 January 2019. The PTA did not receive any comments from stakeholders..
- 4) The following Sections cover the legal grounds, methodology and calculations that led to the PTA conclusion. The text of the Draft Decision describes the intended PTA position which can be subject to amendment until the final Decision is made, among other things as a result of comments from stakeholders. The wording of the Draft should be read with this in mind.

2 PTA Decision no. 21/2014

- 5) With the PTA Decision no. 21/2014, dated 13 August 2014, the PTA designated Míla as a company with significant market power on the market for wholesale network infrastructure access at a fixed location (Market 4/2008) and on the market for wholesale broadband access (Market 5/2008).
- 6) With the authority in Article 32 of the Electronic Communications Act the PTA imposed on Míla an obligation for price control for wholesale access to the company's copper access networks at a fixed location with related facilities, but did not impose an obligation for price control on Míla fibre-optic local loops. Pursuant to Paragraph 4 of Article 32 of the same Act it was prescribed that the tariff for the access in question provided through copper local loops shall be cost-oriented.
- 7) It was stated in the Decision that the Míla cost analysis for access to copper local loops, to copper sub-loops and to fibre-optic to street cabinets, with associated facilities such as street cabinets, should be based on the following main criteria:
 - The cost base shall be Míla historical costs (HCA) based on the preceding financial year in each instance.
 - The methodology shall be based on allocating all costs to the service in question (FAC).
 - Allocation of costs is based on separation of accountancy for local loop leasing, on Míla asset bookkeeping and on costs from Míla's bookkeeping system where opex is booked in bookkeeping accounts.

¹ ESA has now issued a new Recommendation on wholesale market definition for electronic communications services: EFTA Surveillance Authority Recommendation of 11 May 2016 on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation in accordance with the Act referred to at point 5cl of Annex XI to the EEA Agreement (*Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communication networks and services*).



- Assessment of investment shall be based on the book value of operational equipment in Míla's asset bookkeeping where the historical cost of investments is adjusted to price levels of the year being analysed in each instance.
- A depreciation methodology shall be used that reflects the value in use of an asset.
- The annuity method shall be used to calculate annual investment costs.
- The number of lines shall be calculated with reference to line equivalents where the above specified changes in definition of access are taken into account when assessing their equivalents.
- The cost of the local loop network shall be captured, including share of shared costs, management, IT and senior management in accordance with separation of accountancy.
- The required rate of return used shall be based on weighted average cost of capital² (WACC real) from capital tied in assets used in connection with provision of service where the risk premium reflects the risk related to operations on the relevant market.
- Funds tied in current assets to the amount of average inventory for operations and development of the access network shall be taken into account.
- Average unit cost for the whole country is calculated from allocated operational and investment costs divided by number of lines or their line equivalents.

8) It was also stated in the Decision that the Administration was authorised to reject prices that were outside the price range proposed by the EU Commission at any given time, see the EU Commission Recommendation on the application of consistent non-discrimination obligations and costing methodologies to promote competition and enhance the broadband investment environment for next generation access networks (NGA).³ It is also stated in the decision that the PTA can endorse prices for access to local loops that lie outside the price band specified in the Recommendation in the event of special circumstances. Such circumstances could for example result from very significant changes to the exchange rate of the ISK.

9) The Míla tariff shall be reviewed annually in accordance with annual updating of the cost analysis.

3 The PTA Decision no. 5/2017 on Míla tariff for access to copper local loops

10) In accordance with PTA Decision no. 21/2014, Míla submitted a cost analysis for access to copper local loops in March 2015. In the cost analysis the monthly rate for access to local loops, access to local loops to street cabinets, access to distribution frame and the setup charge for local loops was calculated. The calculations took into account the change of structure of the tariff for copper local loops proposed in the PTA Decision no. 21/2014.

11) The PTA subsequently opened a national consultation in December 2015 on the planned preliminary draft to a Decision on review of the Míla wholesale tariff for copper local loops.

² In accordance with Article 16 of Regulation no. 564/2011 the PTA decides on an annual basis the weighted average cost of capital (WACC) which electronic communications companies should use as a reference in their calculations.

³ Commission Recommendation of 11.9.2013 on Consistent non-discrimination obligations and costing methodologies to promote competition and enhance the broadband investment environment.



Because of the comments received in national consultation on the planned tariff structure and the changed circumstances since the PTA Decision no. 21/2014 was published, the PTA decided in consultation with Míla to make further amendments to the structure of the Míla tariff for copper local loops and to submit this to stakeholders in an additional consultation. The objectives of the amendment was to simplify the tariff and to make local loop charges more transparent in accordance with the comments received from stakeholders. These changes were furthermore intended to meet the technical development planned on the voice telephony market. These changes were submitted to an additional consultation and no comments were submitted to changes in the structure of the Míla tariff in that consultation.

12) In March 2017, Míla then revised its cost model with operational figures from the year 2016 at the request of the PTA. A price was calculated for access to copper local loops, based on operational costs for the year 2016. The investment base was based on Míla investments indexed until the year 2016 and on the Míla investment plan for 2017 and 2018.

13) The conclusion of the PTA Decision no. 5/2017 was that the monthly charge for access to copper local loops should be ISK 1,406 ex VAT irrespective of whether access is to a telephone exchange or street cabinet. The setup charge for local loops is ISK 3,166 while access to distribution frame is ISK 1,104/month for each 100 lines.

14) It was then stated in the Decision that the tariff should be reviewed with the updating of the cost analysis according to the cost model endorsed by the PTA. Míla was given notice until 1 April 2018 to submit a revised cost model.

4 Written communications with Míla

15) With reference to the PTA Decision no. 5/2017, Míla submitted a cost analysis on 10 April 2018 for copper local loops based on the operational year 2017. It was stated in the Míla report that no changes were made to the cost model for copper local loops, except that investments were calculated until 2020 as the investments 2018-2020 where estimates. Míla pointed out that fibre-optic rollout was taking place across the country and that it was therefore foreseen that the copper system would diminish significantly in the near future. Míla therefore considers that one must increasingly look to the future with respect to investments in the copper system. There was otherwise a danger that prices would increase excessively as there would be investments in the ground that were not being used. Míla stated that given these assumptions, the tariff for copper local loops would increase from ISK 1,406/month to ISK [...] ⁴ per month, which is about [...]%. Setup charges would remain unchanged.

16) In an email to Míla dated 16 August 2018, the PTA pointed out that, as had been previously stated, this was a case of a revision of the cost model and a methodology endorsed by the PTA in its Decision no. 5/2017. In that decision, the PTA agreed that Míla investment costs would be indexed until the year 2016 and that the investment plans for 2017 and 2018 would be used, i.e. based on a two-year investment plan. The revised Míla analysis, however, was based on a three-year investment plan, i.e. for the years 2018, 2019 and 2020. The PTA considered there to be no grounds for endorsing this change - to use plans so long into the future. The PTA therefore requested that Míla would change the cost analysis such that only the Míla investment plans for the years 2018 and 2019 would be taken into account, and in other respects

⁴ Information removed for purposes of confidentiality. The same applies to information provided in square brackets here below.



indexed Mila capex would be used. The PTA also pointed out that in the last cost analysis it was stated that it was difficult to separate costs for distribution frames from other costs and for this reason Mila had proposed that the prices for distribution frames should be increased in the same proportion as prices for local loops. The PTA requested explanations as to why Mila proposed to do this differently in this instance.

17) In the Mila reply dated 16 August 2018, Mila stated that costs for distribution frames had been calculated in the same manner as in the analysis submitted in March 2015. It was however true that the methodology is not entirely correct as it lacks costs for operating distribution frames, and the lease of facilities booked on the distribution frames should have been shared. Mila proposed that the same increase should be calculated as for local loops in accordance with the first analysis.

18) In a reply from the PTA dated last 16 August, the PTA agreed to this method for deciding the price for distribution frames as this was according to what was decided in the last cost analysis.

19) On 17 August 2018, Mila submitted a revised cost analysis, which only used the planned investments for the years 2018 and 2019. Mila stated that the company considered, however, that by using only these 2 years, the increase would be too great. The migration from copper to fibre was now taking place and it was clear that in the coming years, the price for copper would increase very significantly and if the cost model was not be adapted to changes that were taking place then those still using copper local loops would bear investment costs for lines that had been decommissioned.

20) As can be seen in this analysis, there would be a significant increase, of [...]%, despite the fact that planned investments for 3 years had been used. If the PTA were to decide price on the basis of 2 years the increase would be [...]%. The price is now well in excess of the European reference and far in excess of general price development and Mila considers it inadvisable to increase the lease price to such an extent, as this would be a transfer of costs because of lack of use (decommissioning) of a system to those who still use the service. It was clear that in the coming years allowance would have to be made in the analysis for the decommissioning of copper systems and that therefore a methodology had to be found for adapting the cost model to this change. This method, to use 3 years as a reference, had been adopted in order to buffer the impact, because it was clear that an [...]% increase for local loops in just over a year would not be well received by consumers, particularly in built-up areas in the countryside where there was a paucity of choice of service providers, as this is a case of transferring investment costs for unused lines to the remaining users.

21) Mila also pointed out that annuity on investments in the last analysis had been ISK [...] and that if the annuity was indexed to the analysis then it would amount to ISK [...]. At that time the number of equivalents was [...]. Now this number was [...]. If one allowed for the investment base decreasing in the same proportion as the number of equivalents, the annuity would be ISK [...]. The effect would be a [...]% increase on local loops.

22) In the light of the fact that Mila was working deliberately towards decommissioning the copper system with the FTTH rollout, Mila recommended that this approach be adopted, i.e. to index the annuity from the last analysis and to calculate it proportionately to the number in the current analysis. In this way one would not be transferring the costs of decommissioning lines to those who leased copper.



23) Another option would be to link the lease price to general price rises. From June 2016 until June 2018 the consumer price index increased by about 4.2% or one could take the average of the increase in price levels and the increase according to the cost analysis which would then give an increase of [...]%.



5 The position of the PTA

5.1 General

24) In Sections 5.2 to 5.9 here below one can find the criteria and conclusions of the PTA Decision on the cost analysis here under discussion. There is discussion on the main aspects that the PTA considers important as criteria for the Administration's position when calculating a tariff for lease of local loops. The factors in question are the following:

1. Weighted average cost of capital
2. Opex
3. Capex
4. Setup and access charges
5. Access to distribution frame
6. Number of lines
7. Calculation of lease price

25) In Section 5.9 the PTA Decision is summarised before the wording of the Decision is given.

26) The PTA position is based on authority granted to the Administration in the Electronic Communications Act where reference is particularly made to Article 32 on price control and to Article 31 on separation of accountancy and to PTA Decisions nos. 21/2014 and 5/2017.

27) Míla has submitted a description of the company's cost accounting, along with a report from an independent auditor. Míla has also submitted an analysis of costs for the company's leasing of copper local loops, along with further explanations at the request of the PTA. The PTA conclusion is based on the Mila cost analysis from 17 August 2018.

5.2 Weighted average cost of capital

5.2.1 Mila cost analysis

28) The Mila cost analysis dated 10 April 2008 was based on weighted average cost of capital according to the following table:



	2017
Risk-free rate	2.49%
Debt premium.....	3.00%
<i>Cost of debt</i>	<i>5.49%</i>
Market premium.....	5.00%
Unlevered beta.....	54.00%
Unlevered beta.....	77.26%
Equity.....	65.00%
Liabilities/Equity.....	53.85%
Other risk (alpha).....	0.00%
Tax rate.....	20.00%
<i>Required rate of return after tax</i>	<i>6.35%</i>
<i>Required rate of return pre-tax</i>	<i>7.94%</i>
WACC pre-tax	7.1%

5.2.2 The position of the PTA

29) In Article 16 of Regulation no. 564/2011 on accounting and cost analysis in the operations of electronic communications companies, it is stated that the costs of initial capital tied in assets that are used in connection with the provision of service or service goods shall be calculated. The rate of return shall be based on weighted average cost of capital (WACC) which is calculated from the rate of return requirement on equity and the rate of return requirement on debts in accordance with Regulation no. 564/2011. The CAPM model shall be used when calculating the rate of return on capital assets and the rate shall reflect the time value of money and the risk related to operations on the market in question. The rate of return shall be calculated as the sum of risk-free interest and interest premium which reflects normal mark-up by companies on the market. The PTA decides at least once a year the WACC for the telecommunication markets based on market premium, economic indebtedness and the position with respect to working capital and debts.

30) The WACC depends on how much of a company's assets are funded by debt, on the one hand, and equity, on the other, and the cost of the funds used.

31) The PTA considers the use of the WACC real model to be most appropriate for calculating the rate of return when deciding annuity on investments in each instance. The PTA considers it to be real costs when the investment base is calculated using indexed historical costs, and that one should therefore use real interest rate in calculations of the WACC. Otherwise, the result would be distorted as inflation is included in nominal interests.

32) Investments that have been booked at purchased price are indexed with the building index or other indices. Such calculations are part of the assessment of real value of investments in each instance where the aim is to approximate the replacement cost of investments at the time being examined. If investments have been assessed at replacement cost, then they are assessed at prices of the operational year being examined in each instance. Opex is furthermore real costs of the operational year in question, which are used as a reference for costs on an annual basis.



WACC formula

33) In order to decide the WACC, the following formula is used:

$$WACC = Ke * (E/(D+E)) + Kd * (D/(D+E))$$

where:

Ke = cost of equity in percentage

E = equity

Kd = cost of debt in percentage

D = interest-bearing debt

34) When calculated post-tax:

$$WACC = Ke * (E/(D+E)) + Kd * (1-t) * (D/(D+E))$$

where:

t = corporate income tax rate

35) When WACC is calculated pre-tax:

$$WACC (pre-tax) = WACC / (1-t)$$

Cost of equity

36) The PTA considers that when deciding the WACC, the Capital Asset Pricing Model (CAPM) should be used. The main argument for using CAPM is that this model is easy-to-use and transparent. It is also the most commonly used method for calculating the rate of return on capital as it facilitates comparison.

37) The CAPM model is used for calculating the cost of equity:

$$Ke = Rf + \beta * (Rm - Rf)$$

where:

Rf = risk-free rate

Rm = expected average return on stock market

$(Rm - Rf)$ = market risk premium

β = beta parameter which indicates the risk of the sector in question in comparison with the market as a whole

38) Here below are the main parameters in the CAPM model and the PTA conclusion on how the Administration decides them.

Risk-free rate

39) The PTA considers it appropriate to set the risk-free interest at the rate of return on HFF 1506 2044 30 Housing Financing Fund bonds as these bonds today best reflect the payment flow being converted to current value when one considers the lifetime of the investments in question.

40) There has however been uncertainty in recent years about the future of the Housing Financing Fund and in the opinion of analysts a risk premium has developed on top of the indexed Housing Financing Fund bonds. This indicates that the rate of return on HHS bond issues no longer reflects risk-free interest on the market. In order to evaluate risk-free interest, the PTA takes into account an adjustment to the amount of estimated "Housing Financing Fund premium " in each instance.

41) Given the above specified criteria the average risk-free interest for the last 5 years is 2.49%.



Beta risk parameter β

42) In order to estimate the Beta parameter reference was made to comparable companies in European states that are considered best suited for comparison with the Icelandic market environment, both economically and legally (as categorised by Capital IQ). The following table shows the result of this comparison:

Beta and leverage - Telecommunication Services							
Company	Country	Total debt 5 Year		D/E	Tax rate	Unlevered beta	
		Debt	Equity			2 years	5 years
BT Group plc	United Kingdom	48.1%	51.9%	92.6%	22.8%	0.33	0.57
Deutsche Telekom AG	Germany	55.6%	44.4%	125.1%	29.5%	0.45	0.45
Elisa Oyj	Finland	23.6%	76.4%	30.9%	23.0%	0.57	0.54
Koninklijke KPN N.V.	Netherlands	56.1%	43.9%	127.7%	25.0%	0.51	0.38
Proximus PLC	Belgium	28.1%	71.9%	39.2%	34.0%	0.56	0.52
Swisscom AG	Switzerland	30.7%	69.3%	44.2%	19.2%	0.60	0.50
TDC A/S	Denmark	11.5%	88.5%	13.0%	24.6%	0.54	0.70
Telecom Italia S.p.A.	Italy	74.3%	25.7%	289.5%	31.4%	0.29	0.34
Telekom Austria Aktiengesellschaft	Austria	55.7%	44.3%	125.7%	25.0%	0.41	0.43
Telenor ASA	Norway	4.2%	95.8%	4.4%	27.6%	1.00	0.79
Telia Company AB	Sweden	6.4%	93.6%	6.8%	23.7%	0.83	0.66
Average		36%	64%	82%	26%	0.55	0.53
Median		31%	69%	44%	25%	0.54	0.52

Source: Capital IQ

43) On the basis of the above specified method, the conclusion is derived that unlevered beta for electronic communications companies is in the range of 0.52-0.55. The PTA has decided to use the value 0.54.

44) Unlevered beta shall be levered using the appropriate indebtedness and tax rate. Further discussion on indebtedness and tax rate is in the sections with those names. Unlevered beta is levered using the Modigliani-Miller formula which takes into account risk from indebtedness and tax rate, see the formula below:

$$\beta_{\text{assets}} = \beta_{\text{equity}} / (1 + (1-t) * (D/E))$$

where:

Beta assets (β_{assets}) is equivalent to unlevered beta and where beta equity (β_{equity}) is equivalent to levered beta.

Market risk premium

45) The PTA considers it proper, given development over recent years, that the market risk premium be in the range of 4.5-5.5% without the country specific risk. The PTA uses historical premium of risk-free interest. As the premium is considered for the long run, substantial changes over a long period of time would be needed to have an impact on market risk premium. The PTA also takes into account the BEREC benchmark from the preceding years and compares it with what generally applies in this country.

46) The PTA considers it appropriate to use 5% market risk premium for the year 2017, which is according to the above specified criteria. The Administration reviews the market risk premium annually but has not deemed it necessary to change it in recent years.

Specific debt premium

47) The PTA has proposed the use of real interest as stated previously. Real interest on debts subsequently bear a specific debt premium which reflects market circumstances in each instance



and not the specific debt premium of individual companies. This premium is decided by the PTA.

48) For comparison, the premium abroad is commonly in the range of 1-2% while in this country it is more common for the premium to be in the range of 2-3%.

49) The PTA prescribes that the debt premium for the year 2017 should be at the upper limit of the above specified range, i.e. 3.0%. The premium is consistent with the terms companies in this country have enjoyed recently and takes into account circumstances on the market, but it is also taken into account that this is in context of taking of long-term loans. The Administration reviews the specific debt premium annually but has not deemed it necessary to change it in recent years.

Gearing

50) The PTA considers it normal to use gearing on the telecommunications market by assessing indebtedness of a reference group of electronic communications companies which are deemed to be run efficiently, and target gearing from PTA sister administrations in Europe. Assessed efficient level of gearing is therefore independent of the indebtedness of the company in question in each instance.

51) The PTA conclusion is to use an unchanged gearing from the previous year for Mila , i.e. 35%.

Tax rate

52) The PTA considers that the use of corporate tax rate is in each instance the best measure for tax rate when calculating WACC. Its use is more transparent and simpler than using the effective tax rate. The PTA intends to use the corporate tax rate in force for the period of time in question in each instance in these calculations, which was 20% in 2017.

PTA conclusion on WACC

53) The WACC for the operational year 2017 using the above PTA criteria is shown in the table here below. For comparison the WACC calculation for 2016 is also shown.



WACC	2016	2017
Risk-free rate	2,57%	2,49%
Unlevered beta	0,51	0,54
Levered beta	0,73	0,77
Debts/equity ratio	0,54	0,54
Market risk premium	5,00%	5,00%
Cost of equity	6,22%	6,35%
Risk-free rate	2,57%	2,49%
Debt premium	3,00%	3,00%
Cost of debt	5,57%	5,49%
Interest bearing debt %	35%	35%
Equity %	65%	65%
Corporate tax rate	20%	20%
Cost of dept, post-tax	4,46%	4,39%
Cost of equity, pre-tax	7,77%	7,94%
WACC (pre-tax)	7,0%	7,1%

54) In accordance with the above it is the opinion of the PTA that weighted average cost of capital (WACC real) for an electronic communications company in Iceland is 7.1% for the year 2017 in calculations of rate of return for capital tied in assets used in connection with the company's provision of services. Comparing with the WACC for the year 2016 which was 7.0% there is an increase of 10 points. The increase stems from the increase in the value of beta.

55) Mila raised no objections to this PTA assessment, so the Mila cost analysis takes into account.

5.3 Opex

5.3.1 Mila cost analysis

56) There are no changes in the Mila cost model with respect to opex - only a revision of costs using data from 2017.

Opex per cost category

57) The following table shows a breakdown of opex by cost category:



	2011	2012	2013	2014	2016	2017
Access networks.....	[...]	[...]	[...]	[...]	[...]	[...]
Copper.....	[...]	[...]	[...]	[...]	[...]	[...]
Access multiplexers.....	[...]	[...]	[...]	[...]	[...]	[...]
Microwave connections.....	[...]	[...]	[...]	[...]	[...]	[...]
NMS system.....	[...]	[...]	[...]	[...]	[...]	[...]
Faults.....	[...]	[...]	[...]	[...]	[...]	[...]
Connections.....	[...]	[...]	[...]	[...]	[...]	[...]
Distribution frames.....	[...]	[...]	[...]	[...]	[...]	[...]
Service desk.....	[...]	[...]	[...]	[...]	[...]	[...]
Line allocation.....	[...]	[...]	[...]	[...]	[...]	[...]
	[...]	[...]	[...]	[...]	[...]	[...]

Breakdown of opex by type:

58) The Mila cost analysis also specifies how opex is divided between types:

	2011	2012	2013	2014	2016	2017
Materials.....	[...]	[...]	[...]	[...]	[...]	[...]
Transferred labour.....	[...]	[...]	[...]	[...]	[...]	[...]
Licence fees.....	[...]	[...]	[...]	[...]	[...]	[...]
Purchased services.....	[...]	[...]	[...]	[...]	[...]	[...]
Mechanical equipment.....	[...]	[...]	[...]	[...]	[...]	[...]
Other costs.	[...]	[...]	[...]	[...]	[...]	[...]
Office costs.....	[...]	[...]	[...]	[...]	[...]	[...]
Travel costs.....	[...]	[...]	[...]	[...]	[...]	[...]
Housing costs.....	[...]	[...]	[...]	[...]	[...]	[...]
Vehicle costs.....	[...]	[...]	[...]	[...]	[...]	[...]
Computer and software costs..	[...]	[...]	[...]	[...]	[...]	[...]
Written off lost claims.....	[...]	[...]	[...]	[...]	[...]	[...]
Senior management and support department costs.	[...]	[...]	[...]	[...]	[...]	[...]
Costs pre-interest income tax and depreciation	[...]	[...]	[...]	[...]	[...]	[...]

5.3.2 The position of the PTA

59) Mila has submitted information on opex for the companies copper local loop network for the year 2017 in addition to information that was submitted in the last analysis. The PTA uses information supplied by Mila in its assessment. The PTA also builds on data that shows financial separation in Mila's operations in accordance with the obligation for separation of accountancy.

60) As can be seen in the table, opex decreases between the years, while at the same time there is a decrease in the number of copper local loops.

61) The PTA considers it normal to expect a decrease in opex to some extent with the decrease in equivalents, as part of opex is variable according to the number of local loops being leased.



62) The following table shows the development of opex for each line equivalent from the last analysis. The table is for line equivalents at the end of each year.

Year	Opex	Line equivalent	Cost per line equivalent	Changes between Years
2014	[...]	[...]	[...]	
2016	[...]	[...]	[...]	[...]
2017	[...]	[...]	[...]	[...]

63) As can be seen in table here above, line equivalents have decreased significantly since 2014, about [...], while line equivalents have decreased since 2016 by about [...].

64) Opex for each line equivalent has increased by about [...] since 2014 and by about [...] from 2016. Compared with the development of the building price index it has increased by about 10% between 2014 and 2017 and about 2% between 2016 and 2017. [...] If one uses the building price index as a reference, then opex for each equivalent since 2014 has increased less than that index, which represents a real decrease.

65) In calculations of the monthly rate for local loops the PTA uses information from Míla on operational costs for the access network during the year 2017. The PTA makes no objections to Míla opex.

66) The PTA conclusion is thus that the Míla operational costs for the year 2017 used as a basis for calculation of local loop leasing amount to a total of ISK [...].

5.4 Investment costs

5.4.1 Míla cost analysis

67) The following table is in the Míla cost analysis dated 17 August 2008 and shows Míla investments in the copper local loop system.

**Investments in copper system at nominal price:**

Year of purchase	User lines	VDSL - copper	Wireless	Machines and equipment	Distribution frames	NMS	Total
2017	[...]	[...]		[...]			[...]
2016	[...]	[...]		[...]			[...]
2015	[...]	[...]		[...]			[...]
2014	[...]	[...]		[...]			[...]
2013	[...]	[...]		[...]			[...]
2012	[...]	[...]		[...]	[...]		[...]
2011	[...]	[...]	[...]	[...]	[...]	[...]	[...]
2010	[...]	[...]	[...]	[...]	[...]	[...]	[...]
2009	[...]		[...]	[...]	[...]	[...]	[...]
2008	[...]		[...]	[...]	[...]	[...]	[...]
2007	[...]		[...]	[...]	[...]	[...]	[...]
2006	[...]		[...]	[...]	[...]	[...]	[...]
2005	[...]		[...]	[...]	[...]	[...]	[...]
2004	[...]		[...]		[...]	[...]	[...]
2003	[...]		[...]		[...]	[...]	[...]
2002	[...]		[...]		[...]	[...]	[...]
2001	[...]		[...]		[...]	[...]	[...]
2000	[...]		[...]		[...]	[...]	[...]
1999	[...]		[...]			[...]	[...]
1998	[...]		[...]			[...]	[...]
1997	[...]		[...]			[...]	[...]
1996	[...]		[...]			[...]	[...]
1995	[...]		[...]			[...]	[...]
1994	[...]		[...]			[...]	[...]

68) In the original Mila analysis dated 10 April 2018. The decision on the investment base was based on planned investments until the year 2020, i.e. three-year plan. This is not in accordance with the methodology endorsed by the PTA in the last cost analysis and for this reason the PTA requested that this be corrected.

69) Here below is an overview of indexed historical investment cost for the copper system in the Mila cost model from last 17 August. In that instance the reference is a two-year investment plan.



Base index	Year of purchase	Copper	VDSL - copper	Wireless	Machines and equipment	Distribution frames	NMS	Total
	2019	[...]						[...]
	2018	[...]						[...]
663.9	2017	[...]	[...]	[...]	[...]	[...]	[...]	[...]
652.8	2016	[...]	[...]	[...]	[...]	[...]	[...]	[...]
628.0	2015	[...]	[...]	[...]	[...]	[...]	[...]	[...]
602.3	2014	[...]	[...]	[...]	[...]	[...]	[...]	[...]
593.2	2013	[...]	[...]	[...]	[...]	[...]	[...]	[...]
573.1	2012	[...]	[...]	[...]	[...]	[...]	[...]	[...]
539.4	2011	[...]	[...]		[...]	[...]	[...]	[...]
508.5	2010	[...]	[...]		[...]	[...]	[...]	[...]
488.9	2009	[...]	[...]		[...]	[...]	[...]	[...]
428.8	2008	[...]			[...]	[...]	[...]	[...]
371.6	2007	[...]			[...]	[...]		[...]
339.7	2006	[...]				[...]		[...]
313.9	2005	[...]				[...]		[...]
297.9	2004	[...]				[...]		[...]
285.9	2003	[...]				[...]		[...]
276.7	2002	[...]				[...]		[...]
257.5	-2001	[...]				[...]		[...]
	Base	[...]	[...]	0	[...]	[...]	[...]	[...]
	Total	[...]						

70) The annuity on investments is calculated in the same manner as in the last cost analysis and was based on 7.1% WACC.

Annuity:

Investments	Indexed historical cost	Lifetime	Annuity
Copper.....	[...]	20	[...]
Fibre-optic, copper.....	[...]	8	[...]
Microwave connections.....	[...]	5	[...]
NMS system.....	[...]	10	[...]
Equipment.....	[...]	10	[...]
Distribution frames.....	[...]	20	[...]
	[...]		[...]

71) The table shows the conclusion of Mila calculations of the indexed historical costs for Mila investments during the period 2000-2017 and estimated investments for the years 2018 and 2019.

5.4.2 The position of the PTA

72) In the PTA Decision no. 5/2017, the Administration agreed that planned investments 2 years into the future should be taken into consideration but in other respects, indexed investment base should be used. For the prior year of these two years, the agreed investment plan was used. It is also stated that the cost model endorsed by the PTA should be revised annually with new data from Mila bookkeeping. This means that in this cost analysis there is no review of the cost model or of the criteria but rather there is only updating with new data. The PTA considers it appropriate that this revision should be based on the criteria and methodology that the PTA has scrutinised and endorsed, unless there are significant deviations or changes in circumstances from the previous analysis.

73) Mila requested a change from the prior cost analysis, such that the investment base of the investment plan for the year 2020 should be included, thus becoming a three-year plan. The PTA considers this not to be in accordance with the Administration's Decision no. 5/2017 where it clearly states that only a two-year plan should be used. In the opinion of the PTA, it is likely that investment projections will be less accurate the further they extend into the future and for this reason the PTA has not endorsed such projections when this has been proposed. As previously stated, the projection for the year 2018 is based on an endorsed cost plan, which means that there is not much uncertainty about this plan.

74) Mila arguments are that the company wishes to limit the increase that the revision of the model returns. Mila points out that in the coming years allowance will have to be made in the analysis for the decommissioning of copper systems and that therefore a methodology had to be found for adapting the cost model to this change. This method, to use 3 years as a reference, had been suggested in order to limit the impact, because it was clear that an [...] % increase for local loops in just over a year would not be well received by consumers, particularly in areas in the countryside where there was a paucity of choice of service providers, as this is a case of transferring investment costs for unused lines to the remaining users.

75) Mila is correct in saying that, given unchanged criteria for the Mila two-year forecast, the investment base would be higher than if using Mila's three-year investment forecast. The development is such that the number of copper local loops are decreasing because of a greater offer of fibre-optic local loops, and Mila's offer of fibre-optic local loops has increased significantly. The investment base and opex are not decreasing to such an extent that they would counteract an increase in unit prices when sold units decrease significantly.

76) One must however also take into account the status of the market before intervening in the manner proposed by Mila for the purpose of mitigating increases in price for copper local loops. The situation on the wholesale market for local loops is such that copper local loops are considerably less expensive than fibre-optic local loops. This is however not in all instances being passed onto consumers as some electronic communications companies have raised prices for what are called line charges to consumers and they no longer make a distinction between line charges for fibre-optic local loops and copper local loops. Currently, two of the largest electronic communications companies have only one line charge regardless of whether it is for a copper or fibre-optic local loop, unless the local loop charge is collected directly from the owner of the local loop network, as is, for example the case for some local networks owned by municipalities. With this arrangement, the electronic communications companies profit more when there are more copper local loops being leased. An increase in the wholesale price will not necessarily lead to an equivalent increase in the line charge in the retail market.



77) This raises the question of what is gained from preventing an increase in monthly charges for copper local loops in wholesale and whether this is beneficial for consumers. To maintain an unnecessarily low price for copper local loops, can inhibit incentives for investment in fibre-optic local loops and can be conducive to distorting competition, which has a negative impact on consumers in the long term.

78) Mila has also applied for support from the universal services fund for the years 2017 and 2018. In the light of the above one must consider whether a price for local loops that is too low according to Mila costs, creates criteria for support from the universal services fund in the future. It would be better if Mila were able to collect its costs through local loop charges from those parties that use the service rather than applying to the universal services fund for support, a fund which is today funded by electronic communications companies.

79) In the light of the above the PTA considers it appropriate to use the methodology decided in the PTA Decision no. 5/2017 and to continue to use a two-year investment plan when deciding the investment base. With respect to the development which is now taking place on the local loop market, PTA is currently conducting market analysis on this market. On the basis of that market analysis, the PTA will carefully examine whether it is necessary to make changes on the obligations imposed on Mila on this market.

80) The cost analyses uses the booked value of operational assets as in the company's accounts, for investments 2002 - 2017. For investments for the period 2000-2001, the average investment per annum, on the basis of 2001 capex is used. Mila uses the same methodology as in the prior cost analysis in this respect.

81) Míla indexes investments to the year 2017 using the annual building price index average.

82) The PTA conclusion is thus that the investment base comprising Mila investment costs indexed to the year 2017 and investment plans for the years 2018 and 2019 amounts to a total of ISK [...].

83) The useful life of investments is unchanged from the last cost analysis.

84) The following table shows the conclusion of calculations of annuities on investments.

Investments	Recalculated historical costs	Lifetime	Annuity
Copper	[...]	20	[...]
Fibre-optic, copper	[...]	8	[...]
Microwave connections	[...]	5	[...]
NMS system	[...]	10	[...]
Equipment	[...]	10	[...]
Distribution frames	[...]	20	[...]
	[...]		[...]

85) Annuity used as a basis for calculation of copper local loop lease is ISK [...].

5.5 Setup charges

86) In the PTA Decision no. 5/2017, the Administration agreed that the setup charges would remain unchanged at ISK 3,166, which was in accordance with the comments received in the national consultation. Mila has not requested an increase in setup charges and they shall therefore remain unchanged.



87) Annual revenue from setup charges for 2017 were ISK [...]. This amount is deducted from the cost base used for calculating the monthly charge for access to copper local loops.

5.6 Access to distribution frame

88) In the PTA Decision no. 21/2015, the PTA agreed that an increase in monthly charges for access to distribution frames would be in accordance with the increase in local loops.

89) Estimated annual revenue from distribution frames is deducted from costs used in the calculation of the monthly charges for access to local loops.

90) As stated in Section 5.8, the local loop charge increases by about 10.8%.

91) In accordance with the above, the price for access to distribution frames will increase from ISK 1,104 to ISK 1,223 per month for 100 connections panel. Revenue for the charges for access to distribution frames is in the same way estimated 10.8% higher than revenue from monthly charges for the year 2017, that is to say ISK [...]. This amount is deducted from the cost base used for calculating the monthly charge for access to copper local loops.

5.7 Number of lines

92) With the PTA Decision no. 5/2017 the access charge to the local loop is no longer divided into upper and lower frequency ranges and there is no longer provision for varying charges depending on whether the local loop is to a street cabinet or telephone exchange. For this reason it is no longer necessary to allow for varying equivalences of local loops. For this reason, calculations of monthly charges are based on the total number of leased local loops. The number of local loops in use at the end of 2017 was [...].

5.8 Calculation of lease price

5.8.1 Mila cost analysis

93) The Mila cost analysis dated 17 August 2018 contains the following table which shows the total cost of the Mila copper system less revenue from setup charges, distribution frames and other one-off costs, given the above criteria:



	2012	2014	2016	2017
Annuity on investments	[...]	[...]	[...]	[...]
Opex	[...]	[...]	[...]	[...]
Inventory cost	[...]	[...]	[...]	[...]
Deduction for access to distribution frame	[...]	[...]	[...]	[...]
Deduction for setup charges	[...]	[...]	[...]	[...]
Deduction for other revenue	[...]	[...]	[...]	[...]
	[...]	[...]	[...]	[...]

Quantity of line equivalents	[...]	[...]
Price per month	1,406	1,558

94) The Mila conclusion is that the copper local loop cost collected with the monthly charges is just under ISK [...]. As the number of local loops in use is [...] the monthly charge for access to local loop will be ISK 1,558.

5.8.2 The position of the PTA

95) The position taken by the PTA is based on cost model submitted initially by Míla on 10 April 2018. The model was revised last 17 August were Mila changed capex in accordance with the methodology accepted in the PTA Decision no. 5/2017.

96) The main criteria of the updated Míla cost model are as follows:

- Opex is based on operations of 2017.
- Investments were indexed using the building price index to the average price level of 2017 and in addition to this the investment plans for the years 2018 and 2019 were taken into account.
- The number of units is based on the number of leased local loops at the end of 2017.
- The weighted average cost of capital (WACC) is 7.1% for the year 2017.

97) In accordance with the above, the PTA endorses the Míla conclusion on opex, annuity on investment, setup charges, monthly charges on access to distribution frames and line equivalents, pursuant to the updated Míla cost analysis dated 17 August 2018 and as shown here in the table below.

98) Míla calculates that the cost of capital tied in inventory in 2017 is ISK [...] given a 7.1% weighted average cost of capital (WACC).

99) Mila annual costs, including reasonable profit, which are recouped with monthly charges for access to local loops are ISK [...]. By comparison this cost was a little under ISK [...] in 2016, which therefore represents an decrease of approximately [...]. At the same time, local loops in use have decreased somewhat, by about [...]%.

100) As stated in Section 5.7 here above, the number of local loops were [...] in December 2017. According to this the monthly charge for access to the local loop is ISK 1,558. This is full access to the local loop, but no charges are collected for access to the upper frequency level



of the local loop if the lower frequency ranges in use. Fully access to the local loop now costs ISK 1,406, which represents an increase of something under 11%.

101) There is no separate charge for the upper or lower frequency ranges of the local loop.

102) The local loop charge (for the whole local loop) is collected in the same manner as for the lower frequency range of the local loop (the PSTN service). If on the other hand the lower frequency range of the local loop is not being used then the party using the upper frequency range will pay for the local loop, that is to say the Internet service provider. If the local loop is neither used to provide Internet service nor PSTN service, then the party providing IPTV service pays the local loop charge and if VoIP service is solely provided through the local loop then this party will pay the local loop charge. In other words the ranking of the service paying the local loop charge is as follows: PSTN, Internet, IPTV and VoIP.

5.8.3 Price range pursuant to Recommendation from the EU Commission

103) As stated here above, it was stated in PTA Decision no. 21/2014 that the Administration was authorised to reject prices which lay outside the price range proposed by the EU commission at any given time, see the EU Recommendation on the application of consistent non-discrimination obligations and costing methodologies to promote competition and enhance the broadband investment environment for next generation access networks (NGA).

104) As is stated in Appendix A to the PTA Decision no. 21/2014, the price range specified in the Recommendation is €8 - €10 given the price level of 2012, which was ISK 1,286 – 1,607, based on the average exchange rate of 2012. There it is also stated that should the PTA decide to reject the conclusions of the cost analysis on access to copper local loops, the Administration will decide price on the basis of the average of those access prices that are decided by the regulatory authorities on comparable competition markets and that are in accordance with the above specified Recommendation. It is also stated in the Decision that the PTA can endorse prices for access to local loops that lie outside the price band specified in the recommendation in the event of special circumstances. Such circumstances could for example result from very significant changes to the exchange rate of the ISK.

105) This means that the PTA is obliged to examine whether the price should be decided for local loop lease on the basis of the Míla cost analysis or on benchmarking.

106) The PTA has now recalculated the price range. In order to index the price range to the year 2017 the PTA uses the Harmonised Index of Consumer Prices (HICP)⁵ and the average € exchange rate for 2017. According to this the indexed price range was €8.18 - €10.23 which is ISK 1,035 - 1,294. It is therefore clear that the upper limit of the price range is similar now to the lower limit of this price range in 2012 and that the local loop price which was then within the price range is no longer within this calculated price range. If the price range 8 - 10 € as presented in 2012 is however converted to ISK on the basis of the exchange rate of the ISK in 2012 and then indexed with the building price index to the year 2017, the price range would be ISK 1,488 - 1,860. If one uses the wages index instead of the building price index then the price range would be ISK 1,833 – 2,291. The development of these price ranges according to how they are calculated can be seen in the graph below:

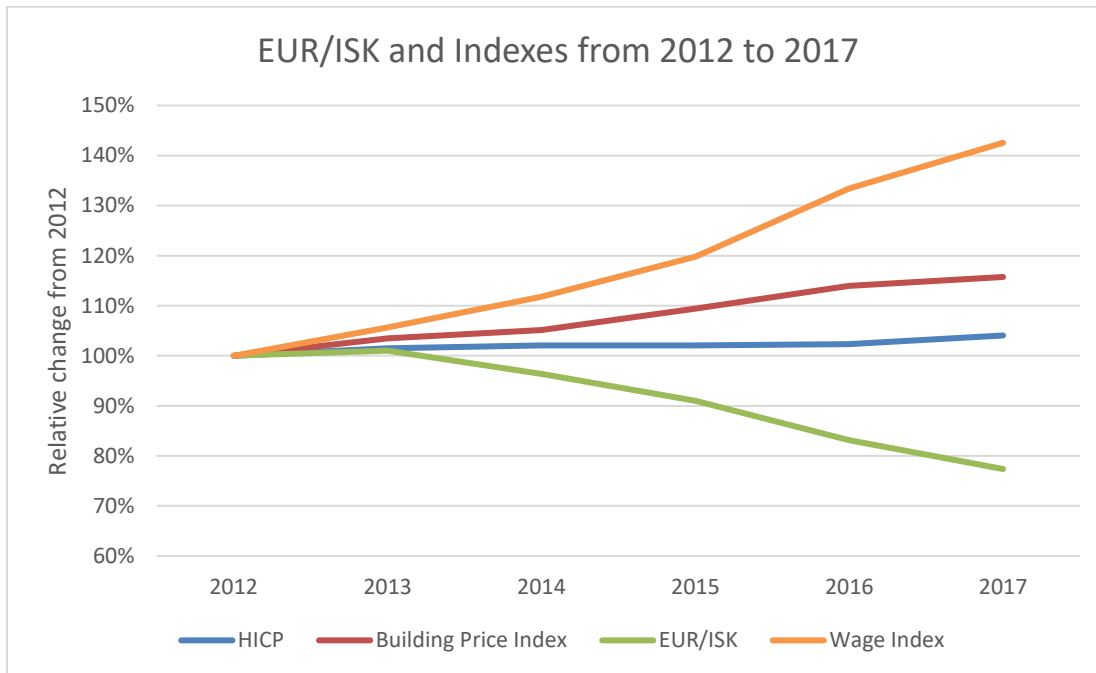
⁵ Information on HICP can be found on the Eurostat site (<http://ec.europa.eu/eurostat>).



107) The new monthly price of ISK 1,558 is just above the lower limit of the price range calculated from the building price index and is under the price range calculated by the wages index. If one looks at the development of the copper local loop price from the time that the PTA Decision no. 21/2014 came into force in August 2014, the price for full access to the copper local loop was ISK 1,386/month. With the conclusion from the cost model on a monthly charge of ISK 1,558, the local loop price has increased by about 12% during this period. At the same time the building price index has increased by about 15% which means that there is a real reduction during this period.

108) As can be seen here above, the price range is developing in opposite directions depending on the criteria used. The reason for this can best be seen if one examines the development of the exchange rate of the ISK and of indices in this country and in Europe from 2012⁶:

⁶ The graph is based on information from Eurostat, the Central Bank of Iceland and from Statistics Iceland.. The graph shows values as a proportion of initial values in 2012.



109) It is clear that the ISK strengthened very significantly during this period, while the HICP index in Europe remained almost unchanged. Using HICP with the exchange rate from 2017 influenced this reduction of the price range. Though there was a drop in price of imported goods to importers, indices in this country did not fall to the same degree, which one can attribute to some extent to national wage increases during the period. For this reason, the same price range calculated with the building price index developed in the opposite direction and the difference is even greater if one takes account of the wage index.

110) The conclusion of the revised cost model is that the price for access to the local loop will be ISK 1,558/month. This price does not fall within the price range calculated on the basis of the HICP index in Europe and the average exchange rate of the ISK in 2017, i.e. ISK 1,035 – 1,294. The PTA refers to text earlier in the above specified Decision no. 21/2014 where it states:

“The PTA can however endorse prices for access to local loops that lie outside the price band specified in the Recommendation in the event of special circumstances. Such circumstances could for example result from very significant changes to the exchange rate of the ISK.”

111) The PTA considers that this exception applies in this instance and will therefore use the conclusion from the revised Mila cost model instead of benchmarking when deciding the price for access to copper local loops. When one takes into account price development in this country and comparison with prices for fibre-optic local loops that are on offer in this country, the PTA considers that it would not be conducive to price stability to base local loop prices on benchmarking. In this instance benchmarking would lead to a reduction in the monthly price for access to copper local loops in this country which could distort the competitive position of fibre-optic local loops and could also lead to Mila not recouping its costs with reasonable profit for the operation of its copper system

5.9 The PTA conclusion

112) In PTA Decision no. 21/2014 the Administration imposed an obligation for price control on Mila for wholesale access to the company’s copper access networks provided at a fixed



location and related facilities, with the authority of Article 32 of the Electronic Communications Act. Pursuant to Paragraph 4 of Article 32 of the same Act it was prescribed that the tariff for the access provided through copper local loops should be cost-oriented having fulfilled specific conditions.

113) In accordance with this PTA decision, the Mila tariff for copper local loops was decided in PTA Decision no. 5/2017. PTA Decision no. 21/2014 prescribes an annual revision of the cost analysis for copper local loops and for this reason, the Mila cost model was revised as described in the Sections here below.

114) As stated here above, the PTA has examined whether the conclusion of the Mila cost model on the monthly price for fully unbundled access to the copper local loop is within the price range specified in the PTA Decision no. 21/2014. It came to light that the price range had reduced significantly because of the development of the exchange rate of the ISK which meant that the conclusion on monthly price for copper local loop generated by the Mila cost model did not fall within the price range. In section 5.8.3 here above, it is stated that the PTA conclusion on price for access to copper local loops should be based on the Mila cost model, despite the fact that the Mila cost model returned a local loop price which was higher than the price range in question.

115) In accordance with the criteria discussed here above, the PTA conclusion is that the monthly charge for access to the copper local loop shall be **ISK 1,558** ex VAT, irrespective of whether access is to a telephone exchange or to a street cabinet. The setup charge for local loops will furthermore remain unchanged at ISK 3,166 while access to distribution frame will be ISK 1,223/month for each 100 lines

116) It is assumed that Mila total revenue from monthly charges of copper local loops will increase by about 10.8%, according to the new tariff as the reduction in Mila costs does not quite follow the reduction in the number of local loops.

117) The PTA has now commenced market analysis of markets 3a and 3b pursuant to new recommendations from ESA from 2016 on the definition of wholesale markets for telecommunications, and these markets cover similar service as markets 4/2008 and 5/2008. After the Administration has analysed these markets, a decision will be made on whether to maintain those obligations now imposed on Mila pursuant to the PTA Decision no. 21/2014. The PTA plans to commence a national consultation of the market analysis for Market 3a and 3b in June this year.

118) Until the time that a new decision is made, the PTA Decision no. 21/2014 on the implementation of obligations for price control will apply. The decision states that the tariff shall be reviewed annually in accordance with the annual update of the cost analysis according to the cost model that PTA has endorsed. On the grounds of proportionality, PTA also have to take into consideration work in relation to other cost analysis to be provided by Mila. Mila shall submit an update of the cost model for the operation year 2017, by 1 October 2019.



The Decision

- 1) The Post and Telecom Authority endorses the Mila ehf. review of its cost analysis for copper local loops, pursuant to the PTA Decision no. 5/2017, which was received by the Administration on 17 August 2018.
- 2) The monthly charge for access to copper local loop shall be ISK 1,558 ex VAT irrespective of whether access is to telephone exchange or street cabinet. The setup charge for local loops will furthermore remain unchanged at ISK 3,166 while access to distribution frame will be ISK 1,223/month for each 100 lines.
- 3) Prices are ex VAT.
- 4) Mila ehf. shall notify the coming into force of the new tariff with at least 60 days' notice. The new Mila ehf. tariff shall be part of the company's reference offer for open access to the local loop on the coming into force of the above specified price changes.
- 5) This Decision can be appealed to the Appellate Committee for Electronic Communications and Postal Affairs, see Article 13 of Act no. 69/2003 on the Post and Telecom Administration. The appeal shall have reached the Appellate Committee four weeks from the time that the party in question became aware of the Decision of the Post and Telecom Administration. Costs for an appeal are according to Paragraph 5 of Article 13 of the same Act, and in addition to this there is a special appeal charge to the amount of ISK 150,000 to be paid pursuant to Article 6 of Regulation number 36/2009 on the Appellate Committee for Electronic Communications and Postal Affairs. Pursuant to Paragraph 4 of Article 13 of the same Act, a party can also refer a decision of the Post and Telecom Authority directly to the courts without the case having been first referred to the Appellate Committee. Such a case shall be brought within 3 months from the time that the party in question received knowledge of the Administration's decision. Referral of the case does not postpone the legal impact of the decision of the Administration. Referral of the case direct to the courts, prevents the Appellate Committee from being authorised to process an appeal.

Reykjavík, XX XX 2019

Hrafnkell V. Gíslason

Óskar Þórðarson