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Amt für Kommunikation
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Principality of Liechtenstein

For the attention of:
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Dear Sir,

Subject: Wholesale market for terminating segments of leased lines in Liechtenstein

Wholesale market for trunk segments of leased lines in Liechtenstein

Comments pursuant to Article 7(3) of Directive 2002/21/EC (Framework Directive)

1 Procedure

On 21 August 2012, the EFTA Surveillance Authority (the “Authority”) received a notification of draft national measures in the field of electronic communications pursuant to Article 7 of the Framework Directive¹ from the Liechtenstein national regulatory authority, *Amt für Kommunikation* (AK). The notification became effective on the same day. The draft measure concerns the review of the wholesale markets for terminating segments of leased lines and for trunk segments of leased lines in Liechtenstein.²

¹ Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services, OJ L 108, 24.4.2002, p. 33 (as amended by Regulation (EC) No 717/2007, OJ L 171, 29.6.2007, p. 32 and Regulation (EC) No 544/2009, OJ L 167, 29.6.2009, p. 12), as referred to at point 5cl of Annex XI to the EEA Agreement and as adapted to the Agreement by Protocol 1 (the “Framework Directive”).

² Corresponding to market 6 of EFTA Surveillance Authority Recommendation (Decision No. 688/08/COL) of 5 November 2008 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 of 7 March 2002 on a common regulatory framework for electronic communications networks and services); OJ C 156, 9.7.2009, p.18 (the “2008 Recommendation”); and market 14 of EFTA Surveillance Authority Recommendation (Decision No. 194/04/COL) of 14 July 2004 on relevant product and service markets within the electronic communications sector to be considered for *ex ante* regulation in accordance with the common regulatory framework for electronic communication networks and services in the Agreement on the European Economic Area Directive 2002/21/EC of the European Parliament and of the Council), OJ L 113, 27.04.2006, p. 18.

National consultation pursuant to Article 6 of the Framework Directive was carried out in the period from 31 May 2012 to 31 July 2012. The deadline for consultation with the Authority and the national regulatory authorities in the EEA under Article 7 of the Framework Directive expires on 21 September 2012.

2 Description of the draft measure

2.1 Market definition

AK defines leased lines as symmetric bi-directional point-to-point connection with a precisely defined transparent transmission capacity³ without switching functionality.⁴

AK differentiates the following wholesale markets:

a) *The wholesale market for terminating segments of leased lines*

Terminating segments are regarded as all leased lines or leased line segments at wholesale level which are not classified as trunk segments. Normally these are twisted pair copper lines (TPCW) or a multiple of them that extend to the main distribution frame (MDF) to the network termination point of the retail user.

b) *The wholesale market for trunk segments of leased lines*

Trunk segments are leased lines or leased line sections on the wholesale level which connect two points of interconnection (POI),⁵ as a rule at the main distribution frame (MDF) or at the intermediate distribution frame (IDF) of two access network areas. Trunk segments do not reach the network termination point of the retail customer.

An end-to-end leased line between two network termination points consists as a rule either of two terminating and one trunk segment or of two terminating segments when both network termination points are located in the same access domain.

As the providers of leased lines do not, in the context of the annual operator survey conducted by AK, report separately on the two markets delineated above by AK, AK identifies the need to utilize further criteria in order to determine market shares. For capacities smaller than 8 Mbit/s TPCW are used. In AK's view, this capacity threshold can form the basis to differentiate between the two product markets. Thus, all leased lines under 8 Mbit/s are allocated to the market for terminating segments and all leased lines with a capacity higher than 8 Mbit/s belong to the market for trunk segments.

³ Unlit optical fibre as well as twisted pair copper lines not in service are not part of the relevant market as they do not provide specific transparent transmission capacity. AK explains that to the extent that unlit cables are located in the access to network infrastructures they are to be assigned to market 4 (physical access to network infrastructures at fixed locations). Dark fibre/fibre channels in the core network are to be assigned to a separate wholesale market. AK explains that it is currently assessing the conditions for the definition and regulation of such a market and that it will conduct an independent consultation process in that respect.

⁴ AK excludes from the market products with Ethernet interfaces which offer the control of destination of the connection by the user as they provide an on-demand switching functionality. Furthermore, products with user-side X.25, Frame Relay, ATM and IP interfaces at the network termination points which offer the option to control the destination of the connection as well as products with user-side Ethernet interfaces to more than two network termination points are excluded from the leased lines markets.

⁵ AK states that Liechtensteinische Kraftwerke ("LKW") currently has 30 trunk segment points of interconnection in Liechtenstein.

AK includes self-provided services (self-supply) in the relevant markets.

According to AK, the relevant geographic markets are national in scope.

2.2 Evaluation of whether the wholesale leased lines markets are susceptible to *ex ante* regulation (the three-criteria test)

Pursuant to Article 2 of the Authority's 2008 Recommendation, the following three criteria must be cumulatively met in order for a market other than those set out in the Annex to that Recommendation to be considered as susceptible to *ex ante* regulation:

- The presence of high and non-transitory structural, regulatory or legal barriers to entry.
- A market structure which does not tend towards effective competition within the relevant time horizon.
- The insufficiency of competition law alone to address the markets failure(s) concerned adequately.

In its draft measure, AK assesses whether both the wholesale markets for terminating and trunk segments of leased lines should be subject to sector-specific *ex ante* regulation.

a) The wholesale market for terminating segments of leased lines

With respect to the terminating segments of leased lines, AK is of the opinion that there are still high and insurmountable barriers to market entry as the provision of terminating segments of leased lines continues to be dependent on access to the fixed network across the whole territory of Liechtenstein. Further, AK does not observe a tendency towards effective competition within the relevant time horizon. General competition law is not considered sufficient on its own to address market failures adequately, due, in particular, to the absence of an independent competition authority in Liechtenstein.

b) The wholesale market for trunk segments of leased lines

With regard to the first criterion, AK concludes that there is no duplication of the trunk leased lines routes by alternative operators in Liechtenstein.⁶ In AK's view, this lack of duplication is mainly due to the low traffic volumes and income on these routes and the high sunk investments linked to such duplication. Therefore, AK concludes that there are still entry barriers on this market. As to the second criterion, AK does not expect any duplication of the trunk leased lines in the foreseeable future. Due, in particular, to the absence of an independent competition authority in Liechtenstein, AK also deems the third criterion to be fulfilled. Therefore, AK concludes that the three-criteria test is fulfilled

⁶ According to AK, LKW – the owner of the passive infrastructure – does not offer leased lines on the wholesale and the retail market but rather dark fibre or dark copper. It could, however, become active on the wholesale market for trunk leased lines as a provider (across the entire country), and thus a competitor. Telekom Liechtenstein AG ("TLI") is dependent on LKW's wholesale inputs for the provision of leased lines. TLI is currently the sole provider of leased lines to external wholesale service buyers. All other operators provide leased lines services for self-supply or to their own retail customers. AK further remarks that while the mobile network operators have partly established radio link connections in order to connect parts of their networks, this is geographically limited to their own antenna sites. A cable connection alternative trunk infrastructure also only exists to an isolated extent. The network of the sole alternative CATV network operator TV-COM AG is limited to the area of the two municipalities of Eschen and Mauren.

with respect to the wholesale market for trunk segments in Liechtenstein and *ex ante* regulation of this market should be considered.

2.3 Finding of significant market power (SMP)

AK proposes not to designate any undertaking as having significant market power on either of the two relevant markets. The main criteria considered by AK when reaching its conclusion are: market shares and their development (including joint market power); the extent of market entry barriers and potential competition; control over infrastructure not easily duplicated; the existence of economies of scale and scope; the existence and degree of sunk costs; and the degree of product diversification.

The market shares⁷ in terms of capacity (in 64 kbit/s equivalents; first figure) and units (number of leased lines; second figure) of the principal market players are as follows:⁸

a) *On the wholesale market for terminating segments of leased lines*

- Telecom Liechtenstein AG: 25.86% / 27.54%;
- ICT-Center AG: 16.59% / 23.67%;
- Alpcom AG (formerly Tele2 AG): 13.15% / 3.38%;
- SpeedCom AG: 0.35% / 11.59%;
- Total Optical Networks AG: 9.86% / 10.14%;
- Liechtensteinische Kraftwerke: 0.00% / 0.00%.

On the market for terminating segments of leased lines, of the 13 providers active in 2010⁹ on the wholesale market (with a total of 207 terminating segments), only TLI had a market share of over 25%. While, in AK's view, such a market share can in principle give rise to the possibility of a dominant position, the presence of other factors is required in order to find significant market power. AK's investigation of such factors reveals that they do not provide evidence of a dominant market position on the part of TLI. In particular, four further providers have market shares of more than 10%. Despite TLI's control over infrastructure which is not easily duplicated (country-wide co-location and backhaul facilities) and sunk costs, other providers have entered the market over the last few years and have begun to add customers and expand their customer bases. Moreover, other providers of terminating segments of leased lines could also buy physical network access from LKW as a wholesale service and provide leased lines on that basis. Thus, AK does not designate TLI as having significant market power.

⁷ AK observes continuous growth, in particular as regards high capacity leased lines and leased lines in the 2 Mbit/s area. A decrease in numbers has only been observed for low capacity leased lines under 2 Mbit/s, which AK explains by the fact that such low capacities no longer correspond to today's requirements and that alternative products exist.

⁸ AK has chosen to measure the market shares according to the 64 kbit/s equivalents and the number of leased lines provided due to the fact that neither the sales revenues of the providers generated from the terminating and trunk segments nor self-supply are available separately. Moreover, in AK's view, the collection of data regarding the bandwidths and lengths for each individual leased line would represent a disproportionately burdensome effort on the part of the providers.

⁹ AK uses data from 2010 in its notified draft measure.

Significant market power on the part of LKW is also excluded by AK, despite LKW's control over ubiquitous access infrastructure which is not easily duplicated, due to the fact that LKW is not active at all on the relevant market.

b) On the wholesale market for trunk segments of leased lines

- Telecom Liechtenstein AG: 7.09% / 59.60%;
- UPC Cablecom GmbH: 32.10% / 5.39%;
- Quality Net AG: 27.29% / 1.35%;
- ICT-Center AG: 7.51% / 3.70%;
- Liechtensteinische Kraftwerke: 0.00% / 0.00%.

On the market for trunk segments of leased lines, out of the 13 currently active providers (with a total of 297 trunk segments), only the above-mentioned operators have a market share of more than 25%. All of the other providers each have less than 10% market share. AK considers that - while TLI's market share based on the number of leased lines provided is high (59.6%) - its market share measured in capacities (7.09%) excludes the presence of a dominant market position.

The AK's investigation of further market share indicators have led it to the conclusion that the presence of significant market power on the part of TLI cannot be confirmed. In particular, LKW grants private autonomous and non-discriminatory access to corresponding infrastructure wholesale service products; thus, the barriers to market entry have decreased and this is supported by the fact that increasing competition by alternative providers has been observed.

AK observes that this remains true at least as long as LKW, which has the sole ubiquitous infrastructure for the provision of trunk leased lines at its disposal, does not itself enter this market as a provider and the required infrastructure wholesale services continue to be provided externally in a non-discriminatory manner to all providers of leased lines services as has been the case to date. In the event that this changes in the future, AK has committed to carrying out a new analysis of this market.

Significant market power on the part of LKW on this market is therefore also excluded by AK, despite LKW's control over ubiquitous access infrastructure which is not easily duplicated, due to the fact that LKW is not active at all on the relevant market.

For the above reasons, AK concludes that no provider has sole significant market power on either of the relevant wholesale markets.

2.4 Regulatory remedies

Given that no undertaking alone or in combination with others has been designated with a dominant market position on the wholesale market for terminating segments of leased lines or on the wholesale market for trunk segments of leased lines, AK concludes that effective competition prevails on both of the markets and that no *ex ante* regulation is required.

3 Comments

On the basis of the present notification, the Authority has the following comments:

Data supporting the analysis and findings by AK

The Authority notes that AK, on the basis of quality concerns, has not included in its proposed draft measures the latest available data for 2011, but supports its market analysis and findings on the basis of data from 2010. The Authority also notes that, in AK's view, the outcome of the present market analysis would not be liable to change as a result of any possible changes in market shares in 2011, due to the impact of other market power indicators examined.

While the Authority does not dispute that finding, it remains concerned that up-to-date data has not been used to underpin the conclusions reached by AK. The Authority would encourage AK to use its best endeavours to employ up-to-date data in future market analyses.

Regulation of dark fibre / Wholesale market for access to network infrastructure for high capacity transmission routes in a core network

The Authority notes that AK does not include unlit fibre ("dark fibre") in the relevant leased line market on the basis that it does not provide specific transparent transmission capacity. In addition, to the extent that unlit fibre is located in the access network domain, AK assigns it to the market for physical access to network infrastructure at fixed locations (market 4). With regard to unlit fibre in core networks, AK envisages the possibility of assigning it to a separate wholesale market still to be defined, such as, for example, a wholesale market for physical access to network infrastructures for high capacity transmission routes in a core network. AK states that it is currently in the process of assessing the conditions for the definition and regulation of such a market and will carry out a consultation process in this respect as required by the regulatory framework.

The Authority has taken note of this commitment to defining and regulating, if the relevant conditions are met, a separate market for wholesale access services for high capacity transmission routes in core networks. In this respect, the Authority urges AK to carry out a market analysis without delay, should its findings lead it to conclude that such a relevant market exists.

4 Final remarks

Pursuant to Article 7(5) of the Framework Directive, the AK may adopt the resulting draft measure and, if it does so, shall communicate the final measure to the Authority.

The Authority's position on the current notification is without prejudice to any position the Authority may take in respect of other notified draft national measures.

Pursuant to point 15 of the Procedural Recommendation, the Authority will publish this comments letter on its eCOM Online Notification Registry. The Authority does not consider the information contained in this letter to be confidential. However, AK is invited to inform the Authority within three working days¹⁰ following receipt of this letter if it

¹⁰ The request should be submitted through the eCOM Registry or by facsimile to +32 2 286 1800, marked for the attention of the eCOM Task Force.

considers, in accordance with EEA and national rules on confidentiality, that this letter contains confidential information which AK would like to be deleted prior to publication. AK should provide reasons for any such request.

Yours faithfully,



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Tormod S. Johansen
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