EUROPEAN COMMISSION

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Danish Business Authority (DBA)

Dahlerups Pakhus,
Langelinie Allé 17,
DK-2100 Copenhagen
Denmark

For the attention of:
Mr Jorgen Abild Andersen
Director General Telecom

Fax: + 45 3546 6001

Dear Mr Andersen,

Subject: Commission Decision concerning

Case DK/2012/1339: wholesale market for physical network infrastructure access in Denmark

Case DK/2012/1340: wholesale broadband access in Denmark

Case DK/2012/1341: wholesale terminating segments of leased lines in Denmark

Comments pursuant to Article 7(3) of Directive 2002/21/EC[1]

I. PROCEDURE

On 7 June 2012, the Commission registered three notifications from the Danish Business Authority (DBA)[2], concerning the wholesale markets for physical network infrastructure

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[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 Directive 2009/140/EC (Better Regulation Directive), OJ L 337, 18.12.2009, p. 37, and Regulation (EC) No 544/2009, OJ L 167, 29.6.2009, p. 12 (Framework Directive).

[2] Under Article 7 of 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 (Framework Directive), OJ L 108, 24.4.2002, p. 33, as amended by Directive 2009/140/EC, OJ L 337, 18.12.2009, p. 37, and Regulation (EC) No 544/2009, OJ L 167, 29.6.2009, p. 12.

access, for broadband access, and for terminating segments of leased lines[3] in Denmark.

The national consultations[4] on the three draft measures ran from 30 September 2011 to 28 October 2011 for markets 4 and 5, and from 27 September 2011 to 26 October 2011 for market 6.

On 20 June 2012 a request for information[5] was sent to DBA and a response was received on 25 June 2012.

Pursuant to Article 7(3) of the Framework Directive, national regulatory authorities (NRAs), the Body of European Regulators for Electronic Communications (BEREC) and the Commission may make comments on notified draft measures to the NRA concerned.

II. DESCRIPTION OF THE DRAFT MEASURES

II.1. Wholesale market for physical network infrastructure access

II.1.1. Background

The market for physical network infrastructure access was previously notified and assessed by the Commission under the case DK/2008/0860[6]. The Danish national regulatory authority (NITA, the predecessor of DBA) defined the market as being limited to copper, and excluded all fibre based infrastructures. In justifying its conclusion NITA referred to TDC's very limited investment in fibre networks and its investment strategy based on VDSL2. In addition, fibre networks rolled out by alternative operators (energy suppliers) were also limited in geographical coverage and were fragmented. NITA designated TDC as an operator with significant market power and proposed to impose the full set of remedies. The Commission commented on the need to analyse the substitutability of access to the fibre and copper loops in a forward looking, technologically neutral manner and to consider the imposition of remedies on fibre infrastructures in its next market review, if appropriate. Furthermore, in the context of a migration from copper to fibre, the Commission invited NITA to consider imposing additional remedies concerning the incumbent's migration plans.

II.1.2. Market definition

The notified draft measure concerns the third review of the wholesale market for physical network infrastructure access in Denmark. DBA assessed different platforms suitable for delivering broadband to retail consumers, namely copper loops, fibre networks, CaTV and wireless infrastructures. Based on the assessment of the characteristics of access offered by those different platforms (possibility of access to unbundled infrastructure, control over the infrastructure and access to end-user's network termination point) DBA concluded that only access over copper and fibre infrastructures should be included in the relevant market.

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3 Corresponding to market 4, 5 and 6 in the Commission Recommendation 2007/879/EC of 17 December 2007 on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services (Recommendation on Relevant Markets), OJ L 344, 28.12.2007, p. 65.

4 In accordance with Article 6 of the Framework Directive.

5 In accordance with Article 5(2) of the Framework Directive.

6 SG-Greffe(2009)D/568.

DBA concluded that neither access to CaTV infrastructure nor to wireless networks (point-to-point or point-to-multipoint) offers the same characteristics in terms of technical/economical viability, control of infrastructure, and quality, and therefore excluded CaTV and wireless infrastructures from the relevant market.

With regard to the geographical scope of the market DBA concludes that it covers the whole territory of Denmark. The existing variations in roll out of alternative networks[7] are not sufficient to warrant a definition of separate geographic market(s).

II.1.3. Finding of significant market power

On the basis of its market analysis, DBA proposes to designate TDC as having SMP on the market for physical wholesale network infrastructure access. The main criteria considered by DBA in reaching its conclusion include: i) market share, which is high (92.5% in 2010) and stable over time and a high level of concentration in the market[8]; ii) control of bottleneck infrastructure not easily duplicated on a nation-wide scale; iii) entry barriers (vertical integration, economies of scale and scope); iv) absence of countervailing buying power; v) barriers to expansion; vi) ability and incentives for TDC to behave anti-competitively; vii) pricing behaviour[9].

II.1.4. Regulatory remedies

In order to remedy the identified competitive problems DBA intends to impose the following regulatory remedies on TDC:

i) access[10];

ii) price control and cost accounting;

iii) non-discrimination;

iv) publication of a reference offer, including a Service Level Agreement and Key Performance Indicators;

vi) transparency, including information on TDC's passive and active infrastructure and their further development; and

vii) accounting separation.

As regards the access obligation, in addition to previously existing obligations, DBA proposes to oblige TDC to grant access also to unbundled fibre as well as virtual unbundled local access (VULA) in areas where TDC has upgraded the copper network. In addition DBA provides for specific rules relating to compensation of access seekers in view of the transition to VULA where TDC's network upgrades force a migration.

With regard to access to the fibre loops DBA imposes on TDC a specific obligation to construct, at the request of an alternative operator, a 'drop cable' (up to 30 m of length) connecting the end customer with the near-by fibre network. DBA considers that it is

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[7] DBA notes that there are some areas where the market share of alternative operators who provide fibre networks exceeds 30%. According to DBA's conclusions those areas, neither individually nor combined, justify a definition of a separate market.

[8] TDC has purchased telecoms companies in 2009 - 2010 including DONG Energy's fibre network, Fullrate, A+ (including FastTV) and NordIT.

[9] DBA concludes that there are some indications of a price squeeze risk.

[10] Full and shared access to the local loop and sub-loop. Access includes also services such as collocation, unbundled access to fibre on the backhaul lines, access to TDC's ducts.

specific to the Danish market that the fibre distribution network has been already significantly rolled out and passes near-by individual households.[11] Furthermore, unlike the copper or CaTV networks, the fibre connection is extended to the end customer only at the time of signing a contract for the provision of broadband services over fibre. TDC installs such drop cables whenever an end-customer signs a contract with TDC, however, absent the drop cable obligation, it does not install such connections, as a wholesale service, when the end customers are solicited by alternative operators. As a result, TDC may exploit a significant first mover advantage and may foreclose alternative operators from competing for an increasing number of potential customers. DBA proposes that the costs of the drop cable connections will be included in the regulated cost-base of TDC's network and will not be reimbursed by way of a one-off payment.

With regard to the specific implementation of price control, DBA proposes cost orientation. DBA proposes to set the access prices for certain products offered by TDC[12] on the basis of a Long Run Average Incremental Cost model (LRAIC)[13]. For certain network access products that are not suitable to the proposed LRAIC model, historical cost accounting is proposed[14]. For VULA, DBA proposes using the LRAIC model except for excavation, ducts and cables, for which DBA proposes a valuation on the basis of historical costs[15].

Furthermore, as compared to the previously imposed obligations, DBA proposes to introduce the following changes:

- access to TDC's civil engineering infrastructure is mandated in general, and not only with regard to backhaul obligations;

- the price control obligation is supplemented with a general prohibition of price squeeze (DBA will monitor the broadband market to detect any price squeeze practices);

- the non-discrimination obligation has been supplemented with additional requirements concerning timing and availability of new wholesale products;

- the transparency obligation now includes a requirement to measure and publish Key Performance Indicators for internal and external services.

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[11] Such fibre networks have been built by energy supplier (DONG, subsequently taken over by TDC). The fibre network is typically missing the short connection to the end user premises that are passed.

[12] Copper and fibre lines, system infrastructure, backhaul lines, collocation, migration.

[13] The model described by DBA uses current cost accounting.

[14] In the response to the RFI, DBA indicated that these services are typically services with a low turnover or services with a limited relation to the access products that are being modelled and have a high share of labour costs (such as the preparation of offers, education of wholesale customers or various tasks conducted for end-users). New services are also priced according to historic cost accounting until they are included in the LRAIC model.

[15] In the response to the RFI, DBA indicated that the market conditions combined with NGA investments on the copper-based network will limit or distort the incentives of alternative operators to invest in their own infrastructure. Therefore, the pricing principles for VULA should reflect this new market reality.

II.2. Market for wholesale broadband access

II.2.1. Background

The market for wholesale broadband access was previously notified and assessed by the Commission under case DK/2008/0862.[16] NITA proposed to include CaTV infrastructure in the relevant market mainly due to switching costs, which were not very high, and the fact that the largest cable TV network in Denmark is controlled by TDC. According to NITA a different regulatory treatment of copper and CaTV networks might create disincentives for TDC to invest in copper network expansion in those areas where it has a parallel cable TV network. NITA proposed to designate TDC as an operator with significant market power and proposed to impose regulatory remedies with regard to TDC's copper and cable infrastructure, respectively.

The Commission extensively commented on the issue of inclusion of CaTV networks in the market definition, however in view of specific Danish circumstances did not challenge such delineation of the relevant market. In particular, in view of TDC's joint ownership of copper and CaTV networks, the Commission accepted that in the absence of appropriate cable access remedies TDC could circumvent the existing wholesale bitstream access regulation. Access remedies imposed with regard to CaTV networks of the telecom incumbent ensure the effective enforcement of copper-based wholesale broadband access remedies.

The Commission also commented on the scope of the access obligations, which included multicasting (IPTV). According to the Commission the relevant market in question is the upstream market for access to data services, in particular to Internet and not to broadcasting services as such. However, the Commission noted that it is possible that trends in the market for wholesale broadband access may develop in such a direction that in the absence of a TV offering the provision of an Internet access product alone may no longer be sufficient to compete effectively at the retail level.

Furthermore the Commission commented on the exclusion of fibre infrastructure from regulation, although NITA included fibre networks in the definition of the relevant market. The Commission invited NITA to re-assess the competitive situation on the market as soon as TDC starts to offer retail services based on fibre.

II.2.2. Market definition

The notified draft measure concerns the third review of the market for wholesale broadband access in Denmark. DBA assesses different platforms suitable for delivering wholesale broadband access, namely copper loops, fibre networks, CaTV and wireless infrastructures. Based on the assessment of the characteristics of access offered by those different platforms (data transfer in both directions, physical or logical separation between end-user connections, management of connection including prioritisation, quality including capacity, response time and stability, potential for upgrading the capacity) DBA concludes that only access over copper, fibre, CaTV and wireless point-to-point infrastructures[17] should be included in the relevant market for wholesale broadband access.

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[16] SG-Greffe(2009)D/1391.

[17] In the reply to the request for information DBA explains that Wireless point-to-point connections possess all the relevant properties for providing wholesale broadband access and that it is possible to produce bitstream access services over such connections, and that during the public consultation the parties did not object to the inclusion of wireless point-to-point infrastructures within the market

With regard to CaTV networks DBA concludes that it meets the characteristics specified above. In particular the currently adopted DOCSIS 3.0 standard offers two-way data transfers, sufficient quality, management and prioritisation of data. Furthermore, DBA considers that although CaTV are point-to-multipoint infrastructures (hence, there is no physical separation between individual end-users), the separation of end-users is achieved by means of logical separation on the basis of unique user IDs. Therefore DBA considers that CaTV networks offer all features of a wholesale product as requested by the wholesale customers, and wholesale broadband access over CaTV can be used as an input to create retail broadband offers.[18]

DBA excludes from the relevant market the wireless point-to-multipoint infrastructures (UMTS, HSDPA, CDMA, and WiMax).

DBA considers that the geographical scope of the market is national.

II.2.3. Finding of significant market power

On the basis of its market analysis, DBA proposes to designate TDC as having SMP on the market for wholesale broadband access. DBA concludes that TDC is an active operator on all existing infrastructure platforms (copper, fibre, CaTV and wireless point-to-point), and therefore enjoys a significant competitive advantage. TDC has a high market share[19], in particular on the copper infrastructure (over 80%). Furthermore, DBA considers that other criteria also indicate the SMP position of TDC, such as: i) control of bottleneck infrastructure not easily duplicated on a nation-wide scale; ii) entry barriers (vertical integration, economies of scale and scope); iii) relative size of undertakings; iv) privileged access to financial resources.

II.2.4. Regulatory remedies

In order to remedy the identified competitive problems DBA intends to impose the following regulatory remedies on TDC:

- i) access;
- ii) price control and cost accounting;
- iii) non-discrimination;
- iv) publication of a reference offer, including a Service Level Agreement and Key Performance Indicators;
- v) transparency; and
- vii) accounting separation with respect to copper and fibre networks.

TDC is obliged to offer broadband access over the CaTV infrastructure at layer 3 and at national level, while access over copper and fibre networks must also be offered at the lower level of the network (layer 2). In contrast with copper/fibre infrastructure, TDC is

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definition. However such infrastructures represent only an insignificant part of the market, and have no effect on the overall market. DBA considers that it is not appropriate to impose any access obligations with regard to such connections.

18 DBA notes also that despite the access obligations currently imposed on TDC's CaTV networks there is no take up of wholesale services.

19 The market shares of TDC in the overall market are above 70 % (including both internal sales and sales on the merchant market); TDC has virtually 100% of the market share if only the sales on the merchant market are considered.

not obliged to provide multicasting functionality for broadband connections over its CaTV. According to DBA, mandating wholesale access to the CaTV infrastructure of TDC is necessary and appropriate in order to ensure a level playing field between those two platforms. A different regulatory treatment would allow TDC to conduct "forum shopping" and would lead to investment decisions not based on commercial, market-based consideration, but rather on strategic, regulatory factors.

Further, DBA maintains the drop cable obligation for premises passed by fibre networks where the infrastructure required is not longer than 30 metres.

With regard to the specific implementation of price control, DBA proposes cost orientation. As for market 4, DBA proposes to set the access prices for certain products offered by TDC[20] on the basis of Long Run Average Incremental Cost model (LRAIC)[21]. For certain network access products that are not suitable for the proposed LRAIC model, historical cost accounting is proposed[22]

Furthermore, as for market 4, also in the market for wholesale broadband access DBA proposes to amend the previously existing obligations relating to the prohibition of price squeeze, timing and availability of new wholesale offers, and the publication of KPIs.

II.3. Wholesale market for terminating segment of leased lines

II.3.1. Background

The second review of the wholesale market for terminating segments of leased lines in Denmark was notified to and assessed by the Commission under case DK/2009/1023[23].

In line with the Recommendation on Relevant Markets, NITA defined the wholesale market for terminating segments of leased lines as consisting of the connection between an end-user site and a network node where there is typically access to several different services including PSTN, broadband traffic and leased lines (local exchange), regardless of the underlying technology and transmission capacity. The market definition also included internal sales (self-supply). The functionality and quality conditions were not segmented further on the market in high and low capacity leased lines. NITA designated TDC as having SMP in the relevant market.

NITA imposed on TDC access, price control, cost accounting, accounting separation, non-discrimination, publication of reference offers, and transparency obligations.

II.3.2. Market definition

DBA proposes to define the wholesale market for terminating segments of leased lines as comprising any technological platform with specific key characteristics between an end-user address and a first network node.

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[20] Broadband connections over TDC's copper, fibre and CaTV networks, collocation, migration, as well as a range of functions such as multicast, unicast and multichannel functions and power supply.

[21] The model described by DBA uses current cost accounting.

[22] In the response to the RFI, DBA indicated that these services are typically services with a low turnover or services with a limited relation to the access products that are being modelled and have a high share of labour costs (such as the preparation of offers, education of wholesale customers or various tasks conducted for end-users). New services are also priced according to historic cost accounting until they are included in the LRAIC model.

[23] SG-Greffe (2010) D/955.

The product market boundaries between the wholesale market for terminating segments of leased lines and wholesale broadband access depend on specific product characteristics: guaranteed capacity, quality, symmetric upload and download capacity, Service Level Agreements (SLAs), latency and price.

DBA considers that the geographical scope of the market is national.

II.3.3. Finding of significant market power

DBA proposes to designate TDC as having SMP in the wholesale market for terminating segments of leased lines on the basis of the following main criteria: i) high market share (75%)[24]; ii) control of not easily duplicated nation-wide infrastructure; iii) entry barriers (vertical integration, economies of scale and scope, start-up costs); iv) absence of countervailing buying power; and v) pricing behaviour and trends.

II.3.4. Regulatory remedies

DBA indentifies different competitive conditions on the low capacity (below and equal to 2Mbit/s) and the high capacity (over 2Mbit/s) segment.

As regards the low capacity segment, which is based primarily on the copper platform, DBA notes that it can be considered profitable and attractive to new investments only to a limited extent due to the fact that it is declining. In fact, a tendency of migration to higher capacities can be observed. DBA considers that the competition in this segment is limited with no sign of improvement[25]. However, DBA underlines that there still is and will be a demand for low capacity leased lines as well as that these lines are of vital importance for the ability of the providers to offer bundled solutions to end-users.

As regards the high capacity segment, which can be offered on several platforms (including fibre, FWA and copper infrastructure), several providers are present who install their own infrastructure for self-supply as well as for external sales. This segment is growing and is thus of greater interest for providers than the low capacity one. The trend of TDC's pricing indicates a fall in prices in the recent years.[26]

Recognising the existence of competition problems in the overall market, the DBA considers that their degree and extend justifies a diversification of remedies according to market segments. DAB therefore proposes to impose on TDC the obligations of:

i) access[27], including co-location,

ii) transparency; and

iii) non-discrimination in the overall market, while imposing

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24 In the low capacity segment TDC had a market share of 88% in 2010, down from 92% in 2008. The decrease observed in the market share is due mainly to a significant drop of external sales. On the contrary, in the high capacity segment TDC's market share decreased from 64% in 2008 to 51% in 2010. TDC's internal sales dropped from 77% in 2008 to 59% in 2010 while the external sales increased from 9% in 2008 to 24% in 2010.

25 In the low capacity segment the subscription prices grew by the 48% in the period 2005-2008 and remained unchanged in the period 2008-2011, while the installation price remained unchanged since 2005.

26 As regards 34 Mbit/s lines, the installation price has decreased by 48% in the period 2005-2011. The reduction in subscription prices amounts to 72% in the period 2005-2011.

27 Including backhaul, as an ancillary service, to a network node where alternative suppliers are present (the nearest centrally located network node according to relevant Annex to the decision).

iv) cost accounting and

v) price control only on the low capacity segment.[28]

As regards the transparency obligation, in the answer to the RFI, DBA further specified that specified SLAs and Key Performance Indicators (KPIs) are included in the reference offers that TDC has to elaborate for leased lines in the low capacity segment.

III. COMMENTS

On the basis of the present notifications and the additional information provided by Danish Telecommunications Authority, the Commission has the following comments[29]:

Scope of the access obligation: drop cables on the market for physical network infrastructure access

The Commission notes that DBA proposes to impose on TDC a specific obligation to further extend its fibre network, at the request of competing operators, by providing a connection between TDC's existing fibre infrastructure and the end-user's premises ("drop cables"). The obligation is limited to customer premises that are physically located no more than 30 meters from TDC's existing fibre access network, i.e. premises already "passed" by TDC's fibre network, but not connected to it.

The Commission notes that DBA justifies the necessity of the proposed remedy with the specific circumstances prevailing on the Danish market, namely the existence of a fibre network, which almost reaches the end users premises, and TDC's commercial decision to roll out the drop cables only for the purpose of connecting its own retail customers. The obligation to construct the drop cables enables alternative operators to provide fibre based broadband services on the same conditions as TDC. DBA considers that any less intrusive remedy, such as non-discrimination, transparency or specific migration rules would not be sufficient to address the competition problems identified (first mover advantages).

The Commission points out that the obligation to roll out the drop cables at the request of competing operators may be considered necessary and appropriate only in the absence of any other less intrusive measure, such as, for example, unbundled access to the fibre already built by the SMP operator,[30] or the inability of the alternative operators to self supply, which *prima facie* do not seem to be possible alternatives in the specific circumstances of this case.

The Commission therefore invites DBA to provide in its final measure additional elements showing that an obligation to provide the drop cables is justified and proportionate, and in particular why other less intrusive remedies fail to address TDC's first mover advantage in an equally effective manner. In this respect, the

[28] The price control obligation comprises: terminating segment of leased analogue lines, terminating segments (including partial sections) of low capacity leased lines, backhaul, co-location, and migration. The LRAIC cost methodology will be applied to co-location and migration while the Historical Costs method will be applied to the remaining products.

[29] In accordance with Article 7(3) of the Framework Directive.

[30] See Commission's comments in case IT/2011/1230-1231.

Commission invites DBA to consider a planning mechanism, which would require TDC to consult alternative operators on the installation of drop cables prior to TDC securing a contract with end customers in a certain area.

Wholesale market for terminating segments of leased lines

The Commission notes that DBA proposes to lift the price control obligation in the high capacity segment with reference to the specific characteristics of the competition dynamics and the regulation in the upstream markets whilst it proposes to enforce the non-discrimination and transparency obligation imposed on TDC.

The Commission notes that an imposition and an enforcement of a detailed (and adequate) non-discrimination obligation can in certain circumstances lead to a situation where other remedies, such as price control, can be lifted.

It is on this basis that the Commission invites DBA to extend the transparency obligation relative to the obligation to publish SLAs and KPIs, which was proposed to be limited to the low capacity segment only, also to the high capacity segment, in order to monitor the compliance of TDC with the non-discrimination obligation.

The Commission invites DBA to consider giving guidance on which KPIs are considered to be crucial to monitor the compliance with the non-discrimination obligation, in particular covering the ordering, delivering and provisioning processes.

Pursuant to Article 7(7) of the Framework Directive, Danish Telecommunications Authority shall take the utmost account of comments of other NRAs, BEREC and the Commission and may adopt the resulting draft measures and, where it does so, shall communicate them to the Commission.

The Commission's position on this particular notification is without prejudice to any position it may take *vis-à-vis* other notified draft measures.

Pursuant to Point 15 of Recommendation 2008/850/EC[31] the Commission will publish this document on its website. The Commission does not consider the information contained herein to be confidential. You are invited to inform the Commission[32] within three working days following receipt whether you consider that, in accordance with EU and national rules on business confidentiality, this document contains confidential information which you wish to have deleted prior to such publication[33]. You should give reasons for any such request.

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31 Commission Recommendation 2008/850/EC of 15 October 2008 on notifications, time limits and consultations provided for in Article 7 of Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services, OJ L 301, 12.11.2008, p. 23.

32 Your request should be sent either by email: CNECT-ARTICLE7@ec.europa.eu or by fax: +32 2 298 87 82.

33 The Commission may inform the public of the result of its assessment before the end of this three-day period.

Yours sincerely,
For the Commission,
Robert Madelin
Director-General