

Decision on designating undertakings with significant market power and imposing specific obligations in the market for access and call origination on public mobile telephone networks

1 July 2016

Case 1504996

Summary

Based on the analysis of the market for access and call origination on public mobile telephone networks, pursuant to Section 3-3 of the Electronic Communications Act, the Norwegian Communications Authority (Nkom) designates Telenor ASA (hereinafter called Telenor) as an undertaking with significant market power.

Nkom has identified a number of factual and potential competition problems within the market for access and call origination on public mobile telephone networks. Denial of access, including behaviour that may be tantamount to denial of access, is the core problem. Delaying tactics, discrimination on price and other terms, as well as excessive pricing are all examples of behaviour that the dominant operator can use to protect its own retail business from competition. The Electronic Communications Act states that one or more specific obligations, so-called remedies, must be imposed on providers with significant market power to address identified competition problems.

The choice of remedies is largely based on Principle 3 in Nkom's remedies document, i.e. that the remedies must, to the greatest possible extent, facilitate long-term, infrastructure-based competition. However, Nkom also wishes to stimulate service competition and innovation at product level in order to ensure that users throughout the country have access to good quality, affordable and future-oriented mobile services, which is an expressed objective of the Ecom Regulations. In order to achieve the two aforementioned objectives, sufficient access must be available to input factors at wholesale level at the right price.

After assessing the suitability and proportionality of the remedies that are available, Nkom has concluded that a general access obligation must be imposed on Telenor. Telenor must meet all reasonable requests for access and call origination on its mobile network. Requests for national roaming, access for mobile virtual network operators (MVNOs), access for service providers and co-location will normally have to be complied with.

The access obligation is linked to the imposition of mandatory non-discrimination, reference offers and publication. Telenor is ordered to prepare accounting separation between the network operation and the internal retail operation for its mobile operation in Norway. The reporting shall form a basis for monitoring compliance with the prohibition of price discrimination against MVNO providers. Equivalently, Telenor must report accounting separation for national roaming if Telenor receives a request for such access within the decision period. In addition, Nkom is of the view that it is necessary to impose requirements for price controls for the regulated forms of access. For national roaming and access for MVNO providers, the requirement is formulated as a prohibition against subjecting the buyer of access to a margin squeeze. For service provider access, Nkom imposes a more basic regulation in the form of only achieving a positive gross margin for representative products, that is products that cumulative sum up to 70 percent, and in addition products that makes up

at least 10 percent alone, of Telenor subscribers in each of the defined end user markets, with the exception of M2M . The set-up fee must be reasonable for all forms of access mentioned. With regard to co-location, Nkom continues cost orientation as a method for price control. Price controls for national roaming are first activated if Telenor receives a request for such access during the decision period.

Contents

1	Introduction and background.....	6
1.1	Legal basis.....	7
1.2	Structure of the document.....	8
2	Designation of an undertaking with significant market power.....	8
3	Regulatory basis for the choice of remedies.....	9
4	Current specific obligations.....	10
5	Competition problems.....	11
5.1	General – competition problems.....	11
5.2	Competition problems within the market for access and call origination on mobile networks.....	11
5.3	Vertical leveraging.....	12
5.3.1	Denial of access.....	12
5.3.2	Leveraging by means of pricing.....	13
5.3.3	Leveraging by means of non-price variables.....	14
5.4	Single market dominance.....	15
5.4.1	Entry-deterring behaviour.....	16
5.4.2	Exploitative behaviour.....	16
5.4.3	Inefficient production.....	17
5.5	Summary of competition problems in the market for access and call origination on mobile networks.....	17
6	General – choice of remedies.....	17
6.1	Possibilities for duplicating infrastructure within the market for access and call origination on mobile networks.....	17
6.2	Proportionality.....	19
7	Explanation of the choice of specific obligations.....	20
7.1	Access.....	20
7.1.1	General – legal basis.....	20
7.1.2	Access for national roaming.....	21
7.1.3	Access for MVNOs.....	25
7.1.4	Access for service providers.....	26
7.1.5	Access to co-location.....	28
7.1.6	Other forms of access.....	33
7.1.7	More about the access obligation.....	33
7.1.8	Conclusion.....	38
7.2	Non-discrimination.....	38
7.2.1	General information about non-discrimination.....	38
7.2.2	Discrimination between own and external operations.....	39
7.2.3	Discrimination between external operations.....	43
7.2.4	Conclusion.....	44

7.3	Publication and reference offer	44
7.3.1	General – legal basis.....	44
7.3.2	The need for reference offers	44
7.3.3	Requirements regarding reference offers.....	45
7.3.4	Publication of reference offers.....	47
7.3.5	Submission of agreements and amendments to these.....	48
7.3.6	Extended notice period	48
7.3.7	The relationship to general competition law	49
7.3.8	Conclusion	49
7.4	Accounting separation	49
7.4.1	General – legal basis.....	49
7.4.2	Assessment of requirement for accounting separation.....	50
7.4.3	Conclusion	52
7.5	Price and accounting controls	52
7.5.1	The need for price controls for access to national roaming, MVNO access and service provider access.....	52
7.5.2	Differentiated price controls for different forms of access	54
7.5.3	Further details regarding full margin squeeze test for MVNO and national roaming	56
7.5.4	Further details about the gross margin test for service providers.....	57
7.5.5	Following-up margin squeeze tests and gross margin tests	58
7.5.6	Price for establishment of new access agreements.....	58
7.5.7	Price controls for co-location	59
7.5.8	Conclusion	61
7.6	Assessment of the overall effect of specific obligations	61
7.7	Assumed impacts of the use of remedies	62
8	Imposing specific obligations.....	63
8.1	Access.....	63
8.2	Non-discrimination.....	63
8.3	Publishing of reference offers	64
8.4	Accounting separation	65
8.5	Price and accounting controls	67
8.5.1	Price controls for national roaming, MVNO access and service provider access	67
8.5.2	Price control for establishment of access agreement.....	68
8.5.3	Price and accounting controls for co-location.....	68
9	Relationship to current decisions	69
10	The decision’s date of effect, deadline for appeal etc.	69

Annex 1: Analysis of the market for access and call origination on public mobile telephone networks

Annex 2: Principles for margin squeeze tests

Annex 3: Results from public consultation

Annex 4: Comments from ESA

Annex 5: The margin squeeze model (Excel) with accompanying documentation

1 Introduction and background

1. Pursuant to Section 3-2 and 3-3 of Act no. 83 of 4 July 2003 relating to Electronic Communications (Electronic Communications Act), the Norwegian Communications Authority (Nkom) has been directed to define and analyse relevant product and service markets and geographic markets in accordance with the EFTA Surveillance Authority's (ESA) recommendation on relevant markets (the Recommendation)¹ and identify any providers with significant market power². Pursuant to Section 3-4 of the Electronic Communications Act, at least one of the specific obligations provided for in Chapter 4 of the Electronic Communications Act will be imposed on providers that are deemed to have significant market power. Such obligations will henceforth be known as specific obligations. Specific obligations are imposed after a proportionality assessment based on actual and potential competition problems in the relevant market.
2. On two occasions, Nkom has designated Telenor ASA (Telenor) as a provider with significant market power in the wholesale market for access and call origination on public mobile telephone networks (formerly Market 15 – hereafter known as the market for access and call origination on mobile networks), and specific obligations were imposed on Telenor in the respective decisions dated 23 January 2006 and 5 August 2010. On 16 January 2014, Nkom gave notice that it would once again designate Telenor as a provider with significant market power and impose specific obligations. However, the continued process was delayed due to uncertainty relating to key assumptions for the market analysis possibly being changed due to TeliaSonera AB's acquisition of Tele2. Nkom conducted a renewed assessment after the acquisition was approved by the Norwegian Competition Authority (KT) and gave notice of a new decision on 16 September 2015.
3. In the notice of the decision, Nkom concluded that the relevant market still qualifies for ex-ante regulation and that Telenor has significant market power. Nkom also gave an account of the specific obligations that ought to be imposed on the company.
4. Nkom received consultation responses from Chili Mobil AS (Chili Mobil), ICE Norge AS and ICE Communication Norge AS (ICE), the Norwegian Competition Authority, TDC AS and Get AS (TDC/Get), Telenor ASA (Telenor), Telia Norge AS (Telia)³ and an operator that wished to remain anonymous due to competition reasons. In addition, following the consultation deadline, Nkom received a report written on assignment from Telenor. The report includes an assessment of the market analysis and notification of decision and was prepared by Espen R. Moen and Christian Riis at Oeconomica DA.
5. Based on this, Nkom prepared the draft decision for notification. The draft decision was translated into English and notified to ESA 11 May 2016, of the Electronic Communications Act Section 9-3, Framework Directive Article 7 and the ESA's Article 7 recommendation. ESA sent its comments to the notification 13 June 2016. ESA's main comments were:

¹ On 1 January 2015 the Norwegian Post and Telecommunications Authority (NPT) changed its name to the Norwegian Communications Authority (Nkom). In this decision, the Authority is referred to as Nkom, including when reference is made to decisions and processes that applied for the period when the authority was known as the Norwegian Post and Telecommunications Authority.

² 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 communications networks and services), as adopted by Protocol 1 thereto and by the sectoral adaptations contained in Annex XI to that Agreement.

³ The company changed name from TeliaSonera Norge AS to Telia Norge AS 1 March 2016.

- 1) A requirement for positive gross margin on all active retail mobile products is disproportionate and incompatible with EEA law.
- 2) There is a need to ensure clear and appropriate level of product aggregation in Nkom's national roaming, MVNO and service provider margin squeeze tests.
- 3) There is a need to justify variable access pricing obligations based on the nature of the competition problem(s) identified.
- 4) There is a need to monitor wholesale market developments very closely and to re-visit the market analysis without any undue delay.

6. Nkom has taken ESA's first comment into account and has refrained from applying the proposed requirement for positive gross margin on all active retail mobile products for all forms of access. The second comment is taken account of by including a more thorough reasoning for why the chosen level of product aggregation in the margin squeeze test, is suitable in order to respond to the competition problems. Nkom refers to Chapter 7.5.2 and 7.5.4 for a thorough description of the differentiated price regulation and the rationale behind imposing requirement for positive gross margin for service providers on selected representative products. The third comment is taken account of by a more thorough reasoning for the requirement for variable access pricing in Chapter 7.2.2.1.

7. Regarding ESA's last comment, Nkom will continue to closely follow the development in the relevant wholesale market. Nkom gathers half year statistic information and publish figures regarding traffic and revenue both at wholesale and retail level for mobile services. Since Telenor also is obliged to submit a copy of all standard agreements and all concluded agreements, Nkom can follow the development in Telenor's terms and conditions for access closely. Terms and conditions for access to other mobile networks will be monitored based on inquiry for information in accordance with the Electronic Communication Act Section 10-3.

8. This decision has as a starting point a time horizon of two to three years. However, ESA stressed in its comments that the analysis should be re-visited without undue delay, if the market development reveal any tendency towards effective competition.

9. Against this background, Nkom has made its decision which substantiates that the market still qualifies for sector-specific ex ante regulation, designates Telenor as an undertaking with significant market power, and imposes new obligations and withdraws current obligations.

1.1 Legal basis

10. The regulatory framework for electronic communication is based on five directives (package of directives) adopted by the European Union (EU)⁴. The directives have been implemented in Norwegian law through the Electronic Communications Act and associated regulations, including the Regulations of 16 February 2004 on electronic communications networks and services (the Ecom Regulations).

⁴ Directive 2002/21/EC on a common regulatory framework for electronic communications networks and services (Framework Directive); Directive 2002/20/EC on the authorisation of electronic communications networks and services (Authorisation Directive); Directive 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities (Access Directive); Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks and services (Universal Service Directive); Directive 2002/58/EC concerning the processing of personal data and the protection of privacy in the electronic communications sector (Directive on privacy and electronic communications).

11. According to these regulations, the obligations for providers with significant market power are determined individually on the basis of a market analysis and with a limited forward-looking time horizon.⁵ Particular attention must be paid to the expected pro-competitive effect of the relevant remedies.

12. In choosing specific obligations Nkom has taken into account the considerations contained in Nkom's revised remedies document of 12 June 2009.⁶ The remedies document is based on "Revised ERG Common Position on the Approach to appropriate remedies in the ECNS regulatory framework", drawn up by the Body of European Regulators for Electronic Communications (BEREC).⁷ The guidelines and principles embodied in the BEREC's remedies document are intended to stimulate the development of the single market for electronic communications networks and services as well as facilitate a uniform and consistent regulatory practice in the various member states.

1.2 Structure of the document

13. This decision consists of a main document, which contains an assessment of the need and grounds for imposing specific obligations. The decision has five annexes. Annex 1 contains an analysis of the market for access and call origination on mobile networks, including a three-criteria test. Annex 2 contains principles for margin squeeze tests in market 15. Annex 3 contains a summary of responses to the consultation as well as Nkom's assessment of these. Annex 4 contains ESA's comments to Nkom's notified draft decision. Annex 5 contains the margin squeeze model (Excel).

14. In Chapter 2, Telenor is designated as a provider with significant market power. The designation was made on the basis of the market analysis in Annex 1. Chapter 3 provides a brief overview of the regulatory starting point for the choice of remedies, while Chapter 4 provides an overview of the current specific obligations for Telenor in the market for access and call origination on mobile networks. Chapter 5 gives a description and overview of potential competition problems in the relevant market. General principles for the use of remedies are discussed in Chapter 6, including possibilities for duplicating infrastructure and the proportionality principle. Based on the preceding chapters and the market analysis in the annex, Nkom discusses the choice of specific obligations in Chapter 7. The specific obligations that are being imposed are presented in Chapter 8, while the decision regarding the removal of existing obligations is described in Chapter 9. Chapter 10 provides information regarding the timing of the decision entering into force and time limit for appeal.

2 Designation of an undertaking with significant market power

15. Based on the market analysis (Chapter 5) in Annex 1, Nkom designates, pursuant to Section 3-3 of the Electronic Communications Act, Telenor ASA as a provider with significant

⁵ See further details about the time horizon in the ESA guidelines for market analyses and assessment of significant market power, paragraph 20.

⁶ The document is published at Nkom's website: http://www.nkom.no/marked/markedsregulering-smp/rammer/introduksjon-til-markedsregulering-smp/_attachment/479?_ts=137da56ab33

⁷ BEREC was established on 25 November 2009 and replaced the European Regulators Group for electronic communications networks and services (ERG). In this notification, the group is referred to as BEREC, including when reference is made to documents published under the name ERG.

market power in the market for access and call origination on public mobile telephone networks. For further justification, see the analysis in Annex 1.

3 Regulatory basis for the choice of remedies

16. Pursuant to Section 3-4, paragraph four of the Electronic Communications Act, one or more specific obligations in accordance with Sections 4-1, 4-4, 4-5, 4-6, 4-7, 4-8, 4-9 and 4-10 shall be imposed on an undertaking with significant market power. Relevant obligations for the market for access and call origination on mobile networks are:

- Access obligations, cf. Sections 4-1, 4-2, 4-4 and 4-5 of the Electronic Communications Act
- Obligation of non-discrimination, cf. Section 4-7 of the Electronic Communications Act
- Obligation to publish standard reference offers, cf. Section 4-6 of the Electronic Communications Act
- Obligation of transparency, cf. Sections 4-6 and 4-8 of the Electronic Communications Act
- Obligation of accounting separation, cf. Section 4-8 of the Electronic Communications Act
- Price controls and obligation of cost accounting, cf. Section 4-9 of the Electronic Communications Act

17. In special cases, obligations may also be imposed beyond what follows from these provisions. In such cases the consultation procedure under Section 9-3 of the Electronic Communications Act is to be followed.

18. In its remedies document, Nkom has reviewed the principles that in general will guide Nkom in its choice of remedies. The four principles are:

Principle 1: Substantiated decisions shall be prepared in accordance with the regulatory authority's obligations pursuant to the directives.

Principle 2: The interests of consumers shall be protected when duplication of infrastructure is not assumed to be feasible.

Principle 3: In markets where Nkom considers it likely that duplication of infrastructure may be attained over time, Nkom will ensure that its use of remedies supports the transition to a market characterised by sustainable competition.

Principle 4: Remedies shall be formulated to incentivise compliance.

19. In accordance with the general principles of administrative law and the proportionality principle in EU/EEA law, the obligations Nkom imposes on undertakings with significant market power shall be appropriate to, and not go further than necessary for, furthering the purposes of the Electronic Communications Act. The basic purposes are stated in Section 1-1, which reads:

"The purpose of the Act is to secure good, reasonably priced and future-oriented electronic communications services for the users throughout the country through efficient use of society's resources by facilitating sustainable competition, as well as fostering industrial development and innovation."

20. In addition to this basic purpose, a special purpose provision is set out in Section 3-4, paragraph three. The provision stipulates specific, relevant considerations for imposing specific remedies:

"Obligations pursuant to the first and second paragraphs that are imposed in the individual case shall be appropriate to promote sustainable competition as well as facilitate national and international development in the market. The Authority may amend obligations imposed."

4 Current specific obligations

21. Telenor was designated as a provider with significant market power in the market for access and call origination on mobile networks on 5 August 2010. The decision was appealed by Network Norway, TDC, Tele2, Telenor and Ventelo. Based on the appeal from Telenor, Nkom made certain changes to the formulation of the obligation of accounting separation in the amendment decision of 29 October 2010. The amendment decision was appealed by TDC. The Ministry of Transport and Communications (The ministry) upheld Nkom's decision and amendment decision in the appeal decision of 6 April 2011. Based on this, the following obligations have been imposed on Telenor⁸:

- **Access.** Pursuant to Section 4-1, paragraph one and Section 4-4, paragraph three of the Electronic Communications Act, cf. paragraph five, Telenor is ordered to accommodate all reasonable requests for access in the form of national roaming, MVNO access and co-location. All agreements on access and call origination on Telenor's mobile network shall be negotiated without undue delay. If access is denied, Telenor shall give the requester a documented and justified refusal of the request, cf. Electronic Communications Act Section 4-1, paragraph three, and Section 4-4, paragraph five. The grounds for refusal must contain all details that are needed to assess the basis for refusal, such as the reason why access has been denied, along with the necessary documentation.
- **Non-discrimination.** Pursuant to Section 4-7, paragraph one and two of the Electronic Communications Act an obligation was imposed on Telenor to not discriminate with regard to price or any other terms for access for national roaming, MVNO agreements and co-location. The obligation applies both between external operations, including for different forms of access and between own and external operations.
- **Publishing and reference offers.** Pursuant to Section 4-6 of the Electronic Communications Act an obligation was imposed on Telenor to draw up reference offers for national roaming, MVNO access and co-location. The reference offers are to be published on Telenor's website. The obligation to publish does not extend to information on prices, which the company need only make available to providers that make requests to Telenor. Telenor is also ordered to inform Nkom of any amendments to the reference offers, including new prices and discounts. Pursuant to Section 10-3 of the Electronic Communications Act, a further obligation was imposed on Telenor to submit a copy of all finalised individual agreements on access and call origination on

⁸ Refer to Chapter 8 of Nkom's decision of 5 August 2010 and the Ministry of Transport and Communications' decision of 6 April 2011 for more information on current obligations. The documents have been published at www.nkom.no under the menu selection "Markedsregulering (SMP)"

mobile networks, with the exception of agreements on co-location and service provider access no later than within two weeks of signing. Telenor is also obliged to notify Nkom of any changes to such agreements.

- **Accounting separation.** Pursuant to Section 4-8 of the Electronic Communications Act, an obligation was imposed on Telenor to devise an accounting separation between the network operation and the internal retail business for its mobile operation in Norway. The accounting separation shall provide the basis for verifying compliance with the prohibition of price discrimination against MVNO providers and providers that buy national roaming. Nkom's decision of 29 October 2010 includes more detailed provisions on the preparation of accounting separation.

The accounts and documentation that the obligation of non-discrimination has been met shall be sent to Nkom each year by 1 October and 1 April for the first and second six-month periods, respectively. In addition, yearly reports based on updated distribution formulas must be submitted by 1 July each year. A description of the system for keeping accounts separate, including an overview of cost categories and the allocation key that is used shall be published.

- **Price and accounting controls.** Pursuant to Section 4-9, paragraph two of the Electronic Communications Act, Telenor is ordered to provide co-location at cost-oriented prices.

5 Competition problems

5.1 General – competition problems

22. A provider with significant market power would be able to exercise behaviour with the purpose or consequence of restricting competition, including driving competitors out of the market, preventing new operators from entering the market or exploiting consumers. Such behaviour is usually referred to as competition problems.

23. Specific obligations imposed on undertakings with significant market power are to be suited to remedying actual and/or potential competition problems in the relevant market. The imposition of specific obligations is not conditional on the abuse of market power actually having occurred. It is sufficient that a competition problem can potentially arise under given conditions.

24. Nkom's remedies document contains a general description of potential competition problems within the market for electronic communication.

5.2 Competition problems within the market for access and call origination on mobile networks

25. Nkom's market analysis (Annex 1) concluded that there is no sustainable competition in the market for access and call origination on mobile networks in Norway. Telenor can, to a large degree, act independently of competitors, customers and consumers, and has therefore been designated as an operator with significant market power. This chapter describes the competition problems within the relevant market that then forms the basis for imposing specific obligations.

26. The terms for Telenor's offer of access and call origination on mobile networks have thus far been subject to regulation. However, Nkom has, through multiple cases in recent

years, concluded that Telenor's behaviour has potentially had anti-competitive effects. This is stated in the market analysis and will be referred to in this chapter. The assessment of competition problems in this decision also includes behaviour that could have occurred if the market was not regulated. In this assessment it is useful to examine what incentives the market structure would give the operator with significant market power in the absence of regulation.

27. Nkom cannot predict in advance every potential competition problem that may arise in the absence of regulation. In order to capture as many potential situations that can arise in the absence of regulation as possible, the potential competition problems will be described on a general basis.

28. BEREC'S remedies document identifies four different categories of competition problems that can arise in the relevant markets. The four categories are vertical leveraging, horizontal leveraging, single market dominance and termination.

29. Nkom believes that the most important competition problems in the market for access and call origination on mobile networks are primarily related to vertical leveraging and single market dominance.

5.3 Vertical leveraging

30. Vertical leveraging⁹ defines a situation where a vertically integrated provider with significant market power in the wholesale market seeks to transfer market power from the wholesale market to a related retail market by shutting out or working against competitors for the benefit of their own retail business.

31. With regard to choice of remedies, it is helpful to distinguish between three types of vertical leveraging:

- Denial of access
- Leveraging by means of pricing
- Leveraging by means of non-price variables

5.3.1 Denial of access

32. An operator with significant market power in the wholesale market may attempt to leverage market power by denying access for operators that offer competing services in the related retail markets. This encompasses both situations where the network operator refuses to deal with buyers of access and instances where access is sold on unreasonable terms such that the buyer of access does not have a real possibility of supplying competitive products in the retail markets.

33. Denial of access is the core problem in the market for access and call origination on mobile networks. Such behaviour can prevent new operators from becoming established and, in the worst case, may force established operators out of the market.

34. Nkom believes that, in the absence of ex ante regulation, Telenor will have the incentive and opportunity to deny other providers access and call origination services or

⁹ Vertical leveraging may be defined as "...any dominant firm's practice that denies proper access to an essential input it produces to some users of this input, with the intent of extending monopoly power from one segment of the market (the bottleneck segment) to the other (the potentially competitive segment)" (Rey/Tirole 1997, quoted in the BEREC's document).

obstruct access. Nkom believes that Telenor has incentives to exploit its significant market power to achieve and exploit competitive advantages in the retail markets rather than selling wholesale access. This is associated with Telenor achieving a significantly higher proportion of its revenues from sales to end users than wholesale sales. Telenor has an extensive presence in different retail markets which entails that providing access to external operators will, in most instances, mean direct competition with its own retail business. By cutting off or restricting competitors from accessing a necessary input factor, Telenor will, to a certain extent, be able to protect its own retail business from competition. This indicates that Telenor has little self-interest in outsourcing downstream activities. Nkom is of the view the Telenor's behaviour in this market also supports this assessment.

35. In the absence of sector-specific access obligations, Nkom believes that denial of access will represent a potential competition problem in the next two to three years.

5.3.2 Leveraging by means of pricing

36. Leveraging by means of pricing encompasses behaviour aimed at increasing competitors' costs and limiting competitors' sales in the retail markets or by subjecting competitors to a margin squeeze. The effect of this form of leveraging can, in practice, be regarded as denial of access.

37. Below is a discussion of the most likely forms of leveraging by means of pricing in the relevant market.

Price discrimination

38. A vertically integrated undertaking with significant market power in the wholesale market will have an incentive and opportunity to discriminate on price between internal and external operations. By doing so, the costs for competitors to the provider with significant market power could be higher than the costs for own retail business and thereby subject the competitors to a competitive disadvantage in the retail markets. This may result in reduced sales or margin squeeze. Margin squeeze is when the difference between the access charge (in the wholesale market) and the price level in the retail market is so small that the costs for competitors are not covered, leaving them at risk of being squeezed out of the market. The price level differs between the retail markets and will be partly dependent on the willingness of the end users to pay. Margin squeeze tests for different markets can therefore give different results.

39. In mid-2013, Nkom conducted margin squeeze tests on a selection of Telenor's products/segments. The tests showed a weak positive result for the products/segments as a whole, but several of the segments could not, by themselves, be replicated with positive margins by buyers of access with an MVNO agreement or agreement for national roaming. The result therefore showed that it was necessary to have a broad product mix to be able to achieve positive margins overall.

40. Price discrimination can also be expressed by price structure. A vertically integrated operator, who is not restricted by an internal access agreement, will have incentives to offer a price structure externally which restricts or has exclusionary effects. Price structure might therefore also result in unequal conditions for competition.

41. Providers with significant market power can also discriminate on price between wholesale customers. During the current regulatory period, Nkom has determined there is price discrimination between different buyers of access, see Chapter 4.3.7.3 of the market analysis regarding Telenor's MVNO agreement with TDC.

42. Nkom finds that price discrimination is a potential and actual serious competition problem in the relevant market.

Cross-subsidisation

43. The Commission has defined cross-subsidisation as follows¹⁰:

"[C]ross-subsidisation occurs where the earnings from a given service do not suffice to cover the incremental costs of providing that service and where there is another service or bundle of services the earnings from which exceed the stand-alone costs. The service for which revenue exceeds stand-alone cost is the source of the cross subsidy and the service in which revenue does not cover the incremental costs is its destination."

44. The definition therefore presupposes that a product is sold at a price less than its incremental costs (avoidable costs), while another product is sold for more than the "stand alone costs", i.e. more than the costs related to only selling this product alone.

45. Nkom finds that cross-subsidisation according to this definition will probably not be a particularly real competition problem in the relevant wholesale market.

5.3.3 Leveraging by means of non-price variables

46. The most relevant forms of leveraging by means of non-price variables are described below.

Discriminatory use or withholding of information

47. The competition problem relates to a practice where a provider with significant market power gives its own operation in the retail market information that it does not give to its external wholesale customers and thereby achieves a competitive advantage for own retail business. For example, the dominant operator may fail to provide information, or provide information in a way that makes it difficult to fully understand the wholesale offer and therefore difficult to accept and/or make it difficult to offer the end user service. Such behaviour can result in competitive disadvantage in the form of, among other things, increased costs, delays and reduced quality for the dominant operator's competitors.

48. In connection with co-location, one example would be if Telenor did not disclose precise details of where the location sites are or provide other information that is needed to assess different co-location alternatives. Such a practice would make it difficult for competitors to implement effective planning of own construction of infrastructure.

¹⁰ 2011/354/EC: Commission Decision of 20 March 2001 relating to a proceeding under Article 82 of the EC Treaty (Case COMP/35.141 — Deutsche Post AG) (Text with EEA relevance) (notified under document number C(2001) 728) Official Journal L 125 , 05/05/2001 P. 0027 – 0044, para 6.

Delaying tactics

49. A dominant operator may have an incentive to use different forms of delaying tactics to slow down access, for example, through lengthy negotiations or unreasonably long delivery times.

50. In the absence of effective regulation, delaying tactics may constitute a competition problem in the years ahead. Lengthy negotiations will benefit, among others, Telenor when introducing new services and could provide the company with a first mover advantage.

51. With regard to co-location, during the current regulatory period Nkom observed that it can take an extremely long period of time to reach agreements on placement, cf. Chapter 4.3.7.3 of the market analysis concerning complaints about co-location. Telenor will have incentives to slow down requests for co-location to restrict competition from other infrastructure owners. In the absence of regulation, Nkom is of the view that this type of behaviour is an actual competition problem in the relevant market.

52. Nkom considers delaying tactics to be a real competition problem in the market.

Undue requirements

53. This category covers all contract terms that require special action by the buyer of access, which is not necessary in order to sell the wholesale product, but which increases the competitor's costs or limits sales. Such undue requirements can be envisaged in connection with all the relevant types of access. Providers requiring access may, for example, have to accept unnecessarily large guarantee provisions, unreasonable compensation claims and long periods of notice in its agreements.

Quality discrimination

54. By discriminating on quality, the dominant operator can either increase competitors' costs by them having to, for example, initiate measures to compensate for the lower quality or by having to lower their price. Without compensatory measures, the competitor may expect reduced demand. Quality discrimination may therefore cause the competitor to incur direct and/or indirect costs.

55. Telenor's incentive and opportunity to discriminate on quality between its own retail business may apply to the company's access buyers in general. Nkom determined in September 2014 that Telenor had discriminated against all external buyers of access when concerning access to higher data speeds. Nkom's decision was upheld by the ministry in November 2015. In the appeal decision, the ministry stated that the breach of the non-discrimination obligation was serious and that the violation had given Telenor unlawful competitive advantages.

56. With regard to discrimination between external providers, Telenor may, for example, be more willing to grant co-location to those that provide the company with a reciprocal offer. This could be, for example, prioritising requests for access from a company despite other companies having applied first or that capacity is expanded for some providers ahead of others.

57. Based on this, Nkom considers quality discrimination to be an extremely relevant competition problem in the pertinent market.

5.4 Single market dominance

58. Potential competition problems can also be exclusively related to an operator's strong position in a specific market. As covered in Nkom's remedies document, it is appropriate to distinguish between three types of single market dominance: Entry-detering behaviour,

exploitative behaviour and inefficient production. In Nkom's view, entry-detering behaviour and exploitative behaviour in particular are relevant competition problems in the pertinent wholesale market and corresponding retail markets.

5.4.1 Entry-detering behaviour

59. Entry-detering behaviour involves a dominant operator attempting to erect entry barriers to new entrants to the market, such as by increasing costs of switching. At wholesale level this can be done through specific contractual terms. At end user level this may be clauses for lock-in periods or use of winback conditions that increase the costs of switching.

60. Telenor has previously set exclusivity requirements both during negotiations for access and after the agreement has been entered into. By requiring exclusivity in the negotiating situation, buyers are denied the opportunity to compare different offers and thereby utilise buyer power to be able to negotiate the most favourable agreement. Telenor's use of exclusivity within an agreement period is addressed in Chapter 4.3.7 of the market analysis. Nkom finds that operators that have a significant market position can, through exclusivity requirements, reduce an access buyer's already weak negotiating power. Nkom also finds that the possibility of covering parts of an access buyer's network access requirements may be particularly relevant for a third network provider in areas with good own coverage. Exclusivity provisions may therefore reduce the ability of the third network to increase traffic on its own network through the sale of access. Nkom therefore finds that the competition problems relating to exclusivity provisions are not limited to single market dominance and entry-detering behaviour.¹¹

5.4.2 Exploitative behaviour

61. Operators with significant market power may set prices that differ from underlying costs. Exploitative behaviour includes instances where the dominant operator exploits his wholesale customers through predatory pricing in retail markets, excessive wholesale pricing, price discrimination between own retail arm and external buyers, price discrimination between external buyers or through margin squeeze. Exploitative behaviour in the wholesale market must be assessed together with the retail markets, since it is the market power on both levels that creates the opportunity to set prices that drives competitors out of market. Nkom's understanding of predatory pricing is that retail prices are too small to cover the access costs, further that super profit above what one could expect in a well-functioning market is a sign of overpricing of the wholesale product. Price discrimination is described in more detail in connection with vertical leveraging, while margin squeeze happens when the vertical integrated firm with market power in the upstream market sets prices in both markets in a way that renders negative profit for its competitors.

62. Nkom finds that price discrimination and excessive pricing are more relevant in connection with agreements at wholesale level than in the retail market and that these competition problems therefore also relate to leveraging that is addressed above. Exploitative behaviour like predatory pricing or prices that leads to a margin squeeze situation is intended for making competitors exiting the market, thus a relevant competition problem related to end user market.

¹¹ In relation to achieving infrastructure-based competition through the establishment of a third network, Nkom finds that there are no grounds for a sharp distinction based on the division of the competition problems above. The fact that, from a telecommunications law context, there are no grounds for only establishing a traditional competition law division of horizontal and vertical agreements, is stated in Jakobsen (ed.), *Telecommunications Law*, (2014) page 345.

5.4.3 Inefficient production

63. Competition problems relating to inefficient production describe different types of production inefficiencies due to a lack of competition. The reason is that the market lacks the disciplining effect exposure to competition is expected to have on productive efficiency. Potential competition problems of this sort include lack of investment, costs inefficiency and low quality.

64. Nkom does not consider lack of investments as being a relevant competition problem in the market for access and call origination on mobile networks. In recent years, Telenor and Telia have made major investments to develop their mobile networks with 3G and 4G functionality. Cost inefficiency and low quality also do not appear to be relevant competition problems.

5.5 Summary of competition problems in the market for access and call origination on mobile networks

65. Nkom is of the view that potential competition problems in the market for access and call origination on mobile networks are primarily related to vertical leveraging and single market dominance.

66. Nkom finds that there are multiple factors relating to vertical leveraging that constitute serious potential competition problems in the relevant market. This is supported by both the incentives the market structure provides and examples of behaviour from the current regulatory period. Nkom finds that discrimination in terms of both price and quality are particularly relevant competition problems in the pertinent market. In addition, Nkom is of the view that withholding of information, delaying tactics, and undue requirements are forms of behaviour that constitute relevant competition problems in this market.

67. Of the competition problems relating to single market dominance, Nkom finds that both entry-detering behaviour and exploitative behaviour constitute relevant competition problems in the pertinent markets as well as the corresponding retail markets.

6 General – choice of remedies

68. In this section Nkom covers various general conditions relating to the choice of remedies in the market for access and call origination on mobile networks. The actual choices of specific obligations are discussed in detail in Chapter 7.

6.1 Possibilities for duplicating infrastructure within the market for access and call origination on mobile networks

69. According to the review of Principles 2 and 3 in Nkom's remedies document, key to the choice of remedies will be whether or not duplication of the infrastructure used in the relevant market is deemed possible (infrastructure competition). In the event that duplication of infrastructure is possible, the use of remedies shall support possible infrastructure investments, i.e. facilitate dynamic efficiency (Principle 3). If infrastructure duplication is not deemed possible, the interest of consumers is to be protected by making the best possible use of the existing infrastructure (Principle 2).

70. Duplication of infrastructure does not necessarily entail full end-to-end infrastructure competition. Nor is there any need for several totally independent networks capable of

supplying the same service. Nkom believes, for instance, that infrastructure competition may be deemed to exist between mobile networks even if the mobile operators are dependent on purchasing access to transmission capacity, masts and other co-location sites from other infrastructure owners.

71. In previous decisions, Nkom has emphasised that the market for access and call origination on mobile networks comes under Regulatory Principle 3, i.e. that duplication of infrastructure is possible and remedies shall support these types of investments. Based on this, in the decisions of 23 January 2006 and 5 August 2010, Nkom has facilitated investments in infrastructure being able to be made gradually through access to established infrastructure at different levels (ladder of investment¹²). For example, Tele2 used gradual investment in the process of becoming a network owner in the Norwegian market.

72. The ministry has clearly stated that a third competitive mobile network is necessary to achieve the objective of sustainable competition:¹³

“The Ministry of Transport and Communications refers to the telecoms policy objective of affordable future-oriented services [...]. The remedy for achieving this objective is sustainable competition, and the third network is crucial for achieving sustainable competition. The Ministry of Transport and Communications therefore believes that it is important for the development of the Norwegian mobile telephone market to establish a third network that can be a real competitor to the current two network providers.”

73. This goal also appears in the national plan for electronic communications from the Government from 2016, where it follows that:¹⁴

“The Government wants:

The sector specific competition regulation to facilitate for at least three competitive mobile networks.”

74. As described in the market analysis, ICE is in the process of establishing itself as a network owner within the relevant market. Several factors are in place for the company to be able to develop into an operator that can offer wholesale access at competitive terms. At the same time, there are clear barriers to entry in the Norwegian market and it is uncertain as to how rapidly the company can develop a sufficiently large customer base, expand coverage and transfer traffic to its own network, all of which are vital factors in being able to become a competitive provider in the relevant wholesale market. Nkom expects that ICE will be dependent on purchasing national roaming within the time horizon of the analysis. Based on corrective measures associated with the merger between Telia and Tele2, ICE has entered into a long-term agreement with Telia and is therefore ensured access to national roaming within the time horizon of the analysis. However, whether or not the terms in this agreement will be adequate enough for ICE to efficiently compete in the future is uncertain, cf. Chapter 4.3.8 of the analysis. ICE does, however, have the option of withdrawing from the agreement within the time horizon of the analysis. For this to be a viable alternative for ICE, it is necessary that the regulation allows for infrastructure-based competition.

75. The lack of competition at network level (horizontal competition) is the core problem in the market and favours continuing principle 3 as the guide for the choice of remedies in the market for access and call origination on the mobile network.

—

¹² See Chapter 5.3.2 of Nkom's remedies document on the ladder of investment.

¹³ The Ministry of Transport and Communications' decision of 19 May 2009 subsequent to Tele2 and Network Norway's appeals of Nkom's decision on the market for termination on mobile networks of 17 November 2008.

¹⁴ Meld. St (2015-2016): Digital agenda for Norge, Chapter 25.3.

76. It is not as relevant as it previously was to facilitate the climbing of the ladder of investment since it is less likely that operators that presently have MVNO access or a service provider agreement will climb the ladder of investments to become fully fledged infrastructure owners. MVNO providers and service providers are rather considered to have independent importance as operators that can contribute to service competition and innovation at product and service level.

77. In the long term, MVNO operators and service providers will be potential customer groups for a third network. Investments in infrastructure involve major sunk costs for network owners. However, the marginal costs for the network owners are low within the network's capacity. The primary financial interests of the network owners are therefore to generate revenues in the network in the form of high traffic volume. MVNOs and service providers request network services and are therefore important customers for the network owners. In the absence of efficient competition in providing access to networks, Nkom is of the view that this factor also warrants enabling buyers of access to have adequate conditions for being in the market. In terms of choice of regulatory principle, this involves something of a shift towards principle 2.

78. In accordance with this, Nkom will still use principle 3 as the main principle for the choice of remedies in the market for access and call origination on mobile networks, but with a somewhat greater emphasis on principle 2 to reflect the development that has occurred in the market in recent years.

6.2 Proportionality

79. The proportionality principle and the proportionality assessment that the national regulatory authority is to carry out in connection with imposing obligations are discussed in detail in Proposition 58 (2002-03) to the Odelsting in the remark concerning Section 3-4 of the Electronic Communications Act:

"The obligations imposed shall be proportionate, non-discriminatory, based on objective and fair criteria and be publicly available. Proportionate means that obligations imposed regarding access or significant market power with appurtenant conditions are suitable to compensate for a lack of sustainable competition and will help to promote consumer interests and, where possible, contribute to national and international development. The burdens of the remedies imposed are to be proportionate with regard to what they seek to achieve. This also permits the authorities to link the obligations to certain areas of the relevant market if appropriate."

80. This principle means that when choosing from several alternatives, all of which could promote the objectives equally effectively, Nkom should choose the least burdensome alternative. Under the circumstances, an absolute requirement will also have to be put in place not to impose obligations that are disproportionately burdensome.

81. The content of the proportionality principle is described in relative detail in Nkom's remedies document. This document states that the principle of proportionality implies that measures should be suited to realising their underlying objective, should not be in excess of what is necessary in each case and should result in benefits which outweigh the burdens.

82. However, neither the principle of proportionality nor the principle of minimal regulation may be cited in support of the argument that Nkom should not or cannot impose burdensome obligations on providers with significant market power. The core of these principles is that stricter obligations than are necessary shall not be imposed. However, the imposition of more burdensome obligations, such as price controls, could very well be proportionate or necessary where other less burdensome obligations are not regarded to be adequate for achieving the objective of the regulation.

7 Explanation of the choice of specific obligations

7.1 Access

7.1.1 General – legal basis

83. The general provision regarding access in the Electronic Communications Act¹⁵ appears in Section 4-1 of the Act. The first paragraph of the provision reads:

“The Authority may direct a provider with significant market power to meet any reasonable request to enter into or amend an agreement on access to electronic communications networks and services.”

84. In addition, the Electronic Communications Act also has provisions on a number of specific forms of access, including Section 4-2 on interconnection, Section 4-4 on co-location and Section 4-5 on information and support systems. Pursuant to Section 2-2 of the Electronic Communications Act, a reasonable request for access to electronic communications networks may include access for national roaming and access for virtual operators. The provision is not exhaustive.

85. The extent to which a specific request for access is “reasonable”, must be evaluated based on the criteria in Section 4-1, paragraph two of the Electronic Communications Act:

“In considering whether a request is reasonable an assessment shall be undertaken inter alia of the provider's interest in control over its own infrastructure against the need to give others the access necessary to be able to offer competing services. In the assessment of what is necessary, account shall be taken of whether in the light of market trends it is technically and commercially possible to install or use competing infrastructure. In the assessment of whether a request is reasonable, account shall also be taken of:

- 1. available capacity,*
- 2. the service provider's investment and investment risk, including any public support and supplement schemes.*
- 3. sustainable competition,*
- 4. the need to sustain the network's integrity,*
- 5. intellectual property rights and*
- 6. establishment of pan-European services.”*

86. The list of criteria that must also be taken into consideration is not exhaustive.¹⁶

87. In imposing access obligations, the interest of the infrastructure owner in having its own network must be weighed against the need of other undertakings for access to facilities that are necessary for offering competing services. Imposing obligations that bolster competition in

¹⁵ Access means making facilities and/or services available to other providers, on certain terms, with the objective of offering electronic communication services. The term covers, inter alia, access to networks, network elements and related facilities that can involve connection of equipment by cable or radio-based connection, access to physical infrastructure, including buildings, cable channels and masts and access to relevant software systems, including operating support systems. The term does not include access for end users.

¹⁶ Proposition No. 58 (2002-2003) to the Odelsting, p. 101.

the short term should not reduce the competitors' incentive to invest in alternative input factors which in turn can bolster competition in the long term.

88. Section 1-1 of the Electronic Communications Act also states that considerations relating to sustainable competition should be accorded weight in the assessment of whether or not a request for access is "reasonable". The consideration is closely related to the objective of duplicating infrastructure and the desire to remedy the core problems in the market.

89. Section 4-4, paragraph four of the Electronic Communications Act stipulates that Nkom can direct providers with significant market power to meet a reasonable request for co-location or other shared utilisation of infrastructure. In the assessment of whether such a request is reasonable, an evaluation shall be undertaken in accordance with Section 4-1, paragraph two.

90. Section 4-1 of the Electronic Communications Act grants the authority to set requirements regarding fairness, reasonableness and the keeping of time limits connected to access. That the regulatory authority shall be able to set such requirements is also stated explicitly in Article 12, no. 1 subpara 3 of the Access Directive. In the view of Nkom, Section 4-1 of the Electronic Communications Act provides a sufficient legal basis to set a general requirement that reasonable requests for access shall be accommodated with reasonable terms and to set specific requirements in connection to fairness, reasonableness and timeliness.

91. Like other obligations, access obligations are subject to proportionality requirements. This is stated both in the introduction of Article 12, no. 1 of the Access Directive, cf. Article 8, no. 4 and through Article 12, no. 2.

92. Some types of anti-competitive behaviour may be equated with a denial of access. In practice, anti-competitive behaviour associated with discrimination and/or excessive prices will have to be assessed in relation to the non-discrimination obligation and price controls, cf. Chapter 7.2-7.5. However, it may be relevant to assess anti-competitive behaviour that is not affected by other specific obligations and which can be equated with denial of access in relation to the access obligation.

7.1.2 Access for national roaming

93. National roaming is defined as a service which, in accordance with an agreement between two mobile network operators, enables a network owner to provide its end users with services that are produced on the other network owner's mobile network.

94. In Chapter 6.1 Nkom has explained that the principal objective of the regulation in the market for access and call origination on mobile networks has been to achieve sustainable, infrastructure-based competition, and the electronic communications authorities are of the view that a third operator is necessary for achieving this objective. The use of remedies in previous market decisions has therefore been aimed at facilitating the establishment of competing infrastructure. In this context, national roaming has been considered to be an important form of access because it enables new network owners to offer national coverage and therefore able to offer competitive services while the network is being developed.

95. Tele2/Network Norway previously had a national roaming agreement with Telenor. This customer relationship was ended after the merger between Telia and Tele2, (see Chapter 3.5 of the market analysis), and, as of the present date, Telenor does not have purchasers of national roaming on its network.

96. As mentioned in the market analysis, ICE possesses frequencies and infrastructure that mean that the company can establish itself as an operator within the relevant wholesale market. The company has also entered into a national roaming agreement with Telia. Therefore, a relevant issue is whether there is a need for regulated access to national roaming in the time-frame covered by the analysis.

97. The market analysis has a time horizon of two to three years, cf. Chapter 1 of the analysis. Nkom finds that ICE will be dependent on national roaming during the entire time horizon of the analysis to be able to provide an attractive service to its customers. The agreement between ICE and Telia may therefore be terminated within the expected lifetime of this decision. Nkom has stated above that there is uncertainty about whether the terms of access ICE has with Telia will be sufficiently attractive for the entire period of the agreement. Nkom is therefore of the view that it may be relevant for ICE to attempt to renegotiate the agreement with Telia to achieve better terms of access with Telia within the time horizon of this decision.

98. There is no reason to assume that ICE has adequate negotiating power to discipline Telenor's offer of access to national roaming. Nkom is therefore of the view that it is necessary to have a regulatory safety net that enables ICE to effectively negotiate such access. The need for access to national roaming is also not necessarily limited to a question of access for ICE. It could be the case that other operators obtain access to frequencies and could require national roaming within the time horizon of the analysis.

99. When assessing the need for an access obligation for national roaming, Nkom is also of the view that there is reason to place some emphasis on the fact that the access agreement between ICE and Telia emerged in connection with the Norwegian Competition Authority's processing of the merger between the Norwegian businesses of TeliaSonera AB and Tele2 Sverige AB. In Nkom's view, the agreement cannot be viewed as the result of ICE's negotiating power under normal circumstances.

100. Nkom is of the opinion that access to national roaming will, from a limited forward-looking perspective, be necessary for ensuring that an operator that constructs its own mobile network is able to offer competitive services and thereby assist in achieving the objective of sustainable competition. The access obligation for national roaming will serve as a guide for the frameworks for the content of such an agreement and thereby contribute to increased buyer power and constitute a regulatory safety net. In Nkom's view, no other specific obligations could effectively remedy the competition problem of denying access to a provider that develops its own mobile network. Access for service providers and MVNOs is not a substitute for access to national roaming.

101. Reduced incentives to construct and develop a mobile network are, both for Telenor and the buyer of access, a potential drawback of imposing an obligation for national roaming. For Telenor, the effect of investment incentives will largely be associated with how the access obligation influences the expected return on the investments. This will again relate to the level of the access charges and the competitive pressure the buyer of access may represent in the retail markets. Other than price, the competitive pressure from the buyer of access will relate to coverage. In connection with this, Nkom makes reference to Chapter 7.1.7 (Exclusivity).

102. The right to national roaming may in itself lead to conflicting incentives for the new operator with regard to building its own network. On the one hand, national roaming can reduce the need to expand own infrastructure and thereby reduce incentives to invest. On the other hand, the right to national roaming can provide increased predictability about own framework conditions and thereby contribute to increased investments. When assessing the investment incentives for buyers of access, Nkom is also of the view that there is reason to consider that sector-specific denial of access cannot be expected to continue. Given the asymmetrical relative strengths between the operators in the relevant market, it is Nkom's assessment that the access obligation for national roaming is primarily suited to enabling buyers of national roaming to increase their investments in mobile networks and thereby achieve the objective of infrastructure-based competition through a third competitive mobile network.

103. With regard to the disadvantages for Telenor of having to provide access to national roaming, Nkom is of the view that these are more than offset by the benefit such an obligation has for competition.

104. Based on this, Nkom is of the view that it is proportionate to impose an obligation on Telenor to accommodate any reasonable request for access in the form of national roaming with the products and services that are included in the relevant market. How far the obligation will extend can chiefly be determined on a case by case basis through an assessment of the facts together with the content in the term "reasonable request", cf. Section 4-1, paragraph two of the Electronic Communications Act.

105. To provide greater clarity about what the obligation to accommodate reasonable requests for access to national roaming entails, Nkom will below discuss certain factors that are of particular relevance to this form of access.

7.1.2.1 Seamlessness and geographic coverage

106. Seamlessness involves the services that are used by an end user not being interrupted, even if one switches network. For example, a call can be connected in one network after which the mobile telephone moves beyond the range of the network's coverage and into the other network's coverage. In order for the call not to be disconnected, information that handover will take place needs to be exchanged between the two networks. Equivalently, an end user can start a data service, for example, a streaming service, on a network and move over to another network's coverage area while the service is being provided. Seamlessness thus requires an interface to be in place between the networks in order to exchange such information, as well as an agreement on seamlessness.

107. End users in Norway have become accustomed to services of a high quality and a large degree of accessibility and expect to be able to hold a telephone conversation without being disconnected in large parts of Norway. There are also increasing expectations for continuity in access to data services on mobile networks. Where a new network operator is to compete on equal terms with the established operators, the service it offers cannot therefore be of a significantly poorer quality than that of the established operators in terms of coverage.

108. Seamlessness can be provided with one-way or two-way handovers. A one-way handover is where the traffic can be moved from the network with the lowest degree of coverage to the network with the highest degree of coverage, or in other words from the network of the operator buying national roaming to the network of the operator providing national roaming. In the case of a two-way handover, the traffic can also be handed back to the original network if the mobile telephone is moved back inside this network's coverage area.

109. By virtue of the Market 15 Regulation, Telenor has only been directed to offer seamlessness with one-way handover on 2G and 3G networks. It is also one-way handover that Telenor has supplied to Network Norway as purchaser of national roaming. Nkom considers that a requirement for access to national roaming with one-way seamlessness is necessary for the access obligation for national roaming to be able to satisfy its objective and that a request for such access would be reasonable.

110. Since two-way handover will enable traffic to be handed back to the network of the party using national roaming, a solution of this nature could reduce the volume of traffic that the buyer of national roaming will have to purchase in the host operator's network. Two-way handover is therefore important for a buyer of national roaming to be able to reduce roaming costs, and achieve a volume that gives low unit costs on its own network.

111. Nkom has previously found that a request for seamlessness with two-way handover is not reasonable because such seamlessness is technically complicated to implement and therefore a disproportionate burden on Telenor. Nkom understands that due to, among other things, new generation mobile networks, it is less complex than previously to implement two-

way seamlessness. Nkom therefore finds that a request for seamlessness with two-way handover will not be reasonable within the time horizon of the analysis. If, when such a request is made, the parties themselves do not agree to a solution, Nkom may conduct a specific assessment of whether the relevant request is reasonable, cf. Section 4-1, paragraph two of the Electronic Communications Act.

112. Telenor has stated that handover from one network to another could entail reduced quality for the services offered by the buyer of national roaming. In connection with this, Nkom makes reference to the decision by the Industry and Trade Committee on Unfair Competition of 20 August 2013 in which Telenor asserted that "the transition from OneCall/Mobile Norway's mobile network to Telenor's mobile network may result in reduced quality of the service for the customer." Nkom finds that seamless handover will be offered with a level of quality that is adequate for there not being unnecessary interruptions in the services that are offered by the buyer of national roaming.

113. Another relevant issue is whether a requesting party should be able to demand access to national roaming in the entire country (full geographical coverage) or geographically limited coverage.

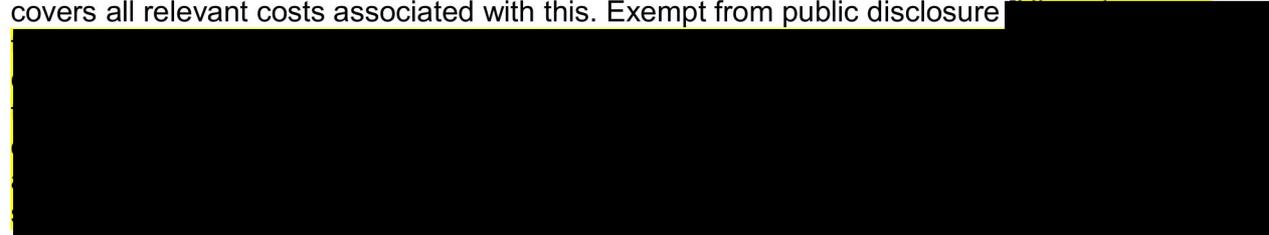
114. With regard to full geographical coverage (in its purest form), all base stations in the host operator's network will be accessible to the provider that has access to national roaming. The field strength will thereby determine which network the call is made in. A call that is made in the visited network will not, in the case of full geographical coverage, be disconnected when the subscriber moves into the range of coverage of its own provider.

115. Where there is full geographical coverage, there will be no dispute over what constitutes a "geographical area" where the new operator has coverage, or whether roaming should be required within the individual areas where the buyer of roaming has certain "white holes" in its own coverage. Full geographical coverage is therefore regarded to be less of a drain on resources for the parties.

116. The so-called geographically limited access to national roaming means that several base stations in the visited network are programmed not to make them accessible to the buyer of access. Such limitation of the possibility for roaming may be relevant in areas where buyers of access have expanded their own network with sufficient coverage. It could therefore be desirable for buyers of access to close roaming in this area to retain the traffic on their own networks.

117. A disadvantage with geographically limited access to national roaming can be that there are areas where the buyer of access does not have sufficient coverage and also cannot obtain access to roaming, which can be a major competitive disadvantage. Another disadvantage can be that a call made in the visited network is disconnected when the subscriber moves into an area where there is no access to national roaming, unless the possibility of two-way handover means that the call can be transferred to the access buyer's own network.

118. As a starting point, Telenor offers full geographical coverage in the reference offer for national roaming. However, the reference offer also includes a provision that Telenor shall, upon written request from the access buyer, close access to Telenor's network in specified areas, provided that Telenor considers this to be technically justifiable and the access buyer covers all relevant costs associated with this. Exempt from public disclosure



119. In Nkom's view, the objective of the Electronic Communications Act suggests that a request for national roaming with full geographical coverage throughout the entire country will normally be reasonable. Nkom also finds that a request to close access to the network in specified areas will normally be reasonable if it is technically justifiable to restrict access to the requested area. If a request for access in specified areas is denied, Telenor must provide information that is necessary for the buyer of access to be able to reassess the area it wants access to.

7.1.3 Access for MVNOs

120. A mobile virtual network operator (MVNO) is defined here as a provider that owns technical systems that are needed for interconnection and roaming with other network operators but which does not own its own radio network. MVNO operators have their own series of International Mobile Subscriber Identity codes (IMSI codes)¹⁷, mobile network codes (MNC) and offer their own subscriptions (SIM cards) and services to end users. In contrast to providers who require national roaming, MVNOs do not operate a radio access network, and for that reason also do not use their own frequencies. MVNO access therefore presupposes investments in own infrastructure, but to a much lesser extent than for a provider that establishes its own radio network and requests national roaming.

121. The relevant market is characterised by there being, in practice, only two providers on the supply side and one provider with ambitions of constructing a larger third network. In Nkom's view, MVNO access is important for achieving a sufficient number of operators in the retail markets and thereby ensuring that competition and breadth in the retail market are maintained.

122. In practice, MVNO providers play a particularly important role in the competitive situation in the business market. Service providers, who are a different group of access buyers, have had weaker prerequisites for competition in this part of the market because their ability to assemble products and solutions adapted to the needs of such end users has been more restricted. Virtual providers have own platforms for service production and thereby better prerequisites for innovative and differentiated services. The possibility of producing services on one's own service platform better facilitates competition on parameters other than price and is therefore suited to virtual operators being more able to represent a competitive threat and having a stronger disciplining effect on established operators.

123. In the longer term, buyers of MVNO access can thus also constitute potential customers of the third mobile network and thereby contribute to sustainable, infrastructure-based competition.

124. At present, both Phoner¹⁸ and TDC/Get are buyers of MVNO access on Telenor's network, while Lyca and Com 4 are buyers of this form of access on Telia's network. Only the two mentioned network owners offer MVNO access. In the long term, ICE will develop into a provider that can offer such access on competitive terms. The speed at which this may occur will depend on, among other things, the company's expansion strategy. It states in Chapter 4.3.8 of the market analysis that Nkom considers it to be extremely uncertain as to whether ICE will achieve such a position within the time horizon of this analysis. Nkom is therefore of the view that it would be expedient to ensure the possibility of MVNO access at sufficiently favourable terms for a period until the goal of sustainable competition has been achieved.

¹⁷ A unique number that is used in a mobile network to give each customer a unique identity and to specify the card's home network and nationality. Some MVNOs use parts of the host operator's IMSI series, which enables use of the host operator's agreements on international roaming.

¹⁸ Phoner¹⁸ acquired Ventelo, effective from 01 January 2015.

125. The market analysis (Annex 1) shows that the market does not sufficiently tend towards sustainable competition. The analysis also shows that the market does not function adequately in terms of the conditions for MVNO access, but rather that MVNO providers are under pressure when concerning margins. If these providers do not achieve good enough terms in the next two to three years, the result may be that they have to leave the market. A development towards fewer operators whereby operators that can be considered relatively efficient are forced out of the market would be unfortunate for competition in the mobile market. The withdrawal of MVNO operators could also reduce the possibility of achieving the goal of sustainable competition in the wholesale mobile market because these operators could potentially contribute to increased traffic on a third mobile network. As mentioned above, the customer base of several of the current MVNOs largely consists of business customers and the products that are offered are often composed in such a way that they cover large parts or all of the customer's needs for ecom services. A development like the one outlined above may therefore also have a negative impact on the competition situation in other markets (fixed line telephony, transmission capacity, data transmission services and broadband).

126. Based on this, Nkom is of the view that MVNO providers are important to the goal of sustainable competition and these types of providers require a regulatory safety net to be able to achieve sufficiently favourable terms.

127. A possible objection to imposing an access obligation for MVNOs is that it can reduce the providers' incentives to invest in more infrastructure if this form of access becomes an attractive alternative to investing in their own radio network. In Nkom's view, this is more related to the terms associated with MVNO access compared with other forms of access, and particularly national roaming, than a question of whether an access obligation should be imposed. Nkom's assessment of price terms for MVNO access appear in Chapter 7.5.

128. Based on the above, Nkom is of the view that there is a need to impose an obligation on Telenor to accommodate any reasonable request for MVNO access with the products and services that are included in the relevant market. Access to national roaming and service provider agreements are not satisfactory alternatives to MVNO access and, in Nkom's view, the benefits to competition from such an obligation would outweigh the disadvantage for Telenor. Nkom believes that an obligation to accommodate reasonable requests for MVNO access will be proportionate. How far the obligation will extend can chiefly be determined on a case by case basis through an assessment of the facts together with the content in the term "reasonable request".

7.1.4 Access for service providers

129. Service providers (also known as resellers) do not have their own infrastructure, but offer end users access to mobile networks and services based on an agreement for service provider access with a network owner or MVNO. These providers market and sell mobile services in their own name and with own price plans and provide customer service and customer invoicing themselves.

130. The service provider's traffic is routed according to the host operator's interconnection agreements and possibly roaming agreements. The service provider's service production is largely performed by the host operator and the need for investments in infrastructure for such establishment is therefore limited. The service provider segment is therefore a market segment with comparatively low entry barriers if the terms of access are reasonable and the risk associated with establishment is relatively limited.

131. In the two previous market decisions in market 15, Nkom concluded that it was not necessary to order Telenor to offer access for service providers. The primary justification for this was that resale (service provider agreements) appeared to be a segment of the wholesale market where the competition between Telenor and Telia has functioned satisfactorily, something which, among other things, was reflected in a relatively high number of providers

with service provider agreements. In the previous decision, Nkom has referred to the fact that Network Norway had become established as a new operator on the supply side and that service providers could therefore deal with more alternative host operators at network level.

132. Nkom has conducted a renewed analysis of the competitive conditions for service providers and is of the view that there are no longer clear signs that the competition in offering access to service providers functions satisfactorily. The analysis shows that the number of service providers that are not owned by the two established network owners has fallen since the previous market analysis was conducted, see Table 3 in the market analysis. In addition, there are not presently any operators other than Telenor and Telia that actually offer service provider access. ICE has the possibility of offering such access based on own terms for access with Telia. However, Nkom finds it difficult to see that these terms of access are at a level that mean ICE can offer attractive service provider access. Nkom notes that several access buyers have stated that they have been in talks with ICE regarding access, but none of these operators appear thus so far to have entered in an access agreement with ICE.

133. Telenor's standard offer for MVNO access does in principle not impede MVNOs from resale of MVNO- or service provider access. However, MVNOs have mainly focused their business on the retail markets. There are no indications that MVNOs in the coming years will establish significant wholesale businesses and Nkom believes that it is not very likely that they will contribute to increased competition within the timeframe of the analysis by providing wholesale access in the relevant wholesale market.

134. Standard price terms for service provider access with Telenor are at about the same level as for MVNO access. As Nkom has made reference to above, Nkom's market analysis (Annex 1) shows that MVNO providers are under pressure in terms of margins. As stated in this decision, there are several terms in Telenor's standard access agreements that Nkom considers restrict competition and that are unreasonable to set in connection with a request for access. In connection with this, Nkom refers to requirements for exclusivity at group level (see Chapter 7.1.7.1) and unconditional and one-sided permission to make changes (see Chapter 7.3.3.1). Nkom is also of the view that the price structure in the reference offers may, with a not insignificant fixed price per SIM, have an exclusionary effect in many segments and be in violation of the obligation of non-discrimination (see Chapter 7.2.2.1). During the present regulation period, Telenor has unilaterally included all of the above-mentioned conditions in its service provider agreements. In Nkom's view, such behaviour would not have been possible if there was well-functioning competition in offering access to service providers. Therefore, Nkom is of the opinion that there are no longer grounds for exempting service provider access from the access obligation due to competition in this segment functioning satisfactorily.

135. In Chapter 6.1 of this analysis, Nkom has signalled a shift towards better facilitating service competition. The reason is that buyers of access other than national roaming are deemed to have independent importance for achieving sustainable competition. Service providers have typically had a presence in individual retail markets. This presence is liable to increase product innovation and price competition in the relevant retail market. In the longer run, service providers might also contribute by offering traffic to a third network and by this contribute to the goal of sustainable competition. .

136. Nkom finds that the opportunity for pure resellers, i.e. providers that purchase all of their service production from the host provider, to develop innovative services is more limited than for providers that are themselves responsible for parts of the service production. In a market with an increasing degree of complexity and connection of various services, it can therefore be challenging for such providers to compete on parameters other than price. On the other hand, technological development can contribute to reducing differences between the MVNO platform and service provider access when concerning opportunities to produce parts of one's own range of services. For example, it may be expected that some service providers

will rent equipment or purchase cloud services that better enable them to produce their own services. In Nkom's view, this is an issue that warrants a more access-neutral regulation.

137. In light of the above, Nkom is of the view that it would be expedient to facilitate service providers being able to contribute to increased competition in the retail markets. Nkom cannot see that the competition to offer service provider access functions adequately. Regulated access is suitable for ensuring that the terms of access are such that service providers are not prevented from competing in individual retail markets. Nkom is therefore of the view that there are grounds for imposing an access obligation for service provider access.

138. In Nkom's opinion, regulated service provider access should not become such a good alternative to the construction of own infrastructure that it reduces the incentives to invest. The regulation should also not deprive other network owners of the opportunity to offer competitive access. As mentioned above, it is, for example, important that the third network is given the opportunity to compete in providing wholesale access. However, Nkom is of the view that this is more an issue concerning the regulatory requirements relating to service provider access compared to other forms of access rather than an issue of whether access should be imposed.

139. Based on the above, Nkom is of the view that there is a need to impose an obligation on Telenor to accommodate any reasonable request for service provider access with the products and services that are included in the relevant market. In Nkom's view, such an order would be proportionate. Access to national roaming and MVNO access are not satisfactory alternatives to service provider access. In Nkom's opinion, the benefits to competition of such an obligation outweigh any potential disadvantages for Telenor. How far the obligation extends will chiefly have to be determined in each case through an assessment of the facts together with the content of the term "reasonable request".

7.1.5 Access to co-location

140. Section 1-5, number 17 of the Electronic Communications Act defines co-location as *"shared use of infrastructure and other related facilities that are used or can be used to locate equipment for electronic communications."*

141. Section 4-4, paragraph four of the Electronic Communications Act grants authorisation to impose an obligation on a provider with significant market power to accommodate reasonable requests for co-location when this is appropriate for stimulating sustainable competition. Whether a specific request is reasonable shall be determined by considering the same factors that ensue from the general access provision in Section 4-1, paragraph two, cf. Section 4-4, paragraph seven, first sentence:

142. Pursuant to Section 4-4, paragraph six, second sentence of the Electronic Communications Act, rejection of a request for co-location must be justified and documented.

143. The obligation to meet a reasonable request for co-location must be related to the market in which the provider has significant market power. At wholesale level, the mobile market is currently divided into the market for access and call origination on mobile networks and the market for voice call termination on mobile networks (market 7). Nkom believes that co-location is a form of access that naturally belongs in the market for access and call origination on mobile networks. This also entails that the party that requests co-location must offer products within the relevant wholesale market and/or one of the related retail markets for the relevant regulation to apply.

144. Co-location enables the sharing of costs associated with the rollout of new mobile networks (infrastructure costs). This opportunity to reduce costs for the individual operator helps reduce the entry barriers for new operators in the market. Co-location may also reduce any competitive disadvantages for a newcomer to the market and limit higher costs due to the fact that the most attractive sites (with regard to effective radio planning, costs for access to

electricity etc.) have already been used. Thus, co-location will be appropriate to facilitate sustainable competition. Nkom still regards this form of access to be vital to achieving the objective of the regulation since it directly facilitates the establishing of competing infrastructure. Based on this, Nkom is of the view that there is a need to impose an obligation on Telenor to accommodate any reasonable request for co-location.

145. The extent of an obligation to offer co-location will chiefly have to be determined in each case through an interpretation of what may be regarded as a “reasonable request”. Nkom addressed several issues relating to the scope of the obligation to offer co-location when processing Mobile Norway's complaint to Telenor's refusal to offer co-location of 6 February 2013.¹⁹ Nkom's decision of 6 December 2013 was appealed by Telenor. Following the appeal process, the ministry upheld Nkom's decision on 21 May 2015. Nkom applies the same principles used in the decision of 6 December 2013 to this decision. The main principles are cited below.

7.1.5.1 Capacity expansions

146. In Nkom's view, Section 4-4, paragraph four of the Electronic Communications Act authorises the Authority to order an undertaking with significant market power to accommodate requests for co-location in instances where this requires capacity expansions for infrastructure when, after an overall assessment, the request is considered reasonable. Nkom has interpreted Section 4-4, paragraph four such that a request can be reasonable even if it entails that a provider with significant market power has to carry out capacity expansions. Such an interpretation of the provision has been accepted since Nkom's first decision in the market for access and origination was handed down on 23 January 2006.

147. However, in the opinion of Nkom and the ministry, Section 4-4 of the Electronic Communications Act does not grant authorisation to impose an obligation on a provider with significant market power to offer co-location when this infrastructure does not exist or is planned.

148. When considering whether a request is reasonable, there must be an assessment of the disadvantages to Telenor from capacity expansion compared with the disadvantages to the requesting party from using other possible solutions. In Nkom's view, the assessment of whether a request is reasonable will depend on the types of measures that have to be implemented to achieve adequate capacity. Typical measures that Nkom considers relevant, can be the removal of equipment on masts and in cabins that are not being used, virtual co-location²⁰, moving equipment to provide space for more cabinets, strengthening of masts, extending masts, expanding cabins, replacing cabins, replacing masts and replacing antennas.

149. Section 4-4, paragraph six of the Electronic Communications Act stipulates that in the assessment of whether a request is reasonable pursuant to the fourth paragraph an assessment shall be performed pursuant to Section 4-1, paragraph two.

150. In Section 4-1, paragraph two, second sentence it states that "*in the assessment of what is necessary, account shall be taken of whether in the light of market trends it is technically and commercially possible to install or use competing infrastructure.*" In the preparatory works,²¹ this is summarised as follows: "*In assessing whether technical or economic alternatives exist to the access requested, the authority shall take into consideration whether the alternatives are of a nature that would make it possible to compete with the*

¹⁹ Nkom: "Complaint concerning rejection of requests for co-location - decision regarding administrative fines" from 6 December 2013. Case: 1105388-46

²⁰ See Proposition no. 58 (2002-2003) to the Odelsting, p. 87.

²¹ Proposition No. 58 (2002-2003) to the Odelsting, p.101.

undertaking with significant market power in the relevant market." If alternative solutions for placement provide a poorer starting point for the access buyer in terms of being able to effectively compete in the market, this will be heavily emphasised in the assessment of whether or not a request is reasonable.

151. When concerning the additional factor of "available capacity" in the assessment of reasonableness in Section 4-1, paragraph two of the Electronic Communications Act, Nkom is of the view that when there is sufficient available capacity to comply with a request, it must clearly be considered reasonable provided that the request in general is also reasonable. Should there be a need to expand capacity to meet the request, the answer is not equally clear. In the assessment, consideration must be made to available capacity, however Section 4-1 cannot be understood such that a request will always be unreasonable if there is no spare capacity available. In Nkom's view, the lack of available capacity can mean that the request is not considered reasonable, but it is not a requirement that there is available capacity for the request to be considered reasonable. Available capacity is only one of several elements in the assessment and therefore not a prerequisite for the existence of co-location obligations. A request for co-location involving building or expanding capacity can be regarded as reasonable when other elements in the assessment are accorded more weight. The ministry supported this understanding in its appeal decision and stated that the provider has an obligation to make adjustments and facilitate other solutions when the request for co-location is reasonable, even if there is no space in existing infrastructure.

152. When multiple measures are possible, the starting point should be that the easiest and most reasonable alternative is selected. The easier the measure is to implement to increase capacity the less reason there will normally be to claim that the request is unreasonable. This means that when, for example, the measure involves removing equipment that is no longer used on a mast, there will be no grounds for not complying with the request. In these types of situations, the topic of assessment, i.e. "available capacity", carries little weight. If it is necessary to implement more demanding measures, for example, replacing a mast, the fact that there is no available capacity may carry more weight. When the alternative to co-location is such that the possibility of competing with Telenor is reduced, the fact that there is no available capacity could still indicate that capacity expansion is within what would be considered a reasonable request. Here the requesting provider may refer to both technical and financial reasons for the alternative to co-location not being able to be used.

153. Nkom assumes that, in many cases, there will be cost savings by having co-location instead of constructing a completely new mast and base station, even if co-location will require replacing a mast, because the other existing infrastructure can be utilised (cabins, power supply etc.) In addition, there could be instances in which it is difficult to find alternative locations that are technically suitable. The alternative location could result in higher costs because, for example, more antenna masts and base stations have to be constructed to achieve sufficient coverage than for co-location on the existing mast. Nkom would note that there may be instances in which, for purely cost-related reasons, it would be a more reasonable alternative to build a new antenna mast in addition to the one that already exists, instead of replacing the mast with a new and larger mast. In such instances, joint utilisation of the other infrastructure will still be possible, while it is also not necessary to transfer antennas and cables from the existing mast.

154. Since Telenor can claim construction contributions to cover costs of expansions and new constructions, cf. Chapter 7.5.7, Nkom is of the view that in the instances the requesting provider can demonstrate that there are no alternative locations that make it possible to compete with Telenor, the request will, as a starting point, be reasonable. This requires that necessary permits are granted from public authorities or private landowners. Based on this starting point, reservations must also be made for whether, in specific instances, there may be

circumstances relating to the specific location that entail that the request for co-location can still not be considered reasonable.

155. With regard to switching antennas, Nkom will not rule out that a request that requires such an action can also be reasonable. However, the disadvantages for Telenor could be significant. An order to replace antennas could mean that Telenor has to reschedule radio planning and could prevent or complicate systematic development and planned antenna replacement in accordance with the company's coverage strategy and planned technology switch. These types of elements will be very heavily emphasised in the assessment of whether a request for co-location is reasonable. If an obligation is imposed to offer co-location in instances in which antenna replacement is required, there must be specific circumstances that outweigh the disadvantages Telenor is caused due to the antenna replacement. In Nkom's view, deterioration in quality, coverage and capacity on Telenor's mobile network will be extremely important considerations in the assessment of whether antenna replacement can be ordered and can result in the request not being considered reasonable.

156. Based on this, Nkom believes that Section 4-4, paragraph three and four of the Electronic Communications Act, cf. Section 4-1, paragraph two, grants the authority to order a provider with significant market power to accommodate requests for co-location in instances in which this requires capacity expansion in the infrastructure when, after an overall assessment, this request is considered to be reasonable.

7.1.5.2 Disclosure of information

157. The access obligation also includes a duty to provide access to all information that is necessary for initiating a request. For instance, in the case of co-location, this will include overviews of the position of relevant base stations with available capacity in the area that is requested, and the technical data that is needed for the implementation.

158. In Nkom's view, the obligation for a provider with significant market power to offer co-location is undermined if the obligation does not also include an obligation to provide information that is necessary for initiating a request. The objective of the obligation regarding co-location and real considerations therefore indicates that an obligation to accommodate reasonable requests for co-location also entails a duty to provide information.

159. An issue in this context is whether the duty to provide information includes an obligation to submit mast drawings prior to a request application. In Nkom's view, geographical placement of different locations and the height of the potential masts clearly constitute necessary information. Nkom is of the view that it is also of major value for a potential requesting party to have access to further information about the capacity on the mast. Mast drawings will provide an overview of the antenna and can say something about whether the mast has available capacity or whether it is already being fully utilised. For the party the requests co-location, this can be important information in the assessment and identification of the different alternatives. In Nkom's view, mast drawings with an overview of the antenna or equivalent information provided in a different manner will therefore be information that Telenor is obligated to provide access to.

160. Nkom is aware that mast drawings may contain sensitive information. Telenor has previously argued that by supplying mast drawings, the party that requests placement could obtain information about, among other things, radiated direction, types of antennas and other factors relating to coverage that enable the requesting party to obtain an overview of Telenor's overall radio planning. However, Telenor has introduced an arrangement whereby mast drawings can be supplied in a manner that prevents sensitive information from being divulged. Nkom therefore finds that, when requested, mast drawings with an overview of antenna locations or equivalent information must be supplied prior to requests for co-location.

7.1.5.3 Processing time for requests for co-location

161. In both the decision of 5 August 2010 and decision of 23 January 2006, Telenor was ordered to negotiate agreements for access, including agreements for co-location, without undue delay. Nkom is of the view that there is still a need for such a requirement to make the access obligation sufficiently effective. Reference is made to Chapter 7.1.7.4 for a more detailed assessment of the need for a requirement to negotiate agreements for access without undue delay.

162. As a result of input from operators that purchase co-location, Nkom has found it appropriate to set a specific deadline for Telenor's processing time. However, Nkom understands that efficient use of time to process requests for access can vary depending on the extent of measures necessary for being able to facilitate placement. For basic decisions, there should be a prompt response. For more complicated requests for which it is not possible to quickly decide on the matter, Nkom is of the view that it is reasonable to set the requirement that a provisional response must be provided as soon as possible with specification of the time for when a final response will be in place. Nkom does not consider it appropriate to stipulate more specific deadlines. The requirements for documentation may highlight potential disagreements about use of time and possible delaying tactics.

7.1.5.4 Right to opt-out

163. Telenor has adopted a 12 month right to opt-out for operators that are offered placement. This entails that the site must be used within a period of 12 months, otherwise the site will be released for use to other operators that request access. According to Telenor, the right to opt-out has been practised for all operators, including Telenor itself. Nkom is of the view that the practice appears to have functioned satisfactorily, but believes there must be documented plans for expansion for the right to opt-out to be able to be maintained at the expense of a specific request.

7.1.5.5 Specifics about the requirement for documentation and justification of rejection

164. As mentioned in the introduction, it states in Section 4-4, paragraph six, second sentence of the Electronic Communications Act that the refusal of a request for co-location must be substantiated and documented.

165. If, prior to a request, an operator has received information from Telenor indicating that, as a starting point, there is no available capacity at the relevant location, the process could be made more efficient if the requesting party substantiates why the request is still reasonable. Particular reference is made to Section 4-1, paragraph two, second sentence regarding whether there are alternatives to the access that is being requested.

166. Nkom is of the view that when a request is rejected, the justification must contain all information that is necessary for assessing the grounds for the rejection. If the rejection is due to insufficient capacity, Telenor must explain why it would not be reasonable to expand capacity. This is necessary for the requesting party to obtain an actual opportunity to assess the rejection.

167. The purpose of documentation is to support the reasoning that is given. Documentation is therefore required if the reasoning itself does not provide sufficient information that is necessary for determining whether the request is reasonable.

168. For the requesting party to be able to verify whether the request was reasonable or not, the justification together with accompanying documentation must also be provided with or immediately after rejection is given.

169. If there is an appeal against Telenor's rejection of access, it must, on the other hand, be expected that the requesting party specifies and possibly elaborates on the factors that may

justify that co-location must be considered reasonable, such that Telenor can then undertake a renewed assessment of the request.

170. If a provider submits a number of requests with a view to then being able to decide where it is most expedient to implement further development, in its decision the ministry was of the view that a more basic form for justification could be used in such a "reconnaissance round". However, the justification must be able to provide the requesting party with sufficient information for being able to determine what requests the requesting party should proceed further with.

7.1.6 Other forms of access

171. Whether other forms of access, including access to the network owner's CPA platform²², should be regarded as a reasonable request, will be determined by specific assessments on a case by case basis. With regard to agreements on international roaming, Nkom makes reference to Article 3 in Regulation 531/2012 relating to international roaming and BEREC Guidelines²³. In addition to direct roaming agreements, the requirement to accommodate reasonable requests for access to international roaming also includes resale of access to international roaming.

7.1.7 More about the access obligation

7.1.7.1 Reasonable requirement

172. Nkom has in Chapter 5.3.3 identified undue requirements as a relevant competition problem linked to the transfer of market power by means of non-price variables. It is therefore relevant to consider setting requirements that limit the opportunity for such conduct.

173. As a provider with significant market power, Telenor may have incentives and opportunity to setting unreasonable conditions in connection with a reasonable request for access to the company's mobile network. Such conditions may have the potential to undermine a development towards effective competition. In some cases, such conditions may constitute a breach of other obligations, including the obligation of non-discrimination. However, to make the access requirement sufficiently effective, Nkom is of the opinion that it is necessary to impose on Telenor an explicit requirement to accommodate any reasonable request for access with conditions that are fair and reasonable.

174. When assessing whether a contractual term is reasonable and fair, the starting point for Nkom will be whether the relevant term may be seen as in line with what would have been offered in a competitive market and whether limitations on the access seekers may be considered as founded in the legitimate interests of Telenor, but do not go further than necessary to attend to these legitimate interests and are proportionate. If a condition is widely used in commercial practice, this will in the view of Nkom raise the threshold for finding that the condition in this relation is in breach of the obligation of reasonable and fair conditions.

175. In the view of Nkom, an obligation not to use unreasonable or unfair conditions may in itself not be regarded as particularly burdensome. However, such a requirement will reduce the predictability for Telenor. In the view of Nkom, the benefits to the competition by setting such a requirement outweighs the burden for Telenor consisting of reduced freedom of action.

²² Content Provider Agreement

²³ Regulation 531/2012 and BEREC Guidelines on the application of Article 3 of the Roaming Regulation – wholesale roaming access can be found at www.nkom.no/internasjonalgjesting

Nkom is of the opinion that other obligations are not to a sufficiently extent able to effectively remedy the relevant competition problem.

176. In the light of the above, Nkom finds that it is proportionate to require that Telenor meet reasonable requests for access with reasonable and fair conditions. Therefore, Nkom imposes on Telenor such an obligation, in line with the clarifications above.

7.1.7.2 Exclusivity requirements

177. As a provider with significant market power, Telenor could have the incentive and opportunity to set exclusivity requirements. The exclusivity requirement may constitute a competition problem and it is therefore relevant to assess whether the regulation should restrict Telenor's ability to set such requirements. When assessing exclusivity, Nkom is of the view that it is appropriate to differentiate between exclusivity that impacts on the ability to negotiate access and exclusivity that deals with the provision of access.

178. By exclusivity that restricts the ability to negotiate access, Nkom refers to obligations that restrict the access buyer's ability to conduct parallel negotiations with multiple providers of the relevant access. Agreements that restrict the access buyer's opportunities to negotiate for a period after the agreement has been entered into fall under Nkom's understanding of the term negotiation exclusivity. By negotiations for access, Nkom refers to both negotiations for entering into an access agreement and negotiations regarding changes to an existing access agreement.

179. The relevant market is characterised by there being a very limited number of operators on the supply side and a limited degree of buyer power. Negotiation exclusivity entails a restriction in the access buyer's ability to compare offers from different sellers of access. Nkom is therefore of the view that the negotiation exclusivity is liable to both reduce buyer power and limit the market dynamic. Such a form of exclusivity could distort competition and, in Nkom's view, may counteract the objective of the regulation. Nkom finds that an exclusive purchase obligation is an unreasonable term and emphasises that Telenor does not have the right to stipulate negotiation exclusivity in connection with negotiations for entering into or amending an agreement for regulated access.

180. By exclusive purchase obligation, Nkom refers to requirements that the access buyer must not use mobile networks other than the host operator's network to offer the types of services included in the access agreement. Exclusive purchase obligations can be different in scope and can be set at group, company, brand and SIM level and be asserted at different degrees to buyers of different types of access.

181. An exclusive purchase obligation entails that the provider with significant market power restricts the access buyer's right to have parallel access agreements with different host operators. In Nkom's view, such a restriction will likely weaken the access buyer's negotiating power. Nkom is also of the opinion that an exclusive purchase obligation will restrict the ability of a third network operator to cover parts of the access buyer's need for access and is thereby liable to reduce the possibility of achieving infrastructure based competition through a third competitive network.

182. However, Nkom recognises that Telenor has a legitimate interest in setting some exclusive purchase requirements. Nevertheless, the objective of the regulation and the considerations it seeks to attend to, require that the regulation should not permit Telenor to set exclusive purchase obligations that extend further than what is necessary for safeguarding the company's legitimate interests and is proportionate. In Nkom's view, an exclusive purchase obligation that goes beyond what is necessary for safeguarding Telenor's legitimate interests will be considered an unreasonable contract term. Telenor will therefore not have the right to set such requirements in agreements for regulated access.

183. The access requirement is in itself not meant to amount to competitive advantages for access buyers. Therefore, Telenor will have a legitimate interest in the access buyers not being able to use regulated access to Telenor's mobile network and simultaneous access at another host operator to achieve relevant and significant competitive advantages in the retail market, compared to Telenor's own retail business, for instance better coverage. If access buyers can use regulated access to achieve such advantages, this could distort competition and could reduce the host operator's incentives to compete on coverage.

184. Offers in the retail market that use parallel access to another external mobile network to offer coverage for which there are actual reasons to consider superior to what Telenor can offer, is in the opinion of Nkom a relevant and significant competitive advantage. Therefore, Telenor may require that the access buyers do not use access to Telenor's mobile network to offer retail products where the end user can choose between subscription with coverage in Telenor's mobile network or in another external mobile network. Telenor may normally also require that the access buyer does not give its existing end users the possibility to choose between Telenor-coverage or coverage in another external mobile network during the contract period. This also applies to possible offers where the coverage choice is being made on behalf of the individual end user, for example through an automated solution. However, such requirements may not inhibit the access buyer from migrating whole or parts of its customer base to another host operator. The length of the migration period shall be reasonable, in the light of technical and commercial circumstances, including obligations the access buyer may have towards its end users.

185. To achieve increased clarity about the regulation's requirements and thereby increased predictability for the operators, Nkom will provide a more detailed overview of how Nkom's assesses the obligation to not set unreasonable requirements in connection with regulated access compared with certain key forms of delivery exclusivity.

186. Delivery exclusivity at SIM level entails that a buyer of access is not permitted to offer its customers coverage from multiple external mobile networks on the same SIM (Subscriber Identity Module). In this context, SIM means the module in the mobile telephone that takes care of the identification of the subscriber in the mobile network.²⁴ The absence of such a requirement will enable a provider with MVNO or service provider access to offer access to, for example, both Telenor and Telia's mobile networks on the same SIM. For an operator with a national roaming agreement, the absence of such a requirement will enable it to offer access on its own network supplemented with coverage from the two established network providers. In Nkom's assessment, access on multiple networks on the same SIM entails that access buyers can offer coverage which actually may be perceived as superior to the coverage provided by the the individual host operators. Nkom finds that this also applies to offers for coverage in multiple mobile networks on the same subscription/contract.²⁵ Nkom is therefore of the view that Telenor is not obligated to offer access for such use. A requirement from Telenor that prohibits the access buyer from using the access to Telenor's mobile network to offer both coverage in Telenor's mobile network and in another external national mobile network with the same SIM, or on the same subscription/contract, will therefore not be considered unreasonable and will therefore be permitted under the regulation.

187. In Nkom's view, exclusive purchase obligations at group level express an exclusivity requirement in its most far reaching form. This form of delivery exclusivity prevents Telenor's

²⁴ A SIM identifies the subscriber to the network through the access buyers IMSI (International mobile subscriber identity), country code and network code.

²⁵ In the context of this decision, whether several subscriptions are billed together will be normative for which subscriptions that constitute the same subscription/contract.

access buyers or companies in the same group being able to purchase access from network owners other than Telenor. Requirements for group exclusivity are likely to both weaken buyer power and reduce infrastructure-based competition and, in Nkom's view, go much further than what can be considered necessary for safeguarding Telenor's legitimate interests and what is proportionate. Based on this, Nkom is of the view that exclusivity requirements at group level are unreasonable conditions for access and cannot be included in Telenor's access agreements.

188. In this context, exclusivity on company level means situations where a company is not permitted to buy access from another network operator in addition to Telenor. The considerations that apply for group exclusivity also mainly apply for this type of exclusivity. This is particular the case when the access buyer is subject to restrictions on the use of the access, for example through requirements that the access buyer's activities must be carried out independently of other units that have access agreement with another host operator.

189. As for brand exclusivity, Nkom finds that Telenor has a legitimate interest in counteracting that competitive advantages are being achieved in the retail market through the offering of coverage in multiple external mobile networks under the same brand. Therefore, Telenor may normally require that access to Telenor's mobile network cannot be offered in parallel with coverage in another external mobile network for the same brand. However, Nkom finds that retail offers consisting of coverage with different host operators under the same brand will not be suited to achieve relevant and significant competitive advantages if the offer is directed at different retail markets, for instance residential and business. Hence, Nkom finds that the considerations that give grounds for Telenor to require exclusivity in certain cases, cannot justify that Telenor refuses an access buyer the use of parallel access for different retail markets, even if these are offered under the same brand. Therefore, such requirements cannot be part of Telenor's access agreements.

190. Nkom believes that Telenor has the incentive and opportunity to set exclusivity requirements that go beyond the company's legitimate interests in setting such requirements. Exclusivity requirements that go beyond Telenor's legitimate interests will be likely to counteract the objective of the regulation. In Nkom's view, it is not possible to effectively counteract such behaviour in a less invasive manner than setting requirements that restrict Telenor's ability to set requirements for negotiation exclusivity and exclusive purchase obligations, cf. above. Nkom is also of the view that the requirement will enable the objective of the regulation to be realised. Such a requirement is therefore proportionate..

7.1.7.3 Indoor coverage

191. Over 80 percent of all mobile communication takes place indoors and that share is expected to increase to 90 percent.²⁶ At the same time, indoor coverage is a challenge at many locations, not least newer, energy-efficient buildings with thick walls and energy glass. In a press release, Telenor in Denmark revealed that three of four complaints from customers relate to indoor coverage²⁷.

192. There are different solutions for improving indoor coverage. Repeaters receive, amplify and send the signals out on the operator's frequency. Small cells, for example, femtocells, normally use the operator's frequencies and can (unlike repeaters) create own coverage. A distributed antenna system (DAS) consists of cables and antennas that are connected to a

²⁶ http://stakeholders.ofcom.org.uk/binaries/research/telecoms-research/building-coverage/Final_report.pdf

²⁷ <http://apps.vocast.com/r/pressframe/bglijy1/view/89b848957dd09a71>

repeater or base station. WiFi-routers connected to the mobile network could provide indoor coverage for both voice and data.²⁸

193. Telenor has chosen a so-called Cel-Fi signal booster to improve indoor coverage for businesses. Telenor refers to the solution as "an extended arm of our test winning mobile network".²⁹ According to Telenor, the solution is available for all business customers connected to Telenor's network. Only installers authorised by Telenor are permitted to install these types of signal amplifiers.

194. For access buyers to have the opportunity to compete on the same terms as Telenor's own retail business, Nkom is of the view that it is important that access buyers also receive access to the solutions Telenor offers to improve indoor coverage on its own network. Nkom therefore finds that the access obligation also includes indoor coverage. This entails that Telenor must also accommodate reasonable requests to change coverage/improve indoor coverage at the locations requested by the access buyer in the same manner as Telenor would have done for its own retail business. Rejections of such a request must be justified. The conditions for such measures must be reasonable and fair.

7.1.7.4 Finalising of agreements

195. The analysis of relevant competition problems indicates that Telenor has the incentive and opportunity to use delaying tactics in connection with requests for access. Anti-competitive behaviour of this nature cannot be sufficiently alleviated by an access obligation alone.

196. Section 4-1 of the Electronic Communications Act, cf. Section 4-6 grants the authority to stipulate rules for timeliness. That the regulatory authority shall be able to set such requirements is also stated explicitly in Article 12, no. 1 subpara 3 of the Access Directive. It is therefore relevant to assess whether the access obligation should be supplemented with a requirement that negotiations for regulated access cannot be prolonged unnecessarily.

197. Section 4-1 of the Electronic Communications Act state that, as a provider with significant market power, Telenor must document and justify any rejection of a request for access or co-location. The justification must be such that it gives the requesting party an actual opportunity to verify the reasoning for the rejection. However, an obligation to provide justification for the rejection of reasonable requests will not focus directly on the relevant competition problem and, in Nkom's view, will therefore not be adequate in this context.

198. Telenor will be ordered to have reference offers for the relevant forms of access. Among other things, the reference offer must be able to function as a response to an otherwise reasonable request for regulated access. In Nkom's view, an obligation to publish a reference offer may, to some extent, indirectly alleviate competition problems relating to delaying tactics.

199. An obligation of non-discrimination will also be imposed on Telenor. This obligation will to a certain extent reduce problems associated with delaying tactics. However, in Nkom's view, such an obligation will also not be adequate for alleviating the relevant competition problem.

200. Section 11 of the Competition Act may be brought to bear against the use of delaying tactics. However, it is clear to Nkom that this provision is not suited to effectively alleviating the relevant competition problem.

201. Based on this, Nkom is of the view that it is necessary to impose an obligation on Telenor to finalise agreements without undue delay. Other sector-specific remedies are not individually or collectively adequate for properly alleviating the relevant competition problem. In

²⁸ <http://apps.vocast.com/r/pressframe/bgljy1/view/89b848957dd09a71>

²⁹ <http://www.mynewsdesk.com/no/telenor/pressreleases/telenor-bedrer-innendoersdekningen-for-bedrifter-1108373>

Nkom's view, the regulation of Telenor's response time can not be regarded as being particularly burdensome seen in relation to the consequences an unnecessary delay will have for the other party and thereby for competition.

202. If a claim is made that delaying tactics are being used, when requested Telenor must document the use of time in connection with the relevant contract negotiations to the provider the alleged delaying tactics have affected. In Nkom's view, an appropriate assessment of affected interests suggests that an access buyer must submit a request for documentation of time spent within three months after the relevant negotiations were concluded. Nkom must receive a copy of Telenor's response to a request for documentation of time spent.

7.1.8 Conclusion

203. Nkom finds that there is a need to impose an obligation on Telenor to meet all reasonable requests for access within the market for access and call origination on mobile networks. Requests for national roaming, MVNO access, service provider access and co-location as described in Chapter 7.1.2 to 7.1.5 will normally be considered reasonable with the clarifications stipulated in Chapter 7.1.7. An obligation to meet all reasonable requests for access appears in Chapter 8.1.

7.2 Non-discrimination

7.2.1 General information about non-discrimination

204. A provider with significant market power may have the opportunity and incentive to discriminate between its own and other providers' retail business in order to leverage market power from the wholesale market to one of the related retail markets. The discrimination can take place with regard to prices or other terms. A dominant provider may further have incentives to discriminate between external customers as a strategy for misusing market power. An obligation to provide access and possible price controls may also provide incentives to discriminate on non-price terms. Discrimination thus constitutes a relevant competition problem in the market for access and call origination on mobile networks. It is therefore relevant to assess the obligation of non-discrimination.

205. Section 4-7, paragraph one and two of the Electronic Communications Act states the following:

"The Authority may direct a provider with significant market power to offer interconnection and access to external providers on non-discriminatory terms.

The Authority may direct a provider with significant market power to offer interconnection and access to other providers on the same or equivalent terms and of the same or equivalent quality as provided for internal operations, subsidiaries or partnerships."

206. The provision grants the authority to impose an obligation of non-discrimination in two areas: Paragraph one grants the authority to impose an obligation of non-discrimination between external providers, while paragraph two provides the opportunity to order the provider with significant market power to offer the same or equivalent quality and terms to other providers as provided for own operations.

207. The main objective of setting an obligation of non-discrimination is that providers with significant market power must treat similar situations equally with regard to prices, quality, information, and other terms, regardless of which operations they pertain to. However, equal treatment of similar situations may also be deemed discriminatory in violation of the Electronic Communications Act.

208. Non-discrimination does not necessarily imply that all businesses must have identical terms for access, but that any differences in the terms shall be based on objective criteria.

209. Discrimination may occur in many different forms. It is therefore difficult to identify every consequence of an obligation of non-discrimination in advance. However, below Nkom will provide some instances and specify the content of the non-discrimination obligation between own and external operations. However, it is neither expedient nor possible to specify all conceivable situations and the list must not be considered exhaustive.

7.2.2 Discrimination between own and external operations

210. Vertically integrated undertakings with significant market power may leverage market power from the wholesale market to the retail market by exercising exclusionary behaviour towards other competitors in the retail market, cf. Chapter 5.3. In this context, exclusionary behaviour means attempts to deny access to and shut out competitors or limit a competitor's opportunities in the market by operating with prices, quality differences or access terms that favour the undertaking's own operations. A prohibition against discrimination between Telenor's own and external operations will reduce the possibility of exercising exclusionary behaviour and therefore be suited to preventing leverage of market power from the wholesale to the retail market.

211. An obligation of non-discrimination between internal and external operations entails that Telenor's wholesale service must have the types of features that, in terms of technology, quality and price, the access buyer can replicate Telenor's services in the retail market. The external provider must therefore have equivalent prerequisites for being able to compete in the retail market, provided that the provider's operations are sufficiently efficient.

212. In Nkom's view, the obligation of non-discrimination between Telenor's own operations and external buyers of access will not be particularly burdensome in itself and the benefits to competition from such an obligation will clearly outweigh the disadvantages to Telenor from the company's freedom of action being curtailed. Nkom finds that other remedies will not be sufficiently effective to deal with this type of discriminatory behaviour.

213. Based on this, Nkom is of the view that it is necessary and proportionate to impose an obligation on Telenor to not discriminate between the company's own operations³⁰ and external buyers of access, including a prohibition against exclusionary behaviour.

7.2.2.1 The non-discrimination obligation on price between own and external operations

214. The non-discrimination obligation on price implies that the price level on Telenor's wholesale offer should not be higher than the company could have charged (or possibly charges) from its own retail business. If Telenor sets a higher access charge for external access buyers than that (implicitly) offered to Telenor's own operations, the access buyers will be at a disadvantage for competing in the retail market, and may, in the worst case, experience price squeezes due to the higher access charge.

215. Telenor as a vertically integrated operator has no wholesale agreement between its wholesale operations and retail operations. The non-discrimination obligation can therefore not be based on a direct comparison of content and charges in an access agreement between Telenor's wholesale and retail arm, and Telenor's external access offer. However, the non-discrimination obligation implies that the offer Telenor provides to external buyers of access

³⁰ To the extent Telenor is using partners and dealers in its distribution of own services in the retail market, the terms that are offered to such partners should also be offered to external buyers of access.

should give them equal possibilities to compete in the retail market as the internal retail operations.

216. Telenor has, as a vertically integrated operator with its own network, full flexibility to design their retail products with regard to price, price structure and other elements. The non-discrimination obligation implies that buyers of access should as far as possible, have the same flexibility to design its own retail products. For external buyers of access to have equal possibilities to compete and create product diversity and product innovation, terms and conditions in the access agreement should as far as possible give the same opportunities as Telenor's own retail operation. The price structure offered to external buyers of access, should therefore not have any exclusionary effects.

217. During the present regulation period, Telenor has introduced a price structure at wholesale level consisting of relatively high fixed components at subscription level and variable prices for traffic. The fixed component is not related to traffic and involves a monthly fixed fee per SIM. Telenor's pricing of higher data speeds involves additional fixed fees per SIM depending on the speed class.

218. The fixed component per subscription/SIM entails that the external buyers of access incur a payment obligation related to the number of subscription and data speed. However, the major part of Telenor's own cost at wholesale level are traffic driven, and only a marginal part of wholesale costs are affected by the number of subscribers. A payment obligation related to the number of subscriptions, implies therefore to a little degree causality between the underlying cost drivers and the price structure that are offered to buyers of access. It also implies that buyers of access are facing a price structure that doesn't correspond to the cost structure faced by Telenor's own operation. Telenor is a vertically integrated operator without any transfer price between the wholesale and retail operations, Nkom believes the cost structures at wholesale level constitutes the frames for Telenor's possibilities to compete in the retail market. This difference between Telenor and buyers of access creates unequal conditions for competition and implies that the access terms offered externally today, does not give external operators the possibilities to compete on equal terms with Telenor's own retail operation.

219. To remedy competition problems related to price discrimination, Nkom is of the view that Telenor should offer an access agreement without fixed components per subscription/SIM. This implies in practice that Telenor should offer an access agreement based on traffic related (variable) prices. In Nkom's view, such a price structure will not have the same restricting effects as fixed fees per subscription. Further, Nkom expects that access agreements with variable prices are not designed in a way that give equivalent effects.

220. Traffic related (variable) prices were earlier applied in Telenor's wholesale offer. Such a price structure is to Nkom's knowledge still common in wholesale offers. Reference is made to EU's regulation regarding international roaming and the Commission proposal for new wholesale roaming regulation³¹. The proposed price regulation implies that network operators should offer access to their network for roaming purposes based on traffic related (variable) maximum prices. However, the proposal gives the parties the freedom to bilaterally negotiate agreements with other price structures.

221. In Nkom's opinion, fixed fee, both in the form of so-called coverage fee and other fixed elements at subscription level may have exclusionary effects, particularly for the ability to offer services in individual retail markets and in some segments. High fixed fees at subscription

³¹ <https://ec.europa.eu/digital-single-market/en/news/commission-prepares-ground-end-roaming-charges-june-2017>

level may, for example, be exclusionary in segments with low ARPU³², such as prepaid cards and the machine-to-machine segment. This effect of a price structure with fixed components at subscription level indicates that such a price structure as the only alternative doesn't give equal possibilities to compete, and is therefore not compatible with the obligation of non-discrimination.

222. The obligation of non-discrimination sets no absolute barrier that prevents Telenor from being able to charge more for higher data speeds than for lower speeds. However, the non-discrimination obligation implies that such a potential differentiation should be offered within the frames of traffic related (variable) prices. Potential surcharge for higher data speeds should therefore not be offered as fixed fee per subscription as the only alternative.

223. For a buyer of national roaming, Nkom believes that fixed fees per subscription have inappropriate effects regarding the incentives to extend own network coverage. The savings in relation to transferring traffic to their own network corresponds to the reduction of traffic related charges. If the traffic related charges are relatively low combined with high fixed fees per subscription, also the savings related to extending coverage becomes relatively low as long as the operator is dependent on buying national roaming access. Therefore, such a price structure gives little incentives to extend coverage.

224. Capacity based charging is a price structure that to a large extent will give buyers of access the same incentives and possibilities as the vertically integrated operator. Such a price structure will imply low marginal cost for traffic and strong incentives for the buyer of access to use the capacity that is bought. However, such a price structure would probably be best suited for large MVNOs with stable and predictable volumes, and which can commit to long multi-year contracts. Based on this, Nkom is of the view that such price structure will not be suitable or proportional to impose on Telenor.

225. The effect of a specific price structure for the provider's ability to offer competitive retail products may be different for different retail markets. As a result, buyers of access might request various price structures. In order for buyers of access to have opportunities equivalent to Telenor's own retail operations, it might therefore be necessary to offer more than one price structure for each form of access. The non-discrimination obligation doesn't prevent Telenor from offering other price structures than the variable structure in order to be able to meet various needs. Telenor is free to offer and enter into agreements with other alternative price structures in addition to an agreement with variable pricing.

226. Nkom recognises that offers for multiple price structures to one and the same provider may raise issues relating to achieving correct charging at wholesale level. However, Nkom finds that the alternative or alternative price structures may be offered in the form of price options for voice, SMS and data. Nkom is also aware that during the present regulation period, Telenor has offered different price options for the same type of traffic, more specifically, for data traffic. Even though Nkom is of the view that the offered solution for data traffic had aspects that are liable to reduce the attractiveness of the solution, Nkom sees the solution as an expression of it being possible to charge the same type of traffic according to different price options.

227. Nkom is of the view that an obligation to offer an access agreement based on traffic related (variable) prices is proportionate. Nkom has assessed the effects of other price structures and doesn't see that other alternatives would be less intrusive and sufficiently to remedy the competition problems related to price discrimination and price structure.

³² Average Revenue Per User

228. Against this background, Telenor should offer for all types of access, an access agreement based on traffic related (variable) prices.

7.2.2.2 The non-discrimination obligation on other elements between own and external operations

229. For access buyers to be able to effectively compete in the retail market, it is necessary that the products and services Telenor offers at wholesale level have the same or equivalent quality as Telenor bases its own retail services on.

230. The non-discrimination obligation means that services that Telenor uses to improve the quality of its own products and which are included in the access obligation shall be made available to buyers of access so that buyers of access can offer their retail customers a service of equivalent quality to that which Telenor offers its own operations, provided that this is technically possible to implement. In some instances, access buyers must make changes to own equipment etc. to be able to make use of the improved quality. The access buyer itself is responsible for making any upgrades or arrangements within its own sphere of control. However, Telenor must ensure that the access buyer receives sufficient information, including about technical matters, that is necessary for the access buyer to be able to make necessary adjustments.

231. The non-discrimination obligation means that the access buyer must be given access to the same bearer services that Telenor uses to realise its retail services within the framework of the access obligation, provided that this is technically feasible. With regard to the data transmission speed, the speed that is offered at any time to Telenor's own retail business must also be available to external buyers of access.

232. For access buyers to be able, at the same time as Telenor, to offer products of equivalent quality to what Telenor offers to its own retail business, it is necessary that access buyers receive information about underlying network services on equivalent terms to Telenor's own operations. The obligation of non-discriminatory access entails that external wholesale customers must receive necessary and sufficient information at a time that provides the same opportunities as Telenor's retail business to plan and offer new or improved quality products in the retail market. Upon request from Nkom, Telenor must be able to document that the requirement for equal information has been complied with.

233. Information asymmetry between Telenor and buyers of access is a factor that, in connection with fault correction, can create different opportunities to compete in the retail market. The obligation of non-discrimination entails that Telenor must, at the same time as for its own operations, provide buyers of access with the same information concerning fault correction that the company provides to its own operations.

234. Predictability concerning own contractual obligations is vital for the ability of the access buyer to plan its business strategy. During the present regulation period, Telenor has included clauses in its standard access agreements that entitle the company to unconditional and one-sided permission to make changes. Nkom believes that a right for Telenor to unilaterally amend the agreement that has been entered into without the right to amend the agreement being linked to a specific factor, creates unpredictability for an access buyer that does not similarly apply for Telenor's internal retail business. Nkom is therefore of the view that such a right for Telenor to make changes involves the favouring of Telenor's own retail business and is therefore liable to create different opportunities to compete for access buyers and Telenor's own operations. The non-discrimination obligation entails that requirements for unconditional and one-sided permission to make changes cannot be included in agreements relating to regulated access. Reference is made to Chapter 7.3.3.1 regarding the prohibiting of unconditional and one-sided permission to make changes in reference offers.

7.2.3 Discrimination between external operations

235. As the dominant operator, Telenor will have an incentive to exploit market power by giving some providers less favourable terms than others, for example, providers that are considered to represent more of a competitive threat. Discrimination can take place on price and other terms, for example, through information imbalance, different quality of services, different times for rectification and unreasonable contract terms. Discrimination may also occur by Telenor providing benefits to providers that can offer Telenor a service in return. This can, for example, be prioritising requests for access to a location site from a company, despite other companies having applied first. A prohibition against discrimination between existing buyers of regulated access will reduce the possibility of exhibiting this type of discriminatory behaviour.

236. Nkom is of the view that an obligation of non-discrimination between external buyers of access is the only available remedy that effectively addresses such competition problems. In Nkom's opinion, there is therefore a need to impose an obligation of non-discrimination in relation to this.

237. An obligation of non-discrimination between external buyers of access involves a most favourable conditions in the sense that when a competing provider achieves better terms, equivalent terms must be offered to other competing providers. Such an obligation does not entail that all access buyers need to have the same prices. However, the claim does entail that all buyers of regulated access must have the opportunity to enter into an access agreement on such terms stipulated in existing access agreements, including with the price options that are offered to buyers of the relevant access form. The obligation to implement the most favourable conditions is imposed on Telenor as a provider with significant market power and means that Telenor must ensure transparency that makes it possible for access buyers to make a selection among existing offers.

238. For there to be an actual opportunity for the access buyer to choose from among existing access agreements or price options, it is decisive that the access buyer can have its price terms changed relatively quickly. A potential requirement for a lock-in period shall not prevent an access buyer from being able to change its price terms or price structure due to the obligation of non-discrimination.

239. In previous market decisions, Nkom has maintained that a potential competition problem is that Telenor may discriminate between external buyers of access by offering providers at the lower levels of the investment ladder, (and thereby providers that can be considered to represent less of a long-term competitive threat), better terms than other access buyers. However, Nkom is of the view that other regulatory requirements, including specifying the content of the prohibition against discriminating between Telenor's own operations and external operations and the price controls, are suited to alleviating the risk of discrimination between access forms. In accordance with this, Nkom is of the view that it is sufficient that a prohibition against discrimination between external buyers of access applies between buyers of the same form of access.

240. In Nkom's view, prohibiting discrimination between external access buyers will, on its own, be a relatively minor burden for Telenor. In Nkom's opinion, the benefits to competition from such an obligation will clearly outweigh the disadvantages for Telenor from the company's freedom of action being curtailed. Nkom finds that other remedies will not be sufficiently effective to deal with this type of discriminatory behaviour. Based on this, Nkom finds that it would be proportionate to impose an obligation on Telenor to not discriminate between external buyers of the same access form without there being objective grounds for doing so.

241. Discriminatory terms may also fall under Section 11 of the Competition Act. Any obligation imposed pursuant to the Competition Act to remedy the situation will only be in effect forward from the date the Competition Authority has issued its decision. In Nkom's view,

the need for predictability and the need for prompt intervention indicates that the provision in the Competition Act will not provide an adequate degree of protection against discriminatory behaviour in the relevant market.

7.2.4 Conclusion

242. In order to counteract the possibility of exercising discriminatory behaviour, Nkom considers it necessary to impose an obligation on Telenor to refrain from discriminating between the company's own operations and external buyers of regulated access and between external providers that use the same form of access. Orders for specific obligations relating to non-discrimination are stated in Chapter 8.2.

7.3 Publication and reference offer

7.3.1 General – legal basis

243. Section 4-6, paragraph one of the Electronic Communications Act authorises imposing the preparation and publication of reference offers:

"The Authority may order a provider with significant market power to publish specified information or prepare and publish reference offers for electronic communications networks and services.

The obligation to publish specified information may inter alia include:

- 1. financial information*
- 2. technical specifications, including interfaces used at the network termination points, as well as which standards are used*
- 3. network characteristics*
- 4. prices*
- 5. other terms and conditions for supply and use."*

244. It states in Section 4-6 of the Electronic Communications Act that the Authority may require that offers pursuant to the first paragraph are sufficiently unbundled into individual elements with associated terms based on market needs so that the user is not bound to accept services, functions or outputs that have not been requested.

245. Pursuant to Section 4-6, paragraph four, the Authority may issue orders on where, how and on what terms the information shall be made publicly accessible, as well as order changes in the offer.

246. Pursuant to Section 4-6, paragraph one of the Electronic Communications Act, cf. paragraph four, Nkom may also specify requirements for the content of the reference offers in advance.

7.3.2 The need for reference offers

247. Transparency obligations play an important role in ensuring compliance with other imposed obligations such as the access obligation and non-discrimination obligation. For example, as regards access issues, it will help to simplify and speed up negotiations if the key terms for connection follow a reference offer that is publicly available. Requirements for transparency will also make it easier for other providers and Nkom to verify compliance with obligations of non-discrimination.

248. Nkom is of the view that reference offers that are available for all buyers that submit a reasonable request are necessary for making the access obligation and the obligation of non-discrimination more effective.

249. Nkom considers the burden for Telenor of being ordered to prepare and update reference offers to be relatively limited. In addition, Nkom is of the view that the benefits to competition from setting requirements for reference offers will outweigh the disadvantages such requirements may have for Telenor. Nkom is therefore of the view that it is proportionate to impose an obligation on Telenor to prepare and publicise reference offers for regulated forms of access.

7.3.3 Requirements regarding reference offers

250. The starting point for the specific obligations for Telenor is that Telenor has significant market power and can thereby, to a large degree, act independently of competitors, customers and consumers. For the regulation to function as intended, it is therefore vital that it remedies the asymmetrical relative strength in the relevant market by facilitating that the access agreements are of the type that would be expected to be found if the market was characterised by competition. This entails that the reference offers must, to a reasonable extent, balance the interests of Telenor and buyers of access and that the reference offers cannot contain unreasonable terms.

251. The content of Telenor's reference offers must reflect an offer of access to the forms of access that are covered by Telenor's access obligation based on non-discriminatory terms. A reasonable request regarding access must therefore be able to be accommodated with the terms stipulated in the reference offers.

252. The reference offers must reflect all services and products that the access buyer may claim at any time pursuant to the regulation. If Telenor shall launch new services or products in the retail markets or improve the quality of existing services or products, and the new or improved products come under the regulation, the products must be included in Telenor's reference offers in sufficient time for access buyers to be able to offer the same or equivalent services or products in the retail markets at the same time as Telenor.

253. Nkom is of the view that detailed requirements for the content of reference offers will generally be well suited to making negotiations for access more efficient. The reference offers shall be sufficiently divided into individual elements with appurtenant terms and conditions. In pursuance of Electronic Communications Act section 4-6 second paragraph, the division shall satisfy needs in the market so that the other party is not forced to accept services, functions or outputs that are not requested. The elements that the reference offers must, at a minimum, contain are stated in Chapter 8.3.

254. Pursuant to Section 4-6, paragraph one of the Electronic Communications Act, cf. Section 4-6, paragraph one, Nkom may further specify the content of the reference offers. Based on this, Nkom can specify the terms in the reference offer in such a way that the reference offer does not include terms that are unreasonable or have a content that is liable to counteract the purpose of the regulation.

255. Nkom also finds to impose a general obligation on Telenor that conditions in the reference offer shall be reasonable. Nkom refers to the statement in Chapter 7.1.7.1 above. The legal basis is Section 4-6, paragraph four of the Electronic Communications Act, ref. Section 4-1.

256. During the present regulation period, Nkom has had several cases relating to the terms in Telenor's reference offers. In the following, Nkom will provide an overview of certain terms that Nkom considers to be unreasonable and that therefore cannot be included in the reference offers for regulated access. The discussion is not exhaustive when concerning the types of terms that may be unreasonable.

7.3.3.1 One-sided permission to make changes

257. Nkom considers predictability for own framework conditions to be important for the ability of the access buyer to plan its business strategy. However, in contractual arrangements that extend over time, the parties to the agreement may have an interest in being able to make changes and adjustments to the contractual arrangement during the process. Both the access buyer and access seller will therefore benefit from the agreement containing change mechanisms. Nkom finds that changes to the contractual arrangement should occur through negotiations. In Nkom's view, change mechanisms in the access agreements must, as a clear starting point, be arranged such that changes can only be asserted when there is disagreement between the parties.

258. However, in certain situations, Telenor may have a legitimate interest in being able to unilaterally implement changes in the company's access agreements, for example, as the result of altered regulatory conditions. In Nkom's view, such conditional, one-sided permission to make changes is reasonable to include in Telenor's reference offers.

259. An unconditional right for Telenor to unilaterally implement changes to the company's reference offers will, in Nkom's opinion, be liable to create clear unpredictability for an access buyer in comparison with Telenor's internal retail business. In Nkom's view, such commercial uncertainty is to be deemed an expense the buyer of access will have to take into consideration when it will price its services in competition with Telenor. Since corresponding unpredictability does not apply for Telenor, Nkom finds that such a provision is liable to restrict the access buyer's opportunity to compete with Telenor on equal terms and thereby favours Telenor's own retail business. Nkom is therefore of the opinion that provisions that grant Telenor unconditional and one-sided permission to make changes are unreasonable and discriminating contract terms. Nkom refers to the discussion in Chapter 7.2.2.

260. Nkom concludes that Telenor cannot include terms in its reference offers for regulated access that give the company unconditional and one-sided permission to make changes.

7.3.3.2 Exclusivity

261. Nkom is of the view that a provision regarding exclusivity that impacts on the right to negotiate access with other providers, distorts competition and is liable to counteract the objective of the regulation. This type of clause can therefore not be included in Telenor's reference offers for regulated access.

262. In Nkom's view, an exclusive purchase obligation that goes beyond what is necessary for safeguarding Telenor's legitimate interests will be considered an unreasonable contract term. Telenor does not have the right to set such requirements in its reference offers for regulated access, cf. Section 4-6 of the Electronic Communications Act, cf. Section 4-1.

263. Nkom finds that the assessment of the terms that can be included in the reference offers will correspond with the assessments that were made in connection with individual access agreements, cf. Chapter 7.1

7.3.3.3 Guarantees, provision of security and forecasts

264. A dominant operator may apply requirements for guarantees, prepayment and similar in order to make it needlessly burdensome for competitors to enter into agreements. Any requirements from Telenor regarding the provision of security in connection with an agreement for regulated access must be proportionate to the commercial risk that the company is subjected to by providing the specific access. This does not preclude Telenor from being able to set requirements for guarantees that the party to the agreement shall cover, for example, ongoing traffic costs, but means that such claims have to be proportionate. In Nkom's view,

terms for the company requesting co-location to both pay in advance for leasing and provide bank guarantees will normally be a disproportionate requirement.

265. Nkom is of the view that it could be appropriate to require forecasts of expected traffic from buyers of access. However, such forecasts may involve the buyer of access having to divulge important information that is competition-sensitive to the seller of the access. Telenor can therefore not require forecasts beyond what is necessary for dimensioning considerations. Telenor must also ensure that the information that the company receives through the forecasts is only made available to employees who require the information to carry out the objectives the information has been obtained for.

266. Any clauses concerning consequences in the event of actual deviations from forecasts must take into consideration that both the buyer and seller of access bear the risk of unexpectedly high or low traffic, such that the buyer of access does not bear this risk alone. Therefore, the clause must balance the interests of the parties.

7.3.4 Publication of reference offers

267. Publication of reference offers is important for making the access obligation more efficient. Publishing the reference offer on Telenor's website is regarded to be a satisfactory form of publication, cf. Section 4-6 paragraph four of the Electronic Communications Act. The reference offers must be easily accessible on Telenor's website at any given time.

268. In the decision of 5 August 2010, Nkom was of the view that the requirement for publication should not include price information for MVNO access and national roaming. The principal reason for this was that readily available price information could simplify tacit collusion in this market because the risk of such collaboration particularly applies in markets with a small number of operators. It is still only Telenor and Telia that have buyers of national roaming and MVNO on their networks and the market is therefore still concentrated around a small number of providers.

269. To reduce the possibilities of tacit collusion, Nkom is of the view that it is appropriate to safeguard the need for transparency for access buyers by means other than setting requirements to publicise price information. However, operators that request regulated access must, when requested and without undue delay, receive access to all relevant price terms.

270. Existing buyers of access with Telenor must also have knowledge of existing price terms in order to have the opportunity to choose other price structures/price options in line with the non-discrimination obligation.

271. With regard to co-location, Nkom is of the view that the considerations that apply for national roaming and MVNO access when concerning the risk of tacit collusion do not assert themselves in the same way. Co-location is requested at specific locations and there is often only one potential provider at the relevant location. At the same time, at some locations there are multiple operators other than Telenor and Telia that can offer co-location. Telenor currently publishes its prices for co-location at www.telenorwholesale.no even though this is not a specific obligation. Nkom cannot see that this has had any significant negative effect. Based on this, Nkom is of the opinion that the requirement to publicise reference offers for co-location must also include prices.

272. Requirements for publication will only include Telenor's administrative costs to a limited extent. Regardless of this, Nkom is of the view that the benefits to competition exceed the disadvantages this entails for Telenor and that an obligation to publish reference offers is proportionate.

7.3.5 Submission of agreements and amendments to these

273. It is important that Nkom is updated at all times about applicable contract terms and amendments to these, among other things, for Nkom to be able to quickly intervene when required. Nkom is therefore of the view that there is a need to impose an obligation on Telenor to submit copies of all reference offers and agreements entered into for national roaming, MVNO access and service provider access. The agreements must be sent to Nkom without undue delay and no later than two weeks after the signature date.

274. For Nkom to be able to effectively monitor the requirement for non-discriminatory prices and price controls pursuant to Section 4-9 of the Electronic Communications Act, it is necessary that the Authority has an overview of the applicable prices. Where agreements are amended, the new prices may enter into force before the agreements are formally signed by the parties. In such cases, Telenor shall inform Nkom of the relevant amendments by no later than the date the said prices become effective. Agreements entered into shall then be sent to Nkom as described above, i.e. within two weeks of signing.

275. For national roaming, Nkom will follow up the requirement for non-discriminatory prices and prohibition on margin squeeze when Telenor has first received a request for such access and has submitted an offer to a potential buyer of access. Price terms that Telenor offers for national roaming must therefore be submitted without undue delay and no later than two weeks after the offer has been given.

276. In the event of amendments to an agreement, it must be clearly stated in an accompanying document which parts of the agreement have been amended and what the amendments consist of. Such an obligation will make following up the agreements more efficient, while it cannot be regarded as being particularly burdensome for Telenor.

277. The agreements, information about amendments to the agreements and changes to applicable prices must be sent by email to avtaler@nkom.no.

7.3.6 Extended notice period

278. Not notifying changes in prices or other terms in a sufficiently timely manner may also be a potential competition problem. A transparency obligation that is suited to remedying this problem directly is to require that notification of changes must occur with enough time for the changes to be reflected in the retail agreement of undertakings affected by the change. Pursuant to Section 4-6, paragraph one of the Electronic Communications Act, cf. paragraph four, Nkom is empowered to stipulate an extended time limit for the notice, if this is necessary.

279. Pursuant to Section 2-4, paragraph three of the Ecom Regulations, the notice period for changes in retail agreements is one month:

"Providers of public electronic communications services must notify end users of changes to or termination of the agreement. Changes to or termination of the agreement may only enter into force a minimum of one month after the notification is sent to the end user."

280. In order for providers who purchase wholesale services from Telenor to have enough time for their own terms to reflect changes in Telenor's products, Nkom consider it necessary to extend the general duty to give notice pursuant to Section 2-4, paragraph three of the Electronic Communications Act. In light of this background and pursuant to Section 4-6, paragraph one of the Electronic Communications Act, cf. paragraph four, Nkom will impose an obligation on Telenor to notify buyers of regulated access of any changes in existing services that disfavour the other party to the agreement and/or its end users no later than two months before the change is implemented. Without such an expanded duty to give notice, buyers of regulated access would not have sufficient time to take account of the changes in their own

retail agreements and at the same time discharge the general duty to give notice to their own end users. Nkom finds that an expanded duty to give notice is not disproportionately burdensome for Telenor.

281. An obligation is therefore imposed on Telenor to notify other providers of any changes in existing offers, including prices, delivery times, functionality, quality etc. that disfavour other providers and/or their end users no later than two months prior to implementation of the change. In this instance, changes that disfavour mean changes that will normally be considered burdensome for wholesale customers and/or their end users, for example, but not limited to, price increases.

282. The duty to give notice cannot be understood as giving Telenor a unilateral and unconditional right to amend agreements that have been entered into. As described in Chapter 7.2.2.1, Telenor cannot reserve the right to make one-sided and unconditional changes. However, amendments to agreement can be implemented as the result of, for example, public law requirements. In such cases, the extended notice period can be required.

283. On the other hand, with regard to price reductions and other changes beneficial to other undertakings, a two-month notice period is not necessary. In line with previous practice, such changes may take place immediately.

7.3.7 The relationship to general competition law

284. Nkom has considered whether the provisions of the Competition Act will themselves be sufficient to address the concerns referred to above that favour transparency. Nkom believes that this is not the case. First of all, an obligation to remedy the situation under competition law will not come into effect until the Norwegian Competition Authority has issued a decision. Nkom is of the opinion that the needs for predictability warrants detailed rules and for rapid intervention, and that ordinary competition law will be inadequate for safeguarding the concerns behind imposing transparency obligations on Telenor.

7.3.8 Conclusion

285. To make the access obligations and non-discrimination obligation more efficient, Nkom believes there is a need to impose obligations on Telenor for reference offers and publication of national roaming, MVNO access, service provider access and co-location in accordance with the above. Obligations related to reference offers and publication are presented in Chapter 8.3.

7.4 Accounting separation

7.4.1 General – legal basis

286. Section 4-8 of the Electronic Communications Act authorises imposing accounting separation. The first paragraph reads:

“The Authority may order a provider with significant market power to put in place accounting separation between different business areas or between specified activities connected to interconnection and access.”

287. In addition, Section 4-8, paragraph five of the Electronic Communications Act further indicates that the Authority may impose obligations on the accounting methods and principles to be applied, while the sixth paragraph stipulates that providers must make accounting information available upon request.

288. As Nkom sees it, the main purpose of accounting separation is to follow up an obligation of non-discrimination between intra-company activities and external providers. Section 3.4 of Nkom's remedies document provides a more detailed description of accounting separation.

7.4.2 Assessment of requirement for accounting separation

289. In Chapter 5, Nkom has identified price discrimination as an actual and serious competition problem in the relevant market. Based on this, requirements for non-discriminatory prices between internal and external operations will be imposed to remedy this competition problem, cf. Chapter 8.2. An accounting separation will make such an obligation more effective.

290. An accounting separation, such as that which Nkom has imposed on Telenor pursuant to the applicable regulation in market 15, includes all revenues that Telenor invoices end users and revenues from interconnection to the same end users. Costs to the network operator, external costs of goods and internal costs relating to sales and invoicing etc. (avoidable costs), are calculated based on Telenor's volumes and deducted from the revenue. The normal rate of return on capital in the retail business is also calculated and deducted to calculate the result. The accounting statement is intended to show whether external buyers of access with the same volumes as Telenor can run their business at a profit provided they are as efficient in their operation as Telenor.

291. Volume discounts are often divided into steps so the discount increases with increased volume. Operators with high volume thus have an advantage over smaller buyers of access. Discounts shall be included in the accounting statements by the achieved discount for buyer of access with the lowest volume during the period used as a basis, unless Telenor ASA can document objective reasons for using higher discounts.

292. Costs to network operators are calculated based on Telenor's reference offers. Nkom has imposed an obligation on Telenor to offer one access agreement with a variable price for each form of access. The calculation of costs to the network operator must therefore be based on this agreement.

293. The accounting separation shows a comprehensive picture of revenues and costs relating to Telenor's mobile operations. The reporting includes revenues and costs that a mobile operator may have, including also revenues and costs that do not have a direct connection with Telenor's regulated access products, for example, international roaming and sale of handsets to end users. Insofar as this is possible, revenues and costs must be specified. Each revenue item in the accounting statement should have a corresponding cost item. There are costs associated with selling a product in the retail markets and this cost side must be included in the calculation such that the revenue and cost sides correspond when relevant. Detailed and corresponding information about revenues and costs provide the opportunity to isolate the effects of including (or possible excluding) certain products or services in the accounting statement and increasing the possibilities of analysing the reported figures.

294. Accounting separation is similar to a margin squeeze test, but a margin squeeze test like that Nkom has planned in Chapter 7.5 will, among other things, be carried out at a lower aggregate level than accounting separation. The accounting separation includes all products. A margin squeeze test is based on representative products and real allocation of subscriptions and forms in this respect the current competition. Nkom believes that these two remedies complement one another and that the authorities will thereby have a good starting point to formulate a nuanced picture of the competitive situation in the market. To be able to assess the overall competitive landscape on various access terms, Nkom is of the view that there is a need to impose accounting separation which shows a comprehensive picture of Telenor's mobile operation.

295. Furthermore, in connection with the previous decisions, a thorough process has been carried out in connection with determining detailed principles for the preparation of accounting separation, first for MVNO access and then also for national roaming. Well-functioning routines have been established for reporting accounting separation and Nkom now has extensive experience with processing this type of accounting reporting. This indicates that, already from the first reporting, the system can be expected to function well as a regulatory safety net in the forthcoming regulation period.

296. Reporting of accounting separation must first and foremost be used to follow-up prices for MVNO access in the forthcoming regulation period. For national roaming, Nkom is of the view that there is no need for reporting accounting separation until Telenor potentially receives such an access request. Nkom will then activate the obligation to report accounting separation according to the principles that appear in this decision.

297. Nkom has also concluded that reporting accounting separation is not very appropriate for following up terms of access for service providers. Telenor's volumes are used in the reporting of the accounting separation. Telenor offers a broad range of products and is represented in all parts of the market, unlike the service providers who offer products that are largely targeted at selected segments in the residential market. As a general rule, service providers also have an even narrower product range than operators with MVNO access, for example, service providers do not normally have services in the business segment. The service providers also have significantly lower volumes than Telenor. The difference in volume and product mix between Telenor and the service providers indicates that accounting separation will not be an appropriate method of monitoring compliance with the obligation of non-discriminatory prices between internal and external operations for this form of access. In addition, Nkom is of the view that the regulation of service provider access should be less extensive than for other forms of access such that the regulation cannot reduce the incentives for investment, cf. Chapter 7.1.4. The requirement to report the accounting separation will therefore not include service provider access. Nkom is of the view that the other regulatory requirements that are notified for service provider access are sufficient for remedying the competition problems for this form of access.

298. Under the current regulation, Telenor has been instructed to provide half-yearly and yearly reporting of accounting separation. In Nkom's view, reporting of accounting separation at this frequency is still necessary for ensuring that the Authority can intervene with sufficient speed in the event of a breach of the obligation of non-discrimination. Since Telenor already has a system for reporting accounting separation for both national roaming and MVNO access, the burden of imposing half-yearly and yearly reporting is considered relatively limited.

299. In the decision of 29 October 2010, Nkom ordered Telenor to differentiate data traffic from voice and SMS in the accounting statement to reveal any potential cross-subsidisation. Nkom placed particular emphasis on buyers of access being able to achieve competitive prices for data traffic. However, the results from the accounting statement for data traffic did not indicate the need for special follow-up of the prices for data traffic. In addition, the growth in flat-rate products has contributed to the division of income and costs between voice/SMS and data traffic having become less accurate than before. Based on this, Nkom has, among other things, in a letter to Telenor of 16 January 2013, given notice that the results for voice, SMS and data traffic must be viewed in relation to the assessment of the results in the accounting separation. On this basis, Nkom no longer impose Telenor separate accounting statements for voice/SMS and data traffic.

300. On the whole, Nkom believes that the benefits to competition of imposing accounting separation far outweigh the drawbacks for Telenor.

301. The obligation of non-discrimination entails that the reporting shows a positive result as a minimum. The separated accounts are based on aggregated accounting information for Telenor's operations as a whole and are therefore not suitable to discover discrimination on a

lower level of aggregation, i.e. in various market segments. This implies that potential discrimination on lower level must be assessed in another way than by separated accounts.

302. A positive result shows the margin for Telenor's retail business as if this was organised as an independent entity and had faced the same access charges as buyers of national roaming or MVNO access from Telenor. Therefore, reporting of accounting separation by Telenor is not, in itself, suited for investigating the margins for other operators in the Norwegian mobile market.

303. A negative or very weak result in the accounting separation may provide an indication that price discrimination between internal and external operations could have occurred. In such an instance, Nkom will follow up the matter and order correction if required.

7.4.3 Conclusion

304. To be able to follow-up the obligation of non-discriminatory prices between internal and external operations, Nkom impose on Telenor to prepare an accounting separation for national roaming and MVNO access. For national roaming, the reporting obligation first occurs when Telenor receives a request for such access. The obligation to report accounting separation and principles for reporting appear in Chapter 8.4.

7.5 Price and accounting controls

305. Pursuant to Section 4-9 of the Electronic Communications Act, an undertaking with significant market power may have price obligations imposed on them for, among other things, access. Such obligations may be imposed where a provider is able to exploit his market power to the detriment of end users in the market by maintaining a disproportionately high price level or subjecting competing providers to a price squeeze.

7.5.1 The need for price controls for access to national roaming, MVNO access and service provider access

306. It states in Chapter 5.2 that price discrimination and excessive prices are real and serious competitive problems that are primarily associated with leveraging of market power. Vertically integrated undertakings with significant market power may leverage power from the wholesale market to the retail market by increasing the costs for competitors in the retail market. By setting higher access charges for external providers than those (implicitly) offered to internal operations, the external providers will be at a disadvantage for competing on price in the retail market, and may experience price squeezes due to the high access charge.

307. In Nkom's decision of 5 August 2010, Nkom concluded that neither MVNO access nor access to national roaming should be subject to price controls. Nkom concluded instead that the obligation of non-discrimination and accounting separation with half-yearly reporting, as well as other financial analyses, would constitute a regulatory safety net that was sufficient for safeguarding the objective of the market regulation.

308. In an appeal decision of 6 April 2011, the Ministry of Transport and Communications' (the ministry) stated that "... a one-sided emphasis on the reporting of accounting separation based on an equally efficient provider may draw a rather oversimplified picture of the competition in the market and may therefore be unfortunate." The ministry further stated that the Ministry "...finds it appropriate that an aggregated test be followed up by an analysis of individual products and traffic flows and the degree to which it is possible for providers other than Telenor to operate profitably ('reasonable efficient operator')". The Ministry then requested that Nkom "...ensure that the Authority ensure that these analyses serve as the basis for an assessment to ascertain that all types of providers in the Norwegian market have

fair opportunity to operate profitably and that Telenor's pricing of the different types of access is not serving to perpetuate the competition problems in the market."

309. Based on complaints of discriminatory behaviour, Nkom developed a margin squeeze test to investigate compliance with access obligations. Nkom handed down a decision on 13 December 2013 regarding the use of margin squeeze tests. The ESA was not notified of this decision. Following an appeal by Telenor, the ministry concluded³³ that Nkom's decision had to be annulled due to failure to provide notice.

310. The applicable regulation at that time did not enable there to be a detailed test within individual segments or products and the test was therefore directed at a reasonably efficient operator with a limited market share that produced services in all segments of the total market ("all segment test"). The test showed a positive margin in the total market, but that several of the products in the tests still could not be replicated with positive margins for buyers of access. In the above-mentioned decision by the ministry, emphasis was placed on the accounting separation being the only available tool for dealing with the relevant complaints under the current regulation.

311. Nkom is of the view that the competition problems and observed behaviour, as well as experience with the limitations of the current remedies indicate that the use of remedies in the market should be changed. Nkom has found that requirements for non-discriminatory prices and accounting separation should be strengthened with orders regarding price controls; cf. See Section 4-9 of the Electronic Communications Act.

312. In this market, price controls will be a suitable remedy for improving the competition situation. Among other things, the preparatory works to the Electronic Communications Act state that there is a reversed burden of proof³⁴ for a provider that is subject to price controls pursuant to Section 4-9. It also states that price controls authorise repayment when an illegal high price has been proven.

313. Nkom has considered the form of price control that is best suited to remedying the competitive problems in the relevant market. Nkom is of the view that it is appropriate to impose on Telenor a duty to offer access charges that do not subject buyers of access to a margin squeeze. A requirement to not subject buyers of access to a margin squeeze entails that Telenor must offer access to external providers at a price that enables buyers of access to replicate Telenor's products in the retail market and achieve positive margins³⁵. Nkom is of the view that this requirement is best suited for ensuring compliance and that it enables effective follow-up of the access obligations.

314. On the one hand, price controls in the form of a prohibition on margin squeeze prevents the competition problem of excessive pricing, while at the same time provides scope of other operators being able to compete in providing access. Nkom is of the view that the regulated access charges must not be so low that other wholesale providers (including, in the long-term, the third network) that are not subject to regulation lose their competitiveness. The principal source of income for Telenor's mobile activities is the retail markets. When the access charge is regulated by a prohibition of margin squeeze, Telenor's prices in the retail markets will be of decisive importance to the price that is offered to buyers of access. Nkom is of the opinion that

³³ Ministry of Transport and Communications 29 May 2015 decision

³⁴ In this instance, reversed burden of proof means that the party that is subject to price controls has the best possibility of securing evidence of its compliance, or possibly to document innocence in relation to claims of breach of the regulation and is therefore assigned the burden of proof.

³⁵ Margin could be measured as gross margin or according to a full margin squeeze test. The differentiated approaches are describes below.

the selected means of price control safeguards the objective of facilitating infrastructure competition while also encouraging utilisation of existing infrastructure.

315. Nkom has found that the principle of adjusted EEO³⁶ is suited for supporting the method that will remedy the identified competition problems. The practical implications of this appear in the enclosed principles for margin squeeze tests. Telenor is in a unique situation when concerning scale and scope advantages and it would not be in line with the objective of the regulation to apply an efficiency requirement that presupposes that all operators in the market have the same advantages as Telenor. The obligations imposed on Telenor have the objective of creating sustainable competition and the relationship to dynamic efficiency will therefore be of vital importance. This entails that, in the short term, it can be accepted that there are deviations from requirements regarding static efficiency since a potential loss of efficiency will be absorbed by efficiency gains over a longer-term perspective.

316. The margin squeeze test is a new regulatory tool and must be considered to represent an increased burden for Telenor. However, Nkom is responsible for the development of the margin squeeze model that will be used and Telenor is therefore instructed to refrain from developing its own margin squeeze model, something that will reduce the burden.

317. In Nkom's view, the disadvantages for Telenor from a prohibition against margin squeeze will not outweigh the benefits that are sought to be achieved. Nkom therefore considers such an obligation to be proportionate.

318. Based on this, Nkom has found that Telenor's access charges must be such that buyers of national roaming, MVNO- and service provider access are not subject to margin squeeze. This means that the majority of Telenor's retail subscriptions for mobile bundled services as well as mobile broadband must be replicable with positive margin.

319. In the national notification Nkom suggested to let the price control include an obligation to have positive gross margin upon all active products, including M2M products. ESA found this part of the suggested remedies to be non-proportional and asked Nkom to refrain from this obligation, ref. Chapter 1. Nkom has taken account of ESA's comments, this resulting in M2M products not being part of the price regulation. However, the obligation to offer access agreements with traffic dependent (variable) prices is expected to mend the competition problems related to M2M products, at least to a certain degree.

320. The retail market for M2M communication in mobile networks will be closely monitored, and if necessary Nkom will notify additional measures.

7.5.2 Differentiated price controls for different forms of access

321. There are three different forms of access, and the market players on the different forms will typically have different scope when targeting end users, thus experience different needs regarding access agreements. As mentioned in Chapter 7.1.2, the obligation to offer national roaming is intended to incentivise national coverage. An efficient operator buying national roaming is expected to build own network infrastructure, thus targeting the whole of the total retail market. An efficient operator buying MVNO-access is expected to be on a lower level of the ladder of investment, but still investing in some own infrastructure and targeting a smaller segment of the retail market than a national roamer. Nkom expects that an efficient MVNO-operator will target either the residential or the business markets. An efficient service provider, however, is expected to be a reseller with no need for own infrastructure, thus very low investments. With limited possibility to exploit own infrastructure a service provider will typically

³⁶ EEO is an abbreviation for "Equally Efficient Operator".

target a narrow segment in the retail markets. These reflections regarding efficiency is vital input when designing the exact margin squeeze tests.

322. Margins can be tested as a gross margin or by using a full margin squeeze test. Gross margin is understood as being relevant revenues from the retail business, including termination revenue from interconnection to end users, deducted for access costs and termination costs³⁷ for outgoing traffic. A full margin squeeze test also takes into consideration costs in the retail business and is therefore regarded a heavier burden than testing only gross margin. Nkom is of the view that is appropriate to differentiate the regulation in terms of the use of the different tests for various forms of access. Nkom intends to conduct the tests each six months.

323. In principle, agreements for national roaming must pass a full margin squeeze. Based on the discussion about efficiency above, Nkom will test the national roaming agreement for residential and business jointly. However, at the present time, Nkom will not develop a full margin squeeze test for an operator that produces a share of traffic on its own network. ICE, which is presently the only potential purchaser of national roaming, is in a relatively long-term contract with Telia. Therefore, Nkom is of the view that a full margin squeeze test is not required for national roaming for a short to medium-term perspective. Principles for calculating price for national roaming, given limited access purchase, appear in Annex 2.

324. Agreements for MVNO access must pass a full margin squeeze test. Based on the discussion about efficiency above, Nkom will test the MVNO-access agreement for residential markets jointly, and business markets jointly.

325. Following the discussion about efficiency above, agreements regarding service provider access must pass a gross margin test for all products incorporated in the test. Nkom believes that such a test, together with other requirements for contract terms that follow from this decision will be necessary and sufficient to address the opportunity for this group of access buyers to compete in the relevant market. At the same time Nkom is of the view that such differentiation will be suited to address incentives to invest in networks and is well adapted given that other access buyers might offer wholesale access based on their access agreement with Telenor. Thus Nkom is of the view that such an obligation is proportionate.

7.5.2.1 Further details about access charges for national roaming

326. An operator that purchases national roaming has normally developed some of its own infrastructure, including radio coverage in some areas. Normally the buyer will, over time, increasingly expand its own coverage and thereby reduce the scope of the access purchase. An efficient buyer of access will also expand in the most populated areas first. In line with own development, the relevant share of roaming thereby increases in more sparsely populated areas. Since the unit costs for traffic are, among other things, dependent on volume, it could be argued that the access charge for roaming can be higher in sparsely populated areas.

327. For an operator with MVNO access that purchases all traffic from the network owner or an operator with an agreement for national roaming, but with a low level of traffic on its own network, the access charge will be based on an average price for the entire country. As described above, this will not necessarily be relevant for an operator that has built a comparatively large share of own coverage and has an almost equivalently large share of traffic on its own network.

328. Based on this, Nkom is of the view that it is reasonable to assume that the access charge for an operator with an agreement for national roaming that has a well-developed own

³⁷ Termination revenue and - costs will normally not accrue for a service provider.

network and relatively large share of traffic on its own network can be higher than the average price as described above.

7.5.3 Further details regarding full margin squeeze test for MVNO and national roaming

329. Nkom has developed principles for the margin squeeze test in Market 15³⁸ and a model³⁹ for implementing the margin squeeze test that, in Nkom's view, is well suited for following up the prohibition on margin squeezes. The model itself is however a tool that in a dynamic process must be adapted to the parameters involved, for example if the access agreements that are to be tested are amended or changed.

330. A margin squeeze situation emerges when the difference between Telenor's retail price and access charge is so low that it does not cover the access buyer's costs for the retail business.

331. The operators in the Norwegian mobile market have different customer segments and focus on different parts of the market. The market scope will to a large extent depend on own investment and type of access form. It is therefore appropriate, and adapted to the Ministry's recommendations⁴⁰ to carry out tests that are able to make sure that all types of operators are able to run a sustainable business and prevent that Telenor's pricing contributes to maintain the competition problems. However, the margin squeeze test assume reference-operators in line with the discussion about efficiency in Chapter 7.5.2, thus balancing the considerations regarding entry assistance for efficient entrants.

332. The margin squeeze tests shall be conducted based on Telenor's products⁴¹ in a way that ensures a suited scope and that products included are representative for the market. On this backdrop Nkom has assessed whether Telenor's total product range or a representative sample should be the scope of the test. Based on the knowledge to Telenor's portfolio Nkom has decided to include products that cumulatively constitute 70 per cent of the number of subscriptions in each of the retail markets and the products that constitute at least 10 per cent of the number of subscriptions in the relevant segment. The shares are calculated based on distribution of subscription, close up to the date of the test. Assuming this relevant sample of products will give a balanced picture of the competition on the markets. Limiting the scope reduces the burden upon Telenor with regard to data collection, as well as balancing the necessary regulatory resources spent, and facilitates the timely implementation and follow up of the margin squeeze tests.

333. The different access buyers are expected to have a significantly lower market share than Telenor and the margin squeeze tests must take this into consideration. With a view to how the access agreements are formulated at the present time, Nkom is of the opinion that using the test that has been developed for MVNO access, with an assumption of a higher market share will give a relevant test for the buyer of national roaming that produces a low amount of traffic on its own network. The residential and the business markets will be tested jointly in order to respond to an expected market strategy for a buyer of national roaming. This test represents a relevant starting point for a newcomer in the market that gradually wants to develop own infrastructure.

334. As already mentioned, the degree of own coverage and traffic on own network for a buyer of national roaming can be an objective factor that can justify different conditions for

³⁸ Annex 2: "Principles for margin squeeze tests"

³⁹ Annex 5: Margin squeeze model in Excel format.

⁴⁰ The Ministry's decision 29th May 2015.

⁴¹ Including all of Telenor's brands. At the time of decision this includes: Telenor, Djuice, Talkmore and Dipper.

access, including different price terms. Principles for calculating prices for national roaming, given limited access purchases, are stated in Annex 2, Chapter 3.5.

335. Nkom imposes an obligation on Telenor to offer MVNO access and access to national roaming on price terms that prevent the buyer of access being subject to a margin squeeze according to tests as described above. For both forms of access the access agreement complying with traffic dependent (variable) prices is used in the tests. The obligation will be supervised using tests following the principles described above⁴² as follows⁴³:

- Test of an operator that purchases standard MVNO access with Telenor. The operator has a 5 percent share of the private markets for bundled mobile services and for mobile broadband and replicates Telenor's representative products in these markets.
- Test of an operator that purchases standard MVNO access with Telenor. The operator has a 5 percent share of the business markets for bundled mobile services and for the mobile broadband and replicates Telenor's representative products in these markets.
- Test of an operator that purchases standard national roaming access with Telenor⁴⁴. The operator has a 20 percent share of the private- and the business markets for bundled mobile services and for mobile broadband and replicates Telenor's representative products in these markets.

7.5.4 Further details about the gross margin test for service providers

336. The price regulation mechanisms are differentiated based on the different forms of access, and is less burdensome upon service provider access. ESA asked Nkom to clarify the precise level of product aggregation and expressed doubts to whether the demand for positive gross margin for service provider access would be proportional. Nkom has assessed ESA's comments and doubts, but maintain the view that for service provider access, it is proportional to order Telenor a requirement for positive gross margins by replicating the defined representative products⁴⁵ within the different retail markets. A positive gross margin represents a minimum level, but is not sufficient in itself for a service provider to stay in the market in a longer perspective. In that respect the price control puts a heavy demand for efficiency upon service providers, which however can operate their business with limited investments. Thus the price control is regarded as a proportional safety net for this form of access.'

337. Since efficient service providers normally targets more limited segments of the retail market than operators that base their business on MVNO access or access to national roaming, Nkom believes it is expedient to impose requirements on positive gross margin for each of the representative products. This gives authorities a good starting point to examine whether price controls are followed. It is in this context relevant to consider that service provider access is not subject to an obligation of accounting separation, and are thus not subject to tools for implementation of the prohibition of price discrimination.

338. Telenor is ordered to comply with the following gross margin tests, conducted at the same time as the full margin squeeze tests for MVNO access, using the access agreement

⁴² Ref. also Annex 2, Principles for margin squeeze tests.

⁴³ The obligation to not put the buyer of access in a margin squeeze has been fulfilled if Telenor's reference offer with variable prices passes the test.

⁴⁴ A test of national roaming will be performed as an MVNO test with an assumption of 20 per cent market share combined for the residential and business markets.

⁴⁵ Ref. reasoning of representative products under chapter on full margin squeeze test, Chapter 7.5.3.

with variable prices as input. The tests are to be conducted according to the principle for margin squeeze tests, ref. annex 2⁴⁶, using Nkom's margin squeeze model:

- Test of an operator that purchases standard service provider access with Telenor. The operator has a 5 percent share of the private markets for bundled mobile services and for mobile broadband and replicates each of Telenor's representative products in these markets.
- Test of an operator that purchases standard service provider access with Telenor. The operator has a 5 percent share of the business markets for bundled mobile services and for mobile broadband and replicates each of Telenor's representative products in these markets.

339. Balancing the burden upon Telenor with the remedies necessary to mend the competition problems Nkom has assessed if an obligation of aggregated positive gross margin per retail market would suffice. As mentioned above, service providers target smaller parts of the retail market and almost entirely base their operations without own infrastructure investments. This type of operator is dependent of replicating standalone products with at least a positive gross margin. For all operators cost of the retail operations will accrue in addition to access costs. An efficient access buyer could not sustain in the market if access costs exceed revenue from retail market. Nkom has therefore concluded that the proportionate price regulation for service provider is to demand positive gross margin for each product in the test.

7.5.5 Following-up margin squeeze tests and gross margin tests

340. As a main rule, Nkom will conduct the full margin squeeze tests and gross margin tests with six months intervals and, prior to this, will obtain relevant information from Telenor and if needed other providers, cf. Section 10-3 of the Electronic Communications Act relating to the duty of notification. The tests will be carried out as soon as possible after the requested information has been received and normally within 30 days. Nkom will process the results of the tests without undue delay based on general principles pertaining to processing. Nkom finds that the assessment of the results that appear from the tests will normally be able to complete within the time frames stipulated in Section 11-2 of the Electronic Communications Act.

341. In the event of a potential negative margin from the tests Nkom will order the correction of Telenor's access charges⁴⁷, cf. Section 10-6 of the Electronic Communications Act.

7.5.6 Price for establishment of new access agreements

342. An unreasonably high price for establishment of new access agreements may prevent new operators from entering into access agreement and thereby establishing competing services in the retail market. An unreasonable high price for establishment could in that respect have a similar effect as denial of access. As the dominant operator, Telenor may have incentives to exploit such an opportunity to prevent competition in the retail market. This decision implies a stricter price control on Telenor's access agreements. However, there is still an opportunity for rebalancing between different price elements in the access agreements. To prevent any rebalancing resulting in anti-competitive behaviour, Nkom is of the view that there is a need to set requirements for the level of a potential set-up fee.

⁴⁶ Compliance with positive gross margin is achieved if Telenor's access agreement with variable prices pass the tests.

⁴⁷ See the ministry appeal decision in Market 15 of 20 December 2012.

343. Nkom recognises that there are certain costs associated with making arrangements for operators that request access to Telenor's network, for instance providing technical adaptations and testing. However, the price Telenor can charge for establishment of new access agreements must be reasonable.

344. What constitutes a reasonable price will have to, when required, be decided in a specific case. In such an assessment, Nkom will place emphasis on:

- Relevant underlying costs. When requested, Telenor must be able to document relevant underlying costs for establishment of the relevant operator. If Telenor also requires a fixed monthly price for covering ongoing operating costs associated with the access agreement, Telenor may have to document the costs that are covered through this ongoing price such that the same cost is not covered by multiple price elements.
- That the price shall not be an unjustified obstacle to efficient operators entering the market.

7.5.7 Price controls for co-location

345. Nkom considers co-location to be an extremely important form of access for achieving sustainable competition. Co-location involves entry barriers for newcomers being reduced by the costs of developing infrastructure being able to share. The fact that multiple operators can place equipment in the same cabins, masts etc. means cost savings for individual operators.

346. In Chapter 7.1.5, Nkom concluded that there is a need to impose an obligation on Telenor to accommodate reasonable requests for co-location. However, Telenor has the incentive and ability to limit the access and thereby the competition by demanding disproportionately high prices for co-location. For the access obligation to be suitably effective, Nkom is of the view that it is necessary to impose price controls, cf. Section 4-9 of the Electronic Communications Act.

347. As described in Chapter 6.1, Nkom finds that the main principle for the choice of remedy in the market for access and origination is principle 3, i.e. that duplication of infrastructure is possible. The use of remedy must therefore support the establishment of new infrastructure. However, when concerning infrastructure for co-location (masts, cabins etc.), there is no objective for competition that this equipment must be duplicated. On the contrary, co-location will contribute to reduced costs for newcomers and thereby directly facilitate the conditions for increased development. Nkom is therefore of the view that an obligation for cost-oriented prices will be appropriate for this form of access.

348. Cost orientation is considered to be a burdensome form of price control. However, Nkom is of the view that the benefits to competition of such an obligation outweigh the disadvantages for Telenor such that the obligation is considered to be proportionate.

349. The obligation of cost-orientation for co-location involves Telenor having to be able to demonstrate that the revenues from co-location do not exceed the costs, including reasonable return on the capital. Pursuant to Section 4-9, paragraph three of the Electronic Communications Act, certain systems for running cost accounts may be imposed along with price control obligations. Through the current regulation, Telenor has been ordered to, upon request, document that the prices are cost-oriented. Based on this, in connection with Mobile Norway's complaint regarding co-location, Telenor submitted cost accounts for co-location on the mobile network for 2011 to Nkom. The accounting statement was based on equivalent principles to that for co-location on fixed networks.

350. Nkom has assessed whether the cost accounts for co-location on mobile networks must be prepared per base station or as overall accounts for all of Telenor's base stations. In connection with this, Nkom is of the view that cost accounts per base station would be extremely burdensome for Telenor, complicated for Nkom and probably also provide cost

figures that are not particularly robust since the allocation of costs would occur with a disproportionately high level of detail. Nkom is therefore of the view that overall, aggregated cost accounts for co-location on mobile networks are most appropriate. Cost accounts for co-location on the fixed network are prepared in the same way as for an aggregated level.

351. Aggregate cost accounts enable pricing to occur based on calculations of the average. This entails that the rental price for placement at a specific base station will cover a share of the operating costs and depreciation of all base stations, including a reasonable return.

352. Nkom emphasises that the cost accounts must also include base stations located in installations owned by Norkring AS.

353. Since Telenor has previously prepared cost accounts for co-location, Nkom finds that the company largely already has a system for this and that it is therefore not disproportionately burdensome for Telenor to conduct this reporting at a future date if required.

354. The principles for reporting cost accounts appear in Chapter 8.5. Below, Nkom elaborates on what the obligation of cost-oriented prices involves in relation to capacity expansions.

7.5.7.1 Construction contribution for capacity expansions related to co-location

355. When requesting placement in facilities with available capacity, a cost-oriented price must principally cover a share of operating costs and depreciation at existing facilities, in addition to installation costs. If Telenor does not have available capacity at a facility where placement has been requested, the cost for actions that are taken to expand capacity are divided among and charged to those who require capacity through so-called construction contributions. This entails that if Telenor itself requires extra capacity at the relevant facility, the company must bear its share of the costs. Beyond this, costs can be shared among the party or parties that request placement before the action has been taken. As Nkom understands it, this is also in line with the practice Telenor has followed up until now.

356. Nkom considers it to be more appropriate that those who require capacity cover the costs through a change measure than this being done by increasing the general rent. Firstly, expansions and changes involve liquidity outlays that are not reasonable for Telenor to have to bear. In addition, such a practice would entail that the investment cost will be passed on to all existing tenants. These tenants have made a decision about co-location in Telenor's facilities ahead of other alternatives and it would therefore not be very predictable if the rental prices were to be retrospectively changed due to one or more other operators requesting co-location at the same location. The fact that the requesting party has to pay the cost of the change measure probably also gives the requesting party an incentive to assess different alternatives to co-location and select the most cost-effective alternative. If the cost of the change measure was divided among all buyers of co-location, there would be a risk that the most cost-efficient alternative was selected if the requesting party was to only be charged for a share of the cost of co-location

357. In connection with this, Nkom finds that the party that requests a placement that involves change measures must cover the total cost of the measure, even if the measure results in there also being some available capacity at the relevant location. However, Nkom would note that, as a starting point, Telenor must select the simplest measure for expanding capacity if there are multiple alternatives.

358. The requesting party covering the investment costs for the change measure does not mean that the party in question can select placement in the location. Nkom finds that the party that makes the request and pays for the change measures must take the location that is made available due to the capacity expansion and that existing operators retain their original locations.

359. All costs that are covered by construction contributions must be capitalised and written-off such that the cost is accrued in the cost accounts. The construction contribution must also be recognised as income in the cost accounts. Even though the periods for depreciation and income recognition of construction contributions can be different, the total depreciation for a change measure must have a corresponding income entry over time. The investment the change measure has resulted in will therefore, over time, not have any effect on the result in the cost accounts and will also not influence the rental price.

360. With the practice described above, buyers of co-location will have to pay rent for placements in a facility that they also have paid construction contributions for, as the rental price is based on average costs. Capitalisation and accrual of the change cost and related construction contribution as described above will still prevent Telenor from receiving double coverage of the costs.

7.5.8 Conclusion

361. Nkom is of the view that there is a need to impose price controls pursuant to Section 4-9 of the Electronic Communications Act for national roaming, MVNO access, service provider access and co-location. The price control obligation for MVNO access and national roaming is formulated as a prohibition against subjecting access buyers to a margin squeeze. For service provider access, the price terms must ensure positive gross margins for the products included in the test. For all of the mentioned access forms, Telenor must offer establishment at a reasonable price. For co-location, cost-oriented prices are imposed on Telenor. When requested, Telenor must prepare cost accounts for co-location. The decision regarding price controls and cost accounting is presented in Chapter 8.5.

7.6 Assessment of the overall effect of specific obligations

362. The requirement for the use of remedies to be proportionate is aimed not only at proportionality in the use of the individual remedy, but also at the combined effect of the remedies used.

363. Based on the market analysis and the competition problems identified in the market for access and call origination on mobile networks, Nkom has assessed which obligations will be best suited to rectifying actual and potential competition problems. Based on this, Nkom has found that certain obligations that were imposed in the decision of 5 August 2010 are no longer necessary, while there is a need to clarify and strengthen the regulation in other areas.

364. Based on the market development, Nkom has expanded the market definition to also include access to LTE networks and access for being able to offer M2M services. This entails that requests for access to LTE networks and access to offer M2M-services will normally be considered reasonable.

365. After an assessment of the competition situation for service providers, Nkom has also found that the access obligation should include service providers. This entails that such a request must normally be considered reasonable and must be accommodated with reasonable, fair and timely terms. Nkom is of the view that the change facilitates increased competition at service level and therefore considers this remedy to be necessary until well-functioning competition at network level has been established. Nkom has further defined more precisely the details of access obligation on areas like exclusivity and access for indoor coverage.

366. When assessing the obligation of non-discrimination, Nkom consider it neither necessary nor possible to give a precise description of all possible future situation of discrimination. Nkom has however described the obligation in relation to some typical

situations. Regarding price discrimination, Nkom consider that not only price itself, but also price structure could have discriminatory effects. In this respect Nkom finds an offer solely based on fixed price components per subscriber reduces the access buyer's flexibility in an unfair manner, and is not in compliance with the non-discrimination obligation. Telenor is therefore obliged to offer at least one agreement with traffic dependent prices for each of the three forms of access, but is also free to simultaneously offer access agreements with other price structures. The requirement for non-discrimination between external providers is no hinder for such arrangements. In this respect, the most important factor is that all existing access agreements are available for all buyers of the same form of access.

367. The transparency obligations are essentially a continuation of existing obligations.

368. The obligation of accounting separation is a continuation of the previous regulation, but with some changes. The distinction between voice/SMS and data traffic is removed. This entails the relieving of the obligation for Telenor. Telenor will also not be required to report accounting separation for national roaming until the company potentially receives a request for such access. With regard to service provider access, Nkom has found that accounting separation is not an appropriate tool and therefore does not impose this for this form of access.

369. The largest changes in the regulation relate to Nkom now imposing price controls in accordance with Section 4-9 of the Electronic Communications Act for national roaming, MVNO access and service provider access. For national roaming, the obligations will not be followed up until Telenor potentially receives a request for such access. As described in Chapter 7.5, Nkom has concluded that price controls are necessary due to the development in the market and the identified competition problems. The price controls are differentiated between service provider and MVNO access such that for service provider access there is only a requirement for positive gross margin per product included in the test, while MVNO agreements must pass a full margin squeeze test of markets for bundled mobile services and for mobile broadband, jointly for residential and jointly for business.

370. Semi-annual tests are performed by Nkom, based on the principles for margin squeeze test and using the model that is developed for this purpose. Each time the test is run the model will be adapted to the relevant parameters, such as price structure in the access agreement. The test calculates margin for representative products, and will reveal if efficient access buyers can achieve profitability for parts of, or the total retail market. The overall effect is that that access buyers will not be excluded from parts of the retail market, thus the remedies leads to a level playing field. Nkom is of the view that, in this way, the regulation ensures that all operators are given the opportunity to compete in selected parts of the retail market at the same time as incentives for investment in infrastructure are safeguarded.

371. Nkom finds that the notified remedies effectively address identified competition problems. The combined regulatory burden will be somewhat greater for Telenor than under the current regulation. However, Nkom believes this is necessary based on the market development in the context of achieving the objective of sustainable competition. That the overall effect may be burdensome for Telenor will not be a determining factor, provided there no less burdensome forms of regulation exist that are equally well suited to achieving the intended result. Nkom has been unable to identify such alternatives.

7.7 Assumed impacts of the use of remedies

372. The expected consequences are explained in the sections for the individual specific obligations above.

373. The access obligations and obligations of non-discrimination, accounting separation, publication and reference offers and price controls shall enable new and existing MVNO and service providers to further develop and contribute to competition at the service level, in addition to becoming an important customer group in the long term for a third network in Norway. When required, corresponding obligations shall ensure that providers that request national roaming will have a regulatory safety net for the next two to three years in order for infrastructure to be duplicated where this is commercially and economically profitable. Thus, the use of remedies will also facilitate sustainable competition in the mobile markets in the long term.

374. Based on the above, Nkom concludes that the expected consequences of the decision are in accordance with the objectives on which Regulatory Principle 3 is based, while at the same time, buyers of access have sufficiently favourable terms on which to run their operations and create competition at service level. Nkom cannot see that there would be a risk of unintended consequences of the use of remedies in this decision.

8 Imposing specific obligations

375. As the review above makes clear, Nkom has concluded that as a provider with significant market power in the market for access and call origination on public mobile telephone networks, Telenor ASA should be subjected to a range of specific obligations. The specific content of the obligations imposed is provided in this chapter.

8.1 Access

376. Pursuant to Section 4-1, paragraph one and Section 4-4, paragraph four of the Electronic Communications Act, Nkom imposes an obligation on Telenor ASA to accommodate all reasonable requests for access and co-location within the market for access and call origination on public mobile telephone networks, in accordance with Chapter 7.1.

377. Requests for national roaming, MVNO access, service provider access and co-location as described in Chapter 7.1 will normally be considered reasonable.

378. All agreements for access to and call origination on Telenor ASA's mobile network shall be finalised without undue delay as described in Chapter 7.1.7.4.

379. If access is denied, Telenor ASA shall give the requesting party a documented and justified rejection of the request, cf. Section 4-1, paragraph three, and Section 4-4, paragraph five of the Electronic Communications Act. The grounds for refusal must contain all details that are needed to assess the basis for refusal, such as the reason why access has been denied, along with the necessary documentation.

8.2 Non-discrimination

380. Pursuant to Section 4-7 of the Electronic Communications Act, Nkom orders Telenor ASA to not discriminate with regard to price or any other terms for access for national roaming, MVNO access, service provider access and co-location, in accordance with Chapter 7.2..

381. The obligation of non-discrimination shall apply both between external operations, cf. Section 4-7, paragraph one of the Electronic Communications Act and between Telenor's own and external operations, cf. Section 4-7, paragraph two of the Electronic Communications Act.

382. The obligation of non-discrimination between external operations must apply for buyers of the same form of access. The obligation does not apply between forms of access. The obligation entails that all buyers of the same forms of access must have the opportunity to choose among all existing access agreements.

383. The obligation of non-discrimination between own and external operations means that buyers of access must also be able to compete on equal terms as Telenor ASA. This implies that Telenor ASA must offer wholesale products that not in an unduly manner limits the access buyer's opportunity to compete either on price, quality or other conditions. On this background Telenor ASA must offer at least one access agreement with only variable access charges for each form of access.

8.3 Publishing of reference offers

384. Pursuant to Section 4-6 of the Electronic Communications Act, Nkom imposes an obligation on Telenor ASA to draw up reference offers for national roaming, access for virtual operators (MVNO agreement), access for service providers and co-location in accordance with Chapter 7.3.

385. Pursuant to Section 4-6 of the Electronic Communications Act, Nkom imposes an obligation on Telenor ASA to publish the reference offers. It will be sufficient that terms for access for national roaming, virtual operators, service providers and co-location shall be published on Telenor ASA's website. The obligation to publish does not include publication of prices relating to national roaming, MVNO access and service provider access. Providers requesting access shall be sent applicable prices for the relevant access. Existing buyers of access must be also be kept informed about all applicable price terms in order for them to be able to choose from the existing agreements in accordance with the requirement for non-discrimination.

386. The reference offers shall be sufficiently divided into individual elements with appurtenant terms and conditions. Pursuant to section 4-6, second paragraph of the Electronic Communications Act, the division shall satisfy needs in the market so that the other party is not forced to accept services, functions or outputs that are not requested. The agreement shall be kept up-to-date and, as a minimum, contain details of:

- description of service offered,
- general contractual terms and conditions,
- access and any call rates,
- price elements and the services the individual price elements cover,
- any discounts and criteria for discounts,
- the methods for calculating any offers without a fixed price,
- geographical supply area,
- any significant capacity limitations on delivery,
- characteristics of a technical and physical nature, including interfaces and the standards that are used,
- agreed quality level,
- maintenance services and

- provisions regarding reasonable compensation for failure to meet the agreed quality level.

387. Telenor ASA shall give advance notice to buyers of national roaming, MVNO access, service provider access and co-location about any change in existing services that disfavour the other parties to the agreements and/or their end users no later than two months before the change is implemented, cf. section 4-6, paragraph one of the Electronic Communications Act. Information regarding other changes to the terms of the agreement shall be notified without undue delay after the changes have been decided upon.

388. Pursuant to Section 10-3 of the Electronic Communications Act, Nkom orders Telenor ASA to send Nkom all reference offers and agreements entered into relating to access and call origination on mobile networks, with the exception of agreements on co-location. Signed copies of negotiated agreements shall be sent to Nkom without undue delay no later than two weeks after signing. Telenor ASA is also obliged to notify Nkom of any changes to such agreements. The notification must clearly state where amendments have been made to the agreement and what these consist of. Notice of changes must be sent to Nkom without undue delay after that the changes have been decided and no later than two weeks after signing. If the amendments enter into force before the agreements are formally signed, Nkom shall be informed of the changes in prices and discounts by no later than the date the changes are implemented.

389. Price terms that Telenor ASA offers upon a request for national roaming must be sent to Nkom without undue delay and no later than two weeks after the offer has been given.

390. In addition, Telenor ASA must immediately inform Nkom of changes to applicable prices that occur based on contract terms.

391. Copies of agreements, information about changes to agreements that have been entered into and information regarding changes to applicable prices must be sent by email to avtaler@nkom.no.

8.4 Accounting separation

392. Pursuant to Section 4-8 of the Electronic Communications Act, Telenor ASA is ordered by Nkom to prepare accounting separation for its mobile operation in Norway, between the network operation and retail business, in accordance with Chapter 7.4. The accounting separation shall form a basis for monitoring compliance with the prohibition on price discrimination against MVNO providers. Equivalently, the accounting separation for national roaming must be reported if Telenor ASA receives such a request within the decision period.

393. Accounting separation shall be based on fully allocated historical costs as well as Telenor ASA's financial accounts and Telenor ASA's prices and volumes for the reporting period.

394. The accounting statement shall have the following main items:

- **Revenues** shall encompass revenue that is billed to end users and revenue from interconnection to the said end users. Revenues from end users and revenues from interconnection must be stated separately. The revenues that are billed to the end users shall, as a general rule, be collected directly from the accounts and cover all relevant services bought by the end users from Telenor ASA's mobile operation. Detailed information must be provided about how revenues from end users are divided among all major revenue categories such as, for example, establishment and subscription revenues for traffic revenues. Any other revenues included in the accounting statement must be specified. In the accounting statements, each income

item must state a corresponding cost item where relevant. Revenues from interconnection shall be exclusively based on Telenor ASA's own interconnection charges.

- **Costs to the network operator** shall encompass the costs that Telenor's internal retail business would have paid to its network operator if an MVNO reference offer or a reference office for national roaming had been established between them. Costs to the network operator shall be calculated based on Telenor's reference offer with variable prices for MVNO access and national roaming. The reference offer that is used for the different calculations must be stated. The costs shall be calculated by multiplying the volume of voice traffic, SMS and data traffic that is relevant in the different accounting statements, and which is generated from and terminated to the end users with the applicable charges in the relevant reference offer and agreement for MVNO access or national roaming. Any access fees shall be spread over the period of agreement and included in the cost to the network operator. If there are price changes during the reporting period, the period in which the prices and volumes relate to must be stated. If there is a change in the pricing model in the reference offers, the calculation of the access charges must be specified.

When calculating discounts, the reference offers for MVNO access and national roaming must be used as a basis. Discounts included in the accounting statements must be provided with amounts and discount rates. In addition, for each form of access, Telenor ASA must not use higher discount rates than what were achieved by the buyer of access with the lowest volume during the period being reported, unless Telenor ASA can document objective reasons for using higher discounts.

- **External cost of sales** shall be based on total cost of sales and traffic costs in Telenor ASA's mobile operation and spread between the internal retail business (MVNO or national roaming), external MVNOs and service providers and "Foreigners in Norway" by volume, and included in the accounting statement. All important items under external cost of sales must be specified.
- **Internal costs for the retail business** shall encompass all costs incurred by the retail business in order to enable the sale and provision of the service to end users. Typical activities/processes will be sales, marketing, customer services, billing, operation of service platforms, operation of IT systems and relevant support systems, financial management and management etc.

The breakdown of costs of the internal retail business shall be based on activity-based costing. Remaining costs shall be split proportionally based on costs recorded previously. The distribution principles for the different cost items that are split between network activity and service provider activity shall be described and substantiated.

- **Imputed interest rate** shall be included in the accounting statement in order to factor in a reasonable return on the investment that is required by an MVNO provider or a provider with an agreement for national roaming. Capital tied up in connection with sales, marketing, customer services and billing systems shall be assigned to the retail business in its entirety. Book capital tied up in connection with service platforms shall be divided between the internal retail business and external service providers according to the number of subscriptions. Capital tied up in connection with equipment that is used by both the network operator and internal retail business is divided between them, whereby other costs are divided according to the relevant cost centres. The imputed interest rate shall correspond to the prevailing imputed interest rate set by Nkom for the mobile markets.

395. The system for accounting separation must be sufficiently documented to allow verification. Among other things, the documentation shall contain an overview of the cost

categories that have been assigned Telenor ASA's own retail business in the mobile area. A description of the system for keeping accounts separate, including an overview of cost categories and the allocation key that is used shall be published.

396. Telenor ASA shall engage an external accountant to perform verification procedures in accordance with the national auditing standard ISRS 4400 "Agreed-upon procedures". The accountant's declaration that the accounting statements are in line with the prevailing principles on reporting accounting separation shall be submitted together with the accounting statement. The accountant's declaration in connection with the reporting for the financial year shall be submitted to Nkom together with the accounting statements. With regard to half-yearly reporting, the accountant's declaration shall be sent to Nkom within 14 days of the deadline for the relevant report. Where the accountant's verification procedures occasion a need to change reports already submitted, updated reports on accounting separation shall be sent to Nkom together with the accountant's declaration.

397. Telenor ASA must report accounting separation every six months, in addition to yearly reporting. With regard to half-yearly reporting, distribution formulas can be used based on figures from the previous year. This means that for the half-yearly reporting, Telenor ASA shall use distribution formulas from the same period as that being reported.

398. The first reporting in accordance with this decision shall include the second half of 2016 and must be sent to Nkom by 1 April 2017. Subsequent half-yearly reports must be submitted by 1 October and 1 April each year. Yearly reports must be sent by 1 July each year. The reporting deadlines will apply until Nkom hands down a new decision or withdraws the regulation in the relevant market. If Telenor ASA receives a request for national roaming during the decision period, this form of access must be reported on the first reporting date on either 1 October or 1 April after the offer has been given. The same reporting intervals and deadlines stated above will then apply.

8.5 Price and accounting controls

399. Pursuant to Section 4-9, paragraph one of the Electronic Communications Act, Nkom imposes price controls on Telenor ASA for the access forms of national roaming, MVNO access, service provider access and co-location, in accordance with Chapter 7.5.

8.5.1 Price controls for national roaming, MVNO access and service provider access

400. Pursuant to Section 4-9, paragraph two of the Electronic Communications Act, Nkom imposes an obligation on Telenor ASA to offer access to service providers, MVNO access and access to national roaming at prices that entail that the buyer of access is not subject to a margin squeeze, cf. tests as described in Chapter 7.5.

401. For MVNO access and access to national roaming Telenor ASA must pass three full margin squeeze tests as stated below. The access agreement complying with the obligation of offering variable prices should be used as input. As a starting point, the tests must be carried out with six months intervals, with data collection 1 April and 1 October each year. If this decision enters into force in the period between these dates the margin squeeze tests will be carried out as soon as possible after the date of decision. The test for national roaming must be carried out if Telenor ASA receives a request for such access. The tests must be carried

out using Nkom's margin squeeze model in line with the principles stated in Annex 2. The three tests are⁴⁸:

- Test of an operator that purchases standard MVNO access with Telenor ASA. The operator has a 5 percent share of the private markets for bundled mobile services and for mobile broadband and replicates Telenor ASA's representative products in these markets.
- Test of an operator that purchases standard MVNO access with Telenor ASA. The operator has a 5 percent share of the business markets for bundled mobile services and for mobile broadband and replicates Telenor ASA's representative products in these markets.
- Test of an operator that purchases standard national roaming access with Telenor ASA⁴⁹. The operator has a 20 percent share of the total market and replicates Telenor ASA's representative products in the market.

402. For service provider access Nkom will impose an obligation on Telenor ASA to pass gross margin tests as stated below. The obligation on Telenor is to have positive gross margin for each of the products included in the test. The access agreement complying with the obligation of offering variable prices should be used as input. As a starting point, the tests must be carried out together with the MVNO-tests. The tests must be carried out using Nkom's margin squeeze model in line with the principles stated in Annex 2. The tests are:

- Test of an operator that purchases standard service provider access with Telenor ASA. The operator has a 5 percent share of the private markets for bundled mobile services and for mobile broadband and replicates Telenor ASA's representative products in these markets.
- Test of an operator that purchases standard service provider access with Telenor ASA. The operator has a 5 percent share of the business markets for bundled mobile services and for mobile broadband and replicates Telenor ASA's representative products in these markets.

8.5.2 Price control for establishment of access agreement

403. Pursuant to Section 4-9, paragraph two of the Electronic Communications Act, Nkom orders Telenor ASA to offer the establishment of access agreements for national roaming, MVNO access and service providers at reasonable prices as described in Chapter 7.5.6.

8.5.3 Price and accounting controls for co-location

404. For co-location, Nkom imposes an obligation on Telenor ASA regarding cost-oriented rates pursuant to Section 4-9, paragraph two of the Electronic Communications Act, and an obligation that cost accounts pursuant to Section 4-9, paragraph three of the Electronic Communications Act, must be submitted when requested.

405. The cost accounts must be prepared as combined accounts for all of Telenor ASA's base stations. The cost accounts must satisfy the following requirements:

⁴⁸ The obligation to not put the buyer of access in a margin squeeze has been fulfilled if Telenor ASA's reference offer with variable prices passes the test..

⁴⁹ Test of national roaming will be carried out by using an MVNO test with the assumption of a combined 20 percent market share for private and business segments.

- Product income and product costs (including depreciation), imputed interest payments and capital employed for co-location for mobile telephony shall be separated from other operations and appear as a separate profit unit.
- Costs/capital that are not directly attributable shall be allocated to the profit unit on the basis of an analysis of the causal relationship to the extent this is possible. Remaining costs/capital shall be allocated in proportion to previously allocated costs/capital.
- All costs that are covered by construction contributions must be capitalised and written-off such that the cost is accrued in the cost accounts. The construction contribution must also be recognised as income in the cost accounts. Even if the periods for depreciation and income recognition of construction contributions can be different, the total depreciation for a change measure is counteracted by the income recognition over time.
- The cost accounts shall be based on the financial accounts, with the exception that the financial items are to be replaced by an imputed interest rate on book capital employed. The cost accounts are to be reconciled with the financial accounts, and any discrepancies must be explained.
- The imputed interest rate shall correspond to the prevailing imputed interest rate set by Nkom for the mobile markets.

406. Further, Nkom can ask for the cost accounts to be reviewed by an external auditor in accordance with Auditing Standard no. ISRS 4400 "Engagements to Perform Agreed-Upon Procedures".

9 Relationship to current decisions

407. Nkom's decision of 5 August 2010 to impose specific obligations in the market for access to and call origination on public mobile telephone networks and decision of 29 October 2010 amending Nkom's decision of 5 August 2010 - reporting accounting separation, will be annulled when the new decision enters into force. Telenor ASA must report accounting separation for all of 2015 and the first six months of 2016 in accordance with the decisions of 5 August 2010 and 29 October 2010. For national roaming, the obligation to report will no longer apply from and including the first six months of 2016 because there are no longer any buyers of this form of access with Telenor ASA.

10 The decision's date of effect, deadline for appeal etc.

408. Nkom finds that Telenor will need time to implement some of the obligations according to the decision, for example to develop new price plans and reference offer terms, and carry out necessary technical development/implementation in Telenor's systems. At the same time, it is important to balance the obligations on Telenor against the consideration that the access seekers should, within relatively short time, be able to utilise the rights that the decision provides. Nkom therefore finds that the decision's date of effect shall be 15 September 2016, with the exception of service provider access, where the need for adjustments seem to be more extensive than for other forms of access. The obligation to meet a reasonable request for service provider access with terms that follow from other obligations in this decision, enters into force on 1 November 2016.

409. The decision may be appealed, cf. Section 11-6 of the Electronic Communications Act and Section 28 of the Public Administration Act. The deadline for an appeal against a decision is usually three weeks, cf. Section 29 of the Public Administration Act. Due to the extent of the decision and the approaching summer vacation, Nkom finds that there are grounds for a prolonged deadline for an appeal, cf. Section 29 fourth paragraph of the Public Administration Act. The deadline for a possible appeal is therefore fixed at seven weeks from the date of the decision. A possible appeal shall be directed to the Ministry of Transport and Communications and be sent to Nkom.

410. Only the Ministry of Transport and Communications may accept requests to postpone implementation of the decision, cf. Section 11-6 fourth paragraph of the Electronic Communications Act, cf. Section 42 of the Public Administration Act. Should the implementation of the decision be postponed during the processing of a possible appeal, the existing obligations shall continue to apply until the appeal process is finished.