

Draft 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

**Case 1804194
26 March 2020**

Summary

Based on an 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 (Telenor) as an undertaking with significant market power in this market.

Nkom has identified a number of actual 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, in order to address identified competition problems.

The choice of remedies is mainly 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, there must be sufficient access to input factors at wholesale level, at the right price, giving equal opportunities for competing operators in the retail market.

After assessing the appropriateness and proportionality of the remedies available, Nkom imposes a general access obligation on Telenor to meet any reasonable request for access to 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 granted. The access obligation is linked to the imposition of non-discrimination, reference offers and publication, accounting separation and price regulation. These obligations are designed and will be followed up separately for each access form in the light of the objective of sustainable competition.

Service provider access entails limited infrastructure investments and thereby limited risk. To stimulate competition for services, Nkom believes that a simple form of price regulation is still needed for this access form. On this basis, Nkom requires a positive gross margin for representative retail products. Efficiency requirements, measured as market share for the reference operator, have been reduced, compared to previous regulation in this market, from 5 per cent to 3 per cent.

MVNO access entails investments in core networks and greater product innovation opportunities. For this access form, Telenor will follow up the price discrimination prohibition by

requiring Telenor to devise accounting separation between the network operations and the internal retail operations for its mobile operations in Norway. Nkom also finds it necessary to subject MVNO access to price regulation requirements. Nkom adopts a prohibition against subjecting the access buyer to margin squeeze. The requirement will be followed up with periodic margin squeeze tests. Efficiency requirements, measured as market share for the reference operator, have been reduced, compared to previous regulation, from a 5 per cent to a 3 per cent market share. Furthermore, Telenor cannot set access prices that are more attractive to service provider than to MVNO.

National roaming is the access form that entails the largest investments, since operators with such agreements invest in both core networks and radio networks. National roaming and co-location are the most important obligations to achieve the objective of sustainable competition. It is important that the regulation continues to incentivize further network roll out.

Nkom requires Telenor to report accounting separation for national roaming. Nkom furthermore imposes price regulation designed as a prohibition against subjecting the access buyer to margin squeeze. Nkom will not perform separate margin squeeze tests for national roaming, however Nkom requires that the prices for national roaming should not be higher than the prices for MVNO access. In addition, Nkom requires Telenor to offer national roaming at a linear variable price. In order to incentivize effective roll out within the regulatory period, Nkom signals that price controls for national roaming must be expected to be limited in time to this regulatory period.

Nkom furthermore requires the set-up fee to be reasonable for all of the aforementioned access forms.

Going forward, Nkom will monitor the co-location obligation more closely than before. To ensure that the co-location obligation functions efficiently, Nkom requires Telenor to disclose the information necessary to initiate a request for co-location no later than 14 days after the enquiry, and that co-location agreements must be finally negotiated without undue delay, normally within six weeks. Furthermore, preparation for placement must be initiated and performed without undue delay, if accepted by the access buyer.

Telenor must accommodate reasonable requests for capacity expansion. Nkom has defined what this entails in a number of areas, including principles for choosing a solution for capacity expansions, placement rights and relocation of equipment at the expanded location. As a starting point for monitoring the efficiency of the co-location obligation, Nkom requires Telenor to report on a biannual basis the number of requests for co-locations that are received, granted, granted with construction contribution and the processing times.

The cost-orientation requirement for co-location is continued, but reporting must take place regularly in the form of annual cost accounts submitted to Nkom. The cost accounts should be reviewed by an external auditor. Nkom has also specified that construction contributions must be invoiced on the basis of the actual costs accrued.

Contents

| | |
|---|----|
| 1. Introduction and background..... | 7 |
| 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..... | 8 |
| 4. Current specific obligations..... | 10 |
| 5. Competition problems..... | 11 |
| 5.1. Competition problems in general..... | 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-detering behaviour..... | 15 |
| 5.4.2. Exploitative behaviour..... | 15 |
| 5.5. Summary of competition problems in the market for access and call origination on mobile networks..... | 16 |
| 6. Choice of remedies in general..... | 16 |
| 6.1. Possibilities for duplicating infrastructure within the market for access and call origination on mobile networks..... | 16 |
| 6.2. Proportionality..... | 18 |
| 7. Explanation of the choice of specific obligations..... | 19 |
| 7.1. Access..... | 19 |
| 7.1.1. The statutory basis..... | 19 |
| 7.1.2. Access for national roaming..... | 21 |
| 7.1.3. Access for MVNOs..... | 24 |
| 7.1.4. Access for service providers..... | 26 |
| 7.1.5. Access to co-location..... | 27 |
| 7.1.6. Other forms of access..... | 34 |
| 7.1.7. More about the access obligation..... | 34 |
| 7.1.8. Specific obligations related to access..... | 47 |
| 7.2. Non-discrimination..... | 50 |

| | | |
|--------|--|----|
| 7.2.1. | General information about non-discrimination | 50 |
| 7.2.2. | Assessment of the need for a non-discrimination requirement | 51 |
| 7.2.3. | Further details of the content of the non-discrimination obligation between external enterprises..... | 53 |
| 7.2.4. | Further details of the content of the non-discrimination obligation between own and external operations | 54 |
| 7.2.5. | Further details of the requirement concerning non-discriminatory price structures | 55 |
| 7.2.6. | Proportionality | 56 |
| 7.2.7. | Specific obligations related to non-discrimination..... | 56 |
| 7.3. | Publication and reference offer | 57 |
| 7.3.1. | General information about the legal basis..... | 57 |
| 7.3.2. | Assessment of the need for transparency obligations..... | 58 |
| 7.3.3. | General requirements concerning reference offers | 58 |
| 7.3.4. | Publication of reference offers..... | 59 |
| 7.3.5. | Submission of agreements and amendments thereto..... | 59 |
| 7.3.6. | Requirement of an extended notice period..... | 60 |
| 7.3.7. | Proportionality | 61 |
| 7.3.8. | Specific obligations relating to publication and reference offers | 61 |
| 7.4. | Accounting separation | 63 |
| 7.4.1. | General information about the legal basis..... | 63 |
| 7.4.2. | Assessment of the need to impose accounting separation for national roaming | 63 |
| 7.4.3. | Assessment of the need to impose accounting separation for MVNO..... | 64 |
| 7.4.4. | Assessment of the need to impose accounting separation for service provider..... | 64 |
| 7.4.5. | Further details of accounting separation for national roaming and MVNO | 65 |
| 7.4.6. | Proportionality | 66 |
| 7.4.7. | Specific obligations related to accounting separation | 66 |
| 7.5. | Price and accounting regulation..... | 69 |
| 7.5.1. | Assessment of the need for price control of access to national roaming, MVNO access and service provider access..... | 69 |
| 7.5.2. | Selection of method of price control of access to national roaming, MVNO access and service provider access..... | 70 |
| 7.5.3. | Differentiated margin squeeze regulation | 71 |
| 7.5.4. | Requirements of relative price levels between access forms | 73 |
| 7.5.5. | Further details of access prices for national roaming. | 73 |
| 7.5.6. | Further details of the full margin squeeze test for MVNO-access | 75 |
| 7.5.7. | Further details of the gross margin test for service provider access | 77 |
| 7.5.8. | Further details of the follow-up of the price regulation | 78 |
| 7.5.9. | Requirements regarding price structure | 81 |

| | | |
|---------|---|----|
| 7.5.10. | Price of establishment of access | 86 |
| 7.5.11. | Price controls of co-location..... | 86 |
| 7.5.12. | Assessment of proportionality concerning obligations related to price and accounting regulation | 89 |
| 7.5.13. | Specific obligations relating to prices and account control | 89 |
| 7.6. | Assumed consequences of the remedies..... | 91 |
| 7.7. | Overall assessment of proportionality | 95 |
| 7.8. | The use of remedies and sanctions in accordance with the Electronic Communications Act and change in the use of remedies in the decision..... | 97 |
| 8. | Relation to current decisions | 98 |
| 9. | Entry into force of the decision, deadline for appeals, etc. | 98 |

-
- Annex 1:** Analysis of the market for access and call origination on public mobile telephone networks
- Annex 2:** Principles for margin squeeze tests in Market 15
- Annex 3:** Results from the consultation on Nkoms notification of decision in the market for access and call origination on public mobile telephone networks
- Annex 4:** Margin squeeze model (Excel)
- Annex 5:** Margin squeeze model documentation
- Annex 6:** Margin squeeze model data request
- Annex 7:** Margin squeeze model data request (Excel)

1. Introduction and background

1. Pursuant to Sections 3-2 and 3-3 of Act no. 83 of 4 July 2003 relating to Electronic Communications (the Electronic Communications Act), the Norwegian Communications Authority (Nkom) has been directed to define and analyse relevant product and service markets and geographical markets in accordance with the EFTA Surveillance Authority's (ESA) recommendation on relevant markets (the Recommendation)¹ and to identify any providers with significant market power. 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 three 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 – hereinafter known as the market for access and call origination on mobile networks), and imposed specific obligations on the company, in the respective decisions dated 23 January 2006, 5 August 2010 and 1 July 2016.

3. In the market analysis (Annex 1) Nkom has concluded that the relevant market still qualifies for ex-ante regulation and that Telenor has significant market power. The analysis has a horizon of two to three years.

1.1. Legal basis

4. The regulatory framework for electronic communication is based on five directives (package of directives) adopted by the European Union (EU)². The directives have been implemented in Norwegian law through the Electronic Communications Act and associated regulations, including the Regulation of 16 February 2004 on electronic communications networks and electronic communications services (the Electronic Communications Regulation).

5. 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.³ Particular attention must be paid to the expected pro-competitive effect of the relevant remedies.

¹ 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.

² 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).

³ See the time horizon in the Commission guidelines, section 14. Reference is made to the market analysis, chapter 1, for further details of ESA's and the Commission's guidelines for market analyses.

6. On choosing specific obligations Nkom has taken account of the considerations contained in Nkom's revised remedies document of 12 June 2009.⁴ 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).⁵ The guidelines and principles embodied in BEREC's remedies document are intended to stimulate the development of the single market for electronic communications networks and services, and facilitate a uniform and consistent regulatory practice in the various member states.

1.2. Structure of the document

7. This decision consists of a main document, which contains an assessment of the need and grounds for imposing specific obligations. The decision has six 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 the summary of responses to the national consultation and Nkom's assessment of the comments. Annex 4 contains the margin squeeze model (excel model). Annex 5 contains the model documentation. Annex 6 contains the data request which accompany the margin squeeze model. Annex 7 contains the data request in Excel format.

8. In Chapter 2, Nkom designates Telenor 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. Chapters 7.1.8, 7.2.7, 7.3.8, 7.4.7 and 7.5.13 impose specific obligations. The order for the termination of existing obligations is stated in Chapter 8.

2. Designation of an undertaking with significant market power

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

10. Pursuant to Section 3-4, paragraph one, cf. Section 3-1, paragraph one, of the Electronic Communications Act, one or more specific obligations in accordance with Section 4-

⁴ The document is published at Nkom's website: http://www.nkom.no/marked/markedsregulering-smp/rammer/introduksjon-til-markedsregulering-smp/_attachment/479?_ts=137da56ab33

⁵ 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.

1 and Sections 4-4 to 4-10 will be imposed on an undertaking with significant market power, alone or together with others. Relevant obligations for the market for access and call origination on mobile networks are:

- Access obligations, cf. Sections 4-1, 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

11. 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.

12. 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.

13. 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.”

14. 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

15. Telenor was designated as a provider with significant market power in the market for access and call origination on mobile networks on 1 July 2016. The decision was appealed by Telenor on 19 August 2016. The Norwegian Ministry of Transport and Communications (the Ministry) upheld Nkom's decision in the appeal decision of 9 March 2018, with the exception of the requirement that reasonable access should be met with "fair" conditions, which was repealed. Under the current decision, the following obligations are imposed on Telenor⁶:

- **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, service provider 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, paragraphs one and two of the Electronic Communications Act, an obligation was imposed on Telenor not to discriminate with regard to price or any other terms of access to national roaming, MVNO access, service provider access and co-location. The obligation applies between external operations based on the same access form, and also 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, service provider 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 national roaming prices, MVNO access and service provider access, which the company only needs to make available to providers that contact 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 is imposed on Telenor to submit a copy of all finalised individual agreements concerning access and call origination on mobile networks, with the exception of agreements on co-location, no later than within two weeks after signing. Telenor is also obliged to notify Nkom of any changes to such agreements. Price terms that Telenor 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.
- **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 operations and the internal retail business for its mobile operations in Norway. The accounting separation will provide the basis for monitoring compliance with the prohibition on price discrimination against MVNO providers. Accounting separation must also be reported for national roaming, if Telenor receives any such request in the course of the decision period.

⁶ See Nkom's decision of 1 July 2016, Chapter 8, and the Ministry's decision of 9 March 2018 for further details of current obligations. The documents are published at www.nkom.no under the menu selection "Markedsregulering (SMP)"

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 accounting separation, including an overview of cost categories and the allocation key that is used, must be published.

- **Price and accounting controls.** Pursuant to Section 4-9, paragraph two of the Electronic Communications Act, Telenor is ordered to offer service provider access, MVNO access and access to national roaming at prices which entail that the access buyer is not subject to a margin squeeze. The establishment of such access agreements must be offered at reasonable prices. With regard to co-location, Telenor is required to have cost-oriented prices. Cost accounts pursuant to Section 4-9 of the Electronic Communications Act must be submitted.

5. Competition problems

5.1. Competition problems in general

16. 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. This kind of anti-competitive behaviour is also referred to as competition problems.

17. Specific obligations imposed on providers with significant market power must be suited to remedy 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 might potentially arise under given conditions.

18. 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

19. 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, which then form the basis for imposing specific obligations.

20. The terms for Telenor's offer of access and call origination on mobile networks have thus far been subject to regulation. In several cases, however, Nkom's follow-up of the decision of 1 July 2016 has shown that Telenor has been able to act independently of customers and other competitors by offering prices and terms for access that may prevent or limit the competition in the retail market. This is apparent from the market analysis, Chapter 5.9, 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.

21. 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 as possible that can arise, the potential competition problems will be described in general terms.

22. 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.

23. 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

24. Vertical leveraging⁷ 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.

25. 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

26. An operator with significant market power in the wholesale market might 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, so that the buyer of access does not have a real possibility of supplying competitive products in the retail markets.

27. 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.

28. 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 to 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 mobile networks for external operators will, in most instances, entail 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.

⁷ 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).

29. For a mobile network developer such as Ice, access to co-location will be particularly relevant as a complementary service to national roaming. Access to co-location will be important to achieving rapid development at the lowest possible cost. Established network owners such as Telenor will have the incentive and the opportunity to drag out or deny co-location requests from a network developer that constitutes a competitor in the same retail markets. Denial of access in the form of denial of requests for co-location, or in the form of unreasonably high construction contributions that may be considered a denial of access, are real competition problems in the market for access and origination in mobile networks.

30. With regard to discrimination between external providers, Telenor might, 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.

31. 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

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

33. 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 activities, 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 end-users' willingness to pay. Margin squeeze tests for various different retail markets can therefore give different results.

34. As from February 2017, Nkom has conducted several margin squeeze tests on a selection of Telenor's products/segments. Several of the tests were not passed, i.e. the margin was negative. On four occasions, Nkom has ordered the correction of Telenor's access prices as a consequence of the margin squeeze tests, and on one occasion Nkom subsequently took a correction decision. In other cases, at its own initiative Telenor has changed its access prices at times that coincide with the periods for margin squeeze tests.

35. Price discrimination may also be expressed in terms of the price structure. A vertically integrated operator that is not itself bound by an internal access agreement will have incentives to offer price structures externally that prevent and/or limit competitors' opportunities to compete in the retail market. In this way, price structures can create different terms of competition between internal and external activities.

36. Providers with significant market power can also discriminate on price between wholesale customers.

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

5.3.3. Leveraging by means of non-price variables

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

Discriminatory use or withholding of information

39. The competition problem relates to a practice whereby a provider with significant market power gives its own operations in the retail market information that it does not give to its external wholesale customers, thereby achieving a competitive advantage for its own retail business. For example, the dominant operator may fail to provide information about the wholesale offer, or provide information in a way that makes the wholesale offer difficult to fully understand, and thereby difficult to accept, and/or makes 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.

40. 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.

Delaying tactics

41. A dominant operator might have an incentive to use different forms of delaying tactics to slow down access, for example by prolonging negotiations or having unreasonably long delivery times.

42. 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.

43. For the third network, access to co-location in the upcoming regulatory period will be important to achieve rapid development at the lowest possible cost, cf. the market analysis, Chapter 4.3.5, on the significance of a third mobile network. Telenor will have incentives to slow down requests for co-location in order 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.

Undue requirements

44. 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 might, for example, have to accept unnecessarily large guarantee provision, unreasonable compensation claims, that access sellers reserve a right to unconditional and unilateral access to change the agreement, and long periods of notice in its agreements.

Quality discrimination

45. A dominant operator might have an incentive to discriminate in terms of quality. This might increase the competitors' costs, since measures would have to be taken to compensate for the lower quality. Without compensatory measures, the competitor might have to expect reduced demand. Alternatively, this might impose unreasonable limits on the price that the competing operator can charge in the retail market. Quality discrimination might therefore cause the competitor to incur direct and/or indirect costs.

46. Telenor has the incentive and opportunity to discriminate in terms of quality to the advantage of its own retail business, and this might affect the company's access buyers in general. Nkom determined in September 2014 that Telenor had discriminated against all

external buyers of access 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.

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

5.4. Single market dominance

48. Potential competition problems can also be exclusively related to an operator's strong position in a specific market. As referred to 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

49. 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 a wholesale level, this can be achieved 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.

50. 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. Nkom finds that operators with significant market power 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.⁸

5.4.2. Exploitative behaviour

51. Operators with significant market power may set prices that differ from underlying costs. Exploitative behaviour includes cases where the dominant operator utilises market power through predatory pricing in the retail markets, excessive pricing in the wholesale market, price discrimination between own retail arm and external buyers, possibly between external wholesale customers, or by subjecting competitors to margin squeeze. Exploitative behaviour in the wholesale market should be assessed together with the related retail markets, since it is the market power at both levels that creates the opportunity to set prices that have an excluding effect for access buyers that, parallel to this, are competitors in the retail markets.

52. Nkom upholds that predatory pricing in the retail market entails that prices are set so low that they do not cover the related costs, and furthermore that an access product is

⁸ 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 into the aforementioned competition problems. 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.

overpriced if it makes a higher profit than could be expected in a competitive market. Price discrimination is described in more detail in connection with vertical leveraging. Margin squeeze arises in this context when a vertically integrated operator with market power in the wholesale market prices access products and their own retail products in a way that entails that competitors in the retail markets do not achieve a profit.

53. Nkom finds that price discrimination and excessive pricing are more relevant in relation to agreements at wholesale level than in retail markets, and that these competition problems therefore also relate to leveraging that is addressed above. Exploitative behaviour such as predatory pricing or pricing that creates margin squeeze is intended to make competitors exit the market and is a relevant competition problem related to retail markets.

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

54. 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. Denial of access is the core problem in the market. Such behaviour can prevent new operators from becoming established and, in the worst case, may force established operators out of the market.

55. Nkom finds that multiple factors related to vertical leveraging of market power 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. Nkom is also of the view that withholding of information, delaying tactics and undue requirements are relevant competition problems in this market.

56. Of the competition problems relating to single market dominance, Nkom finds that both entry-detering behaviour and exploitative behaviour constitute relevant competition problems in both the retail markets and the relevant wholesale market.

6. Choice of remedies in general

57. 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

58. 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 or not (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 end users are to be protected by making the best possible use of the existing infrastructure (Principle 2).

59. 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.

60. 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.

61. The Ministry has clearly stated that a third competitive mobile network is necessary to achieve the objective of sustainable competition:⁹

“The Ministry of Transport and Communications refers to the telecom 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.”

62. The objective is also stated in the government's national plan for electronic communications (the Electronic Communications Plan) from 2016, which states the following:¹⁰

*“The government will strive for:
Sector-specific competition regulations to facilitate at least three competitive mobile networks.”*

63. This objective was most recently expressed in the Ministry's appeal decision in Market 15 to Telenor, dated 9 March 2018, in which the Ministry stated that:

“The Ministry also refers to the fact that the primary objective of the regulation of Market 15 is to facilitate sustainable infrastructure-based competition. Among other things, this is achieved by facilitating the establishment of a third competitive mobile network [...].”

64. As described in the market analysis, Ice is in the process of establishing a nationwide mobile network. Several factors are in place for the company to be able to develop into an operator that can offer wholesale access on competitive terms. There are also clear barriers to entry in the Norwegian market and it is uncertain how rapidly the company will be able to complete the network roll out and transfer traffic to its own network, which are key factors in being a competitive provider in the relevant wholesale market. Nkom expects that Ice will have a need to buy national roaming, also within this analysis' time horizon. The national roaming agreement that was established as a remedial measure in conjunction with the merger between Telia and Tele2 has now expired. Ice entered into a commercial national roaming agreement with Telia in May 2018. Nkom believe it's dubiously weather Ice would be able to establish a competitive service in the wholesale market based on this access agreement, cf. Chapter 4.3.5 of the analysis. The agreement will expire within the time horizon of the analysis. Ice thereby has the opportunity to renegotiate or establish a new access agreement. To ensure access to nationwide networks and to strengthen Ice's position, it is necessary that the regulation continues to facilitate infrastructure-based competition.

⁹ The Norwegian Ministry of Transport and Communications' decision of 19 May 2009 subsequent to Tele2 and Network Norway's appeals of Nkom's decision in the market for termination on mobile networks of 17 November 2008.

¹⁰ Report no. 27 to the Storting (2015-2016): Digital Agenda for Norway, Chapter 25.3.

65. 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.

66. In the decisions of 23 January 2006, 5 August 2010 and 1 July 2016, Nkom has facilitated that infrastructure investments can take place gradually through access to established infrastructure at different levels (ladder of investment¹¹). It is not likely, however, that operators that currently have MVNO access or a service provider agreement will climb the ladder of investment to become full-blown infrastructure owners. Climbing from service provider access to MVNO access is probably more relevant. eRate is an example of an operator that has climbed from service provider access to MVNO access after the decision of 1 July 2016. eRate resells wholesale access and facilitates other access buyers. In this way, the company contributes to competition to offer wholesale access, even though the company itself also relies on buying access to the radio network. Nkom believes the regulation should continue to safeguard the ladder of investment, in order to facilitate that more operators can contribute to competition based on varying degrees of proprietary infrastructure.

67. In the long term, MVNO operators and service providers will also be potential customer groups for a third network. Investments in infrastructure entail 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. It will be most profitable for a network owner to have its own retail customers, but on the other hand, the sale of wholesale access will be a faster way of filling up the network with traffic. MVNOs and service providers could thereby become important customers for the establishment of a third network. 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 entails that regulation must also take Principle 2 into account.

68. Nkom will continue to apply Principle 3 as the main principle for the choice of remedies in the market for access to origination in mobile networks, but also take into account Principle 2.

6.2. Proportionality

69. 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 (2002-2003) to the Odelsting in the remark concerning Section 3-4 of the Norwegian 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.”

70. This principle means that when choosing from several alternatives, all of which could promote the objectives equally effectively, Nkom should choose the least burdensome

¹¹ See Chapter 5.3.2 of Nkom's remedies document concerning the ladder of investment.

alternative. Under the circumstances, an absolute requirement will also have to be put in place not to impose obligations that are disproportionately burdensome.

71. 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 realise their underlying objective, should not be in excess of what is necessary in each case, and should result in benefits which outweigh the burdens.

72. 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 considered adequate to achieve the objective of regulation.

7. Explanation of the choice of specific obligations

7.1. Access

7.1.1. The statutory basis

73. Denial of access in the broad sense is the core problem in market 15, cf. Chapter 5 on competition problems.

74. The general provision regarding access in the Electronic Communications Act¹² 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.”

75. 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.

76. 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:

¹² 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.

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.*"

77. The enumeration is not exhaustive.¹³

78. 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 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.

79. Section 4-1, paragraph two, cf. Section 1-1, of the Electronic Communications Act also states that the consideration relating to sustainable competition should be accorded weight in the assessment of whether 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.

80. Section 4-1, paragraph one of the Electronic Communications Act authorises the authority to require a provider with significant market power to "change agreement". This must be specifically understood as the terms in the access agreement between Telenor and the access buyer.

81. Section 4-1 of the Electronic Communications Act must be interpreted in the light Article 12 of the Access Directive, which in turn must be understood in the light of, inter alia, the concept of access in Article 2 of the Access Directive. The access concept does not only include making facilities and services available, but also the terms and conditions for access.¹⁴ In Nkom's view, Section 4-1 of the Electronic Communications Act, interpreted in the light of the access concept and the access directive Article 12, also provides provides a legal basis for the authority to draw up a more detailed framework for the access obligation, including setting out specific requirements for how Telenor shall fulfill the access obligation.¹⁵ The fact that Nkom has such permission is also evident from a judgment from Borgarting Court of Appeal of 2018.¹⁶

"In the opinion of the Court of Appeal, Section 4-1 of the Electronic Communications Act, interpreted in the light of the Access Directive's Article 12, provides sufficient authority to impose obligations that also apply to the content of terms agreement concerning access to mobile networks."

82. Section 4-4, paragraph four of the Electronic Communications Act states that Nkom may require providers with significant market power to meet a reasonable request for co-location or other shared infrastructure utilisation, when this is appropriate to promote

¹³ Proposition no. 58 (2002-2003) to the Odelsting, p. 101.

¹⁴This also follows from a judgment of the Stockholm administrative court of appeal from 4 October 2011 (on page 13). See case 1690-10, incorporated in RK 2011: 2

¹⁵ This has been found to be the case for Swedish law, in relation to certain damages ("avtalsvite"), cf. the judgment of the administrative court of appeal. (page 15)

¹⁶ LB-2017-72236 (SIM-case), page 17.

sustainable competition. On assessing whether such a request is reasonable, this must be evaluated in accordance with Section 4-1, paragraph two.

83. Some types of anti-competitive behaviour might 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 requirement and price regulation, cf. Chapters 7.2 to 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

84. 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.

85. In Chapter 6.1, Nkom has explained how 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 that the electronic communications authorities believe that a third network operator is necessary to achieve 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 thereby be able to offer competitive services while the network is being developed.

86. Tele2/Network Norway previously had a national roaming agreement with Telenor. This customer relationship was discontinued after the merger between Telia and Tele2. As of today, Telenor does not have buyers of national roaming in its network.

87. Ice has entered into a national roaming agreement with Telia on commercial terms. A relevant issue is therefore whether there is a need for regulated access to national roaming in the time-frame covered by the analysis.

88. 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, in order to be able to provide a sufficiently attractive service to its customers. The agreement between Ice and Telia may be terminated and will also expire during this decision period, cf. the market analysis Chapter 4.3.5.2. In the media, Ice has expressed the view that the company will increase the coverage from 83 to 95 per cent population coverage

Nkom therefore believes that it will be relevant for Ice to seek to enter into a new access agreement within this decision's time horizon, either with Telia or Telenor.

89. There is no reason to assume that Ice has sufficient negotiating power to discipline offers of access to national roaming. Nkom therefore believes that it is necessary to have a regulatory safety network that enables Ice to effectively negotiate such access. Increased bargaining power is considered to be positive, to achieve the objective of sustainable competition in the market.

90. Furthermore, the need for access to national roaming is not necessarily limited to a question of access for Ice. Nor can it be excluded that national roaming may be relevant for other operators.

91. Access to national roaming will thus be necessary to ensure that an operator that builds its own mobile network is able to offer competitive services and thereby contribute to 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 network. 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.

92. 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 in turn relate to the level of the access charges and the competitive pressure constituted by the access buyer in the retail markets. Other than price, the competitive pressure from the buyer of access will relate to coverage.

93. 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. In view of 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.

94. 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.

95. 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 of the term "reasonable request", cf. Section 4-1, paragraph two of the Electronic Communications Act.

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

7.1.2.1. *Seamlessness and geographic coverage*

97. 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.

98. End users in Norway have become accustomed to services of a high quality and a high 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.

99. 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.

100. 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.

101. Up to the decision in 2016, Nkom assumed that a request for seamlessness with two-way handover was not reasonable because this seamlessness was technically complicated to implement. In newer generations' mobile networks, it is, however, less complex than before to implement two-way seamlessness. Nkom therefore assumed in the decision from 2016 that a request for seamlessness with two-way handover could be reasonable within the time horizon of the analysis. Nkom does not see any reason to change this assessment and also assumes that a request for two-way seamlessness as a starting point would be reasonable within this decision period. If, when such a request is made, the parties themselves do not agree on 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.

102. 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.

103. 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.

104. 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.

105. The "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 the buyers of access to close off roaming in this area in order to retain the traffic in their own networks.

106. One disadvantage of geographical delineation of access to national roaming might 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.

107. 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.

108. As an operator with a national roaming agreement expands the network, the need to purchase access solely in certain geographically restricted areas may be relevant. This may entail that these areas overall constitute a smaller area than the other parts of Telenor's network. Nkom believes that such a request would normally be reasonable, based on the same assumptions as for the closure of access in specific areas.

109. 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 the information that is necessary for the access buyer to be able to reassess the area it wants access to.

7.1.3. Access for MVNOs

110. 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. MVNOs have their own series of International Mobile Subscriber Identity codes (IMSI codes)¹⁷ and mobile network codes (MNC), and offer their own subscriptions (SIM cards¹⁸) 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.

111. Nkom believes that MVNO access is an important instrument to achieve the purpose of sustainable competition, in addition to national roaming, as stated in Chapter 7.1.2. In several ways, operators with MVNO access can play an important role in this context.

112. Operators with MVNO access can directly influence the competition in the retail markets through their own retail offerings. In practice, MVNO providers play a particularly important role for 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 their own service production platforms and are thereby better equipped 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

¹⁷ A unique number that is used in a mobile network to give each customer relationship 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 among other things enables use of the host operator's agreements on international roaming.

¹⁸ Subscriber Identity Module

operators. In Nkom's assessment, on this basis MVNO access is important to achieve a broad offering in the retail markets, particularly in the business market.

113. In the wholesale market, currently there are only two network owners that offer access to mobile networks for external providers. However, MVNOs can also position themselves as resellers of wholesale access. For a business concept with resale of wholesale access to be successful, the reseller must probably be able to differentiate its offer of access from the network owners' own offerings. An MVNO will to a greater extent be able to develop its own solutions and products for resale than operators without their own core network.

114. eRate is an operator that for several years, on the basis of a service provider agreement with Telenor that has granted access to Telenor's network, has resold such access to other external operators. In August 2018, the company entered into an MVNO access agreement with Telenor. This will give the company greater opportunities to develop solutions within its own core network. The company offers invoicing, service and customer management platforms in the "cloud".

115. In this way, operators with MVNO access can contribute to creating competition to offer wholesale access, even though such operators also depend on being able to buy access.

116. As stated, becoming established as an operator on the MVNO platform also entails investment in own core network. It is reasonable to assume that operators that make such an investment have a long-term strategy, and this establishment can thus contribute to stability and greater long-term competition than operators that do not invest much themselves.

117. In the longer term, MVNOs might also constitute potential customers of a third mobile network and thereby contribute to sustainable, infrastructure-based competition.

118. In the longer term, Ice might develop into a provider that can offer such access on competitive terms. The speed at which this might occur will depend on, among other things, the company's expansion strategy. Chapter 4.3.8 of the market analysis shows that Nkom considers it very uncertain whether Ice will achieve such a position within the time frame of this analysis. Nkom thus considers it appropriate to ensure the opportunity for MVNO access on sufficiently good terms for a period until the objective of sustainable competition is achieved.

119. Both Telenor and Telia offer MVNO access. The market analysis (Annex 1) shows, however, that the market does not sufficiently tend towards sustainable competition. Nkom's follow-up on access prices has furthermore shown that the market does not function satisfactorily with regard to the terms for MVNO access, but rather that MVNO providers are under pressure with regard to margins.

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

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

122. 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

¹⁹ Consultation response from eRate on 21 September 2018

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

123. 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. Service providers will normally offer access to mobile networks and services to end users. These providers market and sell mobile services in their own name and with their own price schedules, and undertake their own customer service and invoicing. However, eRate is an example of how an operator with a service provider agreement can also resell access to other operators through such an agreement, and facilitate necessary services such as invoicing for these operators.

124. The service provider's traffic is routed according to the host operator's interconnection agreements and any 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. Facilitators such as eRate have also further reduced the establishment barriers for service providers.

125. In the market decisions for Market 15 from 2006 and 2010, Nkom concluded that it was not necessary to require Telenor to offer access for service providers. At this point in time there were a relatively high number of providers with service provider agreements in the market. In the 2016 decision, however, the analysis showed that the number of service providers not owned by the two established network owners had fallen, and at this time only Telenor and Telia were actually providers of service provider access. Nkom concluded that there was a need to impose an access obligation for service providers.

126. At the end of 2018, the number of service providers is at around the same level as in 2015/2016, but the operator profile has changed. In recent years, the new establishment of service providers has mainly been based on the offers from eRate. Operators such as Atea, Fjordkraft, Happybytes, Komplet Mobil, Saga Mobil and Sponz are examples of operators that have become established during the last three years, based on access via eRate.

127. Ice has the opportunity to offer such access based on its purchase of access from Telia. However, as of today Ice does not have wholesale customers in its network. In Nkom's view, this is probably related to the access terms for national roaming, and the fact that Ice has focused on sale in the retail market, rather than facilitating resale to other operators. Nkom notes that several access buyers have stated that they have been in dialogue with Ice regarding access, but so far none of these operators has entered into an access agreement with Ice.

128. Telenor's access agreement for MVNOs provides for them to be able to resell MVNO or service provider access. As stated, eRate has entered into such an agreement, and Nkom assumes that their customers will be moved over to this platform, but that this may take some time. eRate will therefore continue to depend on service provider access for some time to come. Besides eRate, operators with MVNO access have primarily aligned their business concept towards the retail markets.

129. The number of operators offering service provider access is thereby very limited, and Nkom cannot assume that this will change within the time frame of the analysis.

130. Nkom's follow-up of access prices has also shown that service providers are under pressure in terms of margins, cf. Chapter 5.9.1 of the market analysis. If there had been well-functioning competition to offer wholesale access, service providers' terms and margins would probably have been better. In Nkom's view, the regulation and the periodic margin squeeze tests generally determine Telenor's pricing in the wholesale market.

131. Nkom also 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 in terms of 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.

132. In the light of the above, Nkom is of the view that it is still necessary and expedient to facilitate that service providers are able to contribute to increased competition. Nkom cannot see that the competition to offer service provider access functions adequately. Regulated access is suitable to ensure 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.

133. In Nkom's assessment, regulated service provider access should not become such a good alternative to the development of own infrastructure that it reduces the incentives to invest. Nor should the regulation deprive other network owners of the opportunity to offer competitive access. It is important, for example, that the third network has 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.

134. 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 assessment, the benefits to competition of such an obligation would 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

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

136. 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 will be determined by considering the same factors as stated in the general access provision in Section 4-1, paragraph two, cf. Section 4-4, paragraph six, first sentence.

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

138. The obligation to meet a reasonable request for co-location must be related to the market in which the provider has significant market power. Within regulation, as of today there are two wholesale markets in the mobile area, which are the market for access and call origination on mobile networks and the market for voice call termination on mobile networks (Market 2). Nkom believes that co-location is a form of access that naturally belongs in the market for access and call origination on mobile networks. Co-location is a complementary service to access the radio network, in particular in relation to the national roaming access form. This entails that the party that requests co-location must offer products within the relevant wholesale market, and/or one or more of the related retail markets, for the relevant regulation to apply.

139. 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. For a newcomer, co-location may also reduce any competitive disadvantages 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.

140. The extent of an obligation to offer co-location must be determined in the specific case through an interpretation of what may be regarded as a “reasonable request”. In the decision of 1 July 2016, Nkom considered several questions related to the extent of the obligation to offer co-location. The Ministry supported the assessments in its appeal decision²⁰ and specified Telenor’s obligation to provide information necessary to initiate a reasonable request.

141. Below, Nkom will describe various cases of what might or might not be considered a “reasonable request”.

7.1.5.1. Capacity expansions

142. 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, after an overall assessment, when the request is deemed to be reasonable. A request may be reasonable even if it entails that an undertaking with significant market power must undertake capacity expansions, cf. Section 4-4, paragraphs three and four of the Electronic Communications Act, cf. Section 4-1, paragraph two and the Ministry’s appeal decision²¹.

143. However, 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 not planned.

144. When considering whether a request is reasonable, there must be an assessment of the different interests. The disadvantages to Telenor from capacity expansion should be

²⁰ Decision in the appeal case concerning Nkom’s decision on the designation of an undertaking with significant market power and imposing specific obligations in the market for access and call origination on public mobile telephone networks (formerly market 15), Chapter 9.

²¹ Decision in the appeal case concerning Nkom’s decision on the designation of a provider with significant market power and imposing specific obligations in the market for access and call origination on public mobile telephone networks (formerly market 15), p. 72.

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 among others 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-location²², moving equipment to provide space for more cabinets, strengthening of masts, extending masts, expanding cabins, replacing cabins, replacing masts and replacing antennas.

145. Section 4-4, paragraph six of the Electronic Communications Act stipulates that in the assessment of whether a request is reasonable pursuant to paragraph four, an assessment must be made in accordance with Section 4-1, paragraph two.

146. Section 4-1, paragraph two, second sentence, states that "*in the assessment of what is necessary, account must 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 remarks²³ this is summarised as: "*In an assessment of whether there are any technical or financial alternatives to the access requested, account must be taken of whether the alternatives are of such a nature that it will be possible to compete with the holder of significant market power in the relevant market.*" If alternative location solutions give a poorer starting point for the access buyer with a view to being able to compete effectively in the market, this will weigh heavily in the assessment of whether a request is reasonable or not.

147. With regard to 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 be deemed to be clearly reasonable, provided that the request as such 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 of available capacity, but Section 4-1 cannot be understood to mean that a request will always be unreasonable if there is no spare capacity available. 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. This includes that the provider may also have an obligation to make customisations and to facilitate other solutions, when the request for co-location is reasonable, even if there is no space in existing infrastructure.

148. Since Telenor can claim construction contributions to cover costs of expansions and new construction, cf. Chapter 7.5.11, the request will in principle be reasonable in cases where the requesting provider can demonstrate that there are no alternative locations that make it possible to offer equivalent area cover at an equivalent or lower cost. 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.

149. When multiple measures are relevant, in principle the simplest and most reasonable priced alternative must be 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 take more demanding measures, such as extending or replacing a mast, the fact

²² See Proposition no. 58 (2002-2003) to the Odelsting, p. 87, which states that "*the definition of co-location also includes 'virtual co-location'. This entails that when there is no space for the equipment of related providers in existing premises, other solutions must be facilitated. Other solutions might, for example, be co-location in a neighbouring building with cable connection, or in a container outside the premises.*"

²³ Proposition no. 58 (2002-2003) to the Odelsting, p.101.

that there is no available capacity might 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 not using the alternative to co-location.

150. Selection of the simplest and most reasonable priced alternative entails that, if there are multiple alternative solutions, Telenor must undertake a comprehensive assessment of these alternatives and in principle select the simplest and most reasonable solution. The costs of the measure must weigh heavily in this overall assessment. There may, however, be conditions indicating that simplest and most reasonable priced solution is not a feasible alternative. Such limitations might include conflict with other public legal regulations, private legal agreements, environmental considerations or safety aspects. If there are simpler and more reasonable priced alternative solutions than the one that is chosen, Telenor should substantiate the assessment behind the choice. Below, Nkom gives some examples of which assessments are relevant in relation to the selection of various alternative capacity expansion solutions.

151. Outdoor cabinets at or next to cabins can be a simple and reasonable priced way of expanding a cabin's capacity, especially in rural areas, next to roads or in industrial areas. There may, however, be conditions indicating that it is not a feasible solution. If an area is defined, for example as an LNFR area,²⁴ an exemption according to The Planning and Building Act must be granted from the local municipality to be entitled to set up an outdoor cabinet or extend an existing cabin. In such an assessment visual requirements will be taken into account and there is a high probability that an application for an outdoor cabinet will be refused and changes will be requested in order to take account of the environment. In such areas, an expansion of the cabin will be the normal and probably the most efficient solution. A copy of the application should be sent to the provider that has requested co-location. If the simplest and most reasonable priced solution is not chosen, the applicant should receive an explanation behind the choice.

152. In cases where there are extensive differences in costs between an outdoor cabinet and extension of the cabin, an outdoor cabinet can be relevant also in LNFR-areas. In such cases the applicant can send the application to the local municipality.

153. Nkom assumes that, in many cases, there will be cost savings from using co-location rather than constructing a completely new mast and base station, even if the co-location will require replacing a mast, because the other existing infrastructure can be used. 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, in order to achieve sufficient coverage, than for co-location on the existing mast.

154. There may also be instances in which, for cost-related reasons, it would be a more reasonable alternative to build a new antennae 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 will not be necessary to transfer antennas and cables from the existing mast. A new antenna mast might also present challenges related to existing land ownership rights, possible dispensations, shadow effects and noise with respect to existing antennas. An overall assessment must thereby be made of whether such a measure as stated above is appropriate in this case.

155. With regard to replacing antennas, Nkom will not rule out that a request that requires such a measure might also be reasonable. However, the disadvantages for Telenor could be significant. An order to replace antennas could mean that Telenor has to reschedule radio

²⁴ Area set aside for agriculture, nature, outdoor activities and reindeer herding.

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 to be imposed to offer co-location in instances in which antenna replacement is required, there must be specific circumstances that outweigh the disadvantages imposed on 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. Antenna replacement will nonetheless be one of the most invasive forms of capacity expansion and, as a general rule, will only be relevant if less invasive measures are not possible. If antenna replacement is the only solution and Telenor declines such a request, Telenor must be able to justify this with an actual technical analysis.

156. For capacity expansions, including mast extension, which are covered by construction contributions from the requesting party, Telenor will still have a right of ownership of the location and the new infrastructure. The fact that the requesting party covers the investment costs of the change measure, cf. Chapter 7.5.11, does not imply that the party in question can choose the placement at the location. Nkom upholds that existing operators retain their original locations. Telenor has the right to choose its location, but must itself carry the entire cost of any relocation of equipment. Only in cases where the relocation of equipment is necessary to maintain existing quality, redundancy, coverage or capacity, it will be reasonable that the requesting party covers the relocation costs. In such cases, the costs for relocation should be specified in the offer, and Telenor must justify the necessity of the relocation to the requesting party. New requesting parties will be given space as it becomes available. Telenor is free to grant requesting parties the top position in the mast.

157. If the capacity expansion entails that the mast has to be replaced with a new mast in the place of the old one, the operator that instigates this measure must bear the costs of moving the equipment.

7.1.5.2. Disclosure of information

158. 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.

159. 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.

160. 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, the geographical position of various locations and the height of the relevant masts clearly constitute necessary information. Nkom is of the view that it is also of great 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. A mast drawing with an antenna overview or equivalent information provided in another way will therefore be information to which Telenor is obliged to provide access.

161. Nkom is aware that mast drawings may contain sensitive information concerning, for example, “radiation direction”, antenna types and other coverage-related factors that enable the requesting party to obtain an overview of Telenor's overall radio planning. Nkom nonetheless upholds that mast drawings with an overview of antenna locations or equivalent information can be disclosed in such a way that sensitive information is not disclosed. Nkom therefore requires that Telenor, on request, issues mast drawings or equivalent information prior to any requests for co-location.

162. The required information must be issued to the requesting party without undue delay and within 14 days of the request.

7.1.5.3. Processing time for requests for co-location

163. In the previous decisions in Market 15, most recently of 1 July 2016, Telenor was ordered to finalise access agreements, including co-location agreements, 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 7.1.7.12 for a more detailed assessment of the need for a requirement to finalise access agreements without undue delay.

164. Nkom is aware that efficient use of time to process requests for access will vary depending on the extent of the measures necessary to be able to facilitate placement. The case processing must, however, adhere to the general rule that co-location agreements must be finalised without undue delay. Nkom nonetheless considers it appropriate to set a specific deadline, in order to make the requirement sufficiently effective. On this basis, Nkom will require that an offer as a principle rules should be made available within six weeks.

165. To be able to plan and provide sufficient resources for the work related to applications for co-location, Telenor has indicated a need for receiving forecasts on the volume of applications at the latest three months ahead of a specific application. Nkom acknowledge that the six-week deadline might be hard to meet if the number of applications increases unexpectedly. In an assessment of breach on the six-week deadline, Nkom will take into account weather forecasts are submitted by the applicant. In cases where Telenor sees a need for time beyond six weeks, the requesting party must be notified of this in conjunction with the specific justification. The documentation requirements could shed light on any disagreements concerning the use of time and possible delaying tactics.

166. Forecasts from the requesting party, as well as information from the requesting party in connection with the reservations referred to below, must be treated as confidential and may not be applied to other areas of Telenor's activities than where they are processed.

167. If the requesting party accepts placement proposals, the placement preparations must be initiated and performed without undue delay.

7.1.5.4. Right to reserve place for co-location

168. In order to achieve an effective co-location obligation, requirements must be set for how long operators that have been offered placement may require placement as a condition, without taking it into use. Nkom has previously upheld that the right to make reservations for operators that are offered placement may not exceed 12 months. This entails that the site must have been taken into use within a period of 12 months; otherwise the site will be released to other operators that request access. Telenor itself has also been subject to the requirement. Nkom upholds this requirement and emphasises that there must be documentable expansion plans for the right to reserve to be maintained at the expense of a specific request.

7.1.5.5. Specifics about the requirement for documentation and justification of rejection

169. As mentioned in the introduction, it is stated 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.

170. 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 would be more efficient if the requesting party were to substantiate why the request can nonetheless be considered to be reasonable. Nkom refers in particular to Section 4-1, paragraph two, second sentence concerning whether it is possible to construct or use competing infrastructure.

171. If a request is rejected, the grounds must include all information that is necessary to assess the grounds for the rejection. If the rejection is due to a shortage of capacity, Telenor will be obliged to give a specific account of which options have been assessed and why it will not be reasonable to expand capacity. This is necessary for the requesting party to have a real opportunity to assess the rejection.

172. In cases where a rejection has been made and this is solely because Telenor has reserved space for itself or other providers for future placement, this must be stated in the grounds for the rejection, cf. Chapter 7.1.5.5. The rejection must also state when the right to opt-out will expire.

173. 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.

174. For the requesting party to be able to quickly verify whether the request was reasonable or not, the justification, together with accompanying documentation, must be provided when the rejection is given.

175. 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, so that Telenor can then undertake a renewed assessment of the request.

176. 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, a simpler form of justification could be used in such a "reconnaissance round"²⁵. However, the justification must provide the requesting party with sufficient information to be able to determine which requests the requesting party should proceed further with.

177. In cases where Telenor offers placement, but where this will result in construction contributions, cf. Section 7.5.11.1, it must also be possible to document the capacity shortfall, including whether this is due to reservations concerning future location. The offer must also state when the right to opt-out will expire.

178. Nkom will monitor the obligation for co-location closely, including processing times and the frequency of construction contributions applied. Based on this, Nkom needs regularly reporting of Telenor's processing of requests for co-location. Telenor is therefore obliged to report on a biannual basis on the volumes of requests received, the processing time, the volume of granted requests, the number of granted requests that includes construction contribution and the number of refused requests.

²⁵ Resolution from the Ministry dated 21 May 2015 in the appeal proceedings concerning the infringement fee in a case of justification and rejection of a request for co-location.

7.1.6. Other forms of access

179. Whether requests for other forms of access, including access to the network owner's CPA platform²⁶, must be deemed reasonable may be determined by Nkom as required, based on a specific assessment in each individual case.

180. In the market analysis, Nkom has concluded that international roaming is not part of the relevant wholesale market. The access to offer end users international roaming services is nonetheless a complementary product to the bundled mobile services. Service providers will normally have to purchase such access from their host network, while operators with an MVNO agreement and their own IMSI can gain such access through direct bilateral agreements, through other operators,²⁷ or from their host network. The EU's international roaming regulations are implemented in Norwegian legislation under Section 4-14 of the Electronic Communications Act, cf. Section 2-7 of the Electronic Communications Regulation. Article 3 of the EU Regulation requires network owners to meet any reasonable request for wholesale access to international roaming, as direct bilateral agreements, roaming agreements and resale of international roaming access²⁸. The maximum prices in the Regulation apply to both cases. This entails that, through this regulation, access buyers may require access to international roaming at regulated maximum prices.

7.1.7. More about the access obligation

7.1.7.1. Introduction

181. In Chapter 5.3.3, Nkom has identified unreasonable requirements as a relevant competition problem related to the transfer of market power by means of variables that are not related to price setting.

It is therefore relevant to consider setting requirements that limit the opportunity for such conduct.

182. Section 4-1 of the Electronic Communications Act authorises that a more detailed framework for the access obligation be drawn, including by setting specific requirements for how Telenor is to fulfil the access obligation, cf. section 7.1.1 above. Nkom may thus set requirements related to fairness, reasonableness and timeliness. Article 12, no. 1, third paragraph, of the Access Directive explicitly states that the regulatory authority must be able to impose such requirements.²⁹

183. In order to rectify the current competition problem and support that the access obligation is as effective as possible, Nkom will assess setting certain specific requirements pursuant to Section 4-1 of the Electronic Communications Act for how Telenor is to fulfil the access obligation. In the assessment, Nkom will among other things consider the effects of a given requirement for the competition, and whether the requirement can be considered to be proportional in terms of safeguarding Telenor's protection-worthy interests.

7.1.7.2. Provision of security and forecasts

184. A dominant operator will be able to use a requirement to provide security, for example in the form of bank guarantees and prepayments, to make it unnecessarily burdensome for competitors to enter into an agreement or to increase the costs associated with the contractual

²⁶ Content Provider Agreement

²⁷ Access to international roaming can be purchased e.g. via a "hub" that handles technical connection (the connected operators negotiate prices bilaterally), or as "sponsored roaming", whereby another network offers technical set-up for access to other networks and also sets traffic prices.

²⁸ Offer of access to international roaming agreements via the host network or one other network owner.

²⁹ The provision has the following wording: "National regulatory authority may attach to those obligations conditions covering fairness, reasonableness and timeliness."

relationship. Telenor will also have a protection-worthy interest in safeguarding itself against losses. Nkom therefore acknowledges that, to a certain extent, Telenor may require the provision of security that the contracting party will, for example, cover ongoing traffic costs.

185. Any requirement made by Telenor for the provision of security in connection with the regulated access agreement must be reasonable and proportional. This entails, among other things, that the requirement for provision of security must be proportional to the commercial risk to which Telenor is exposed on providing the specific access. This furthermore entails that any such requirement must be proportional to equivalent requirements made of other access buyers. On assessing whether a requirement for the provision of security is reasonable, it might be relevant to consider the level used by Telenor in similar agreements in other Nordic countries. Terms for the company that requests access to both pay in advance for leasing and provide bank guarantees will normally be a disproportional requirement.

186. Nkom is of the view that it could be appropriate to require access buyers to provide forecasts of expected traffic. 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.

187. 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, so that the access buyer does not bear this risk alone. The clause must thus balance the interests of the parties.

188. In Nkom's assessment, the aforementioned requirements concerning provision of security and forecasts cannot be deemed to impose any great burden. Nkom furthermore cannot see that the purpose of the requirements can be achieved in another or less restrictive way. In Nkom's assessment, the competitive advantages of drawing these restrictions furthermore exceed the drawbacks for Telenor of restricting the company's scope for manoeuvre. Nkom concludes that the requirements are proportional.

7.1.7.3. Exclusivity of negotiation and delivery

189. As a provider with significant market power, Telenor could have the incentive and opportunity to set exclusivity requirements. Exclusivity requirements are a potential competition problem and it is therefore relevant to assess whether the regulation should limit the opportunity to set such requirements. On assessing exclusivity, it is appropriate to make a distinction between exclusivity that affects the opportunity to negotiate access, and exclusivity that concerns the provision of access.

190. With regard to exclusivity concerning negotiation, Nkom targets requirements which restrict the access buyer's access to conduct parallel negotiations on the purchase of access with various host operators, including requirements that limit the access buyer's opportunity to negotiate for a period after the negotiations have been completed. Negotiation exclusivity concerns negotiations to enter into an access agreement, and negotiations to amend an existing access agreement.

191. The market is characterised by a very limited number of operators on the supply side and a limited degree of buyer power. Negotiation exclusivity would entail a restriction of access buyers' ability to compare offers from different sellers of access, in order to achieve better terms. Negotiation exclusivity could thus reduce buyer power and limit the market dynamic. Any such exclusivity would thereby limit competition and could counteract the purpose of regulation. In Nkom's view, Telenor furthermore does not have a protection-worthy interest in requiring negotiation exclusivity. Nkom concludes that Telenor must not be permitted to set

terms for negotiation exclusivity in connection with negotiations to enter into or amend an agreement on regulated access.

192. Delivery exclusivity entails a requirement that the access buyer may not use other mobile networks than the host operator's network to offer its own retail services. The delivery exclusivity requirement may vary in scope and may be set at Group, brand and SIM level, and other levels, and be invoked to varying degrees in relation to buyers of different types of access.

193. The Market 15 decision of 1 July 2016 restricts Telenor's access to set delivery exclusivity as a condition. The decision imposes a prohibition of Group and corporate exclusivity, but permits exclusivity at SIM level, and also permits partial brand exclusivity. In its appeal against the decision, Telenor contested that Nkom had the authority to prohibit such exclusivity. However, the Ministry of Transport and Communications has confirmed that this authority is granted under the Electronic Communications Act.

194. Delivery exclusivity entails that providers limit the access buyer's right to have parallel access agreements with different host operators. Nkom takes the view that a delivery exclusivity requirement will limit the opportunity for a third network operator to cover parts of access buyers' need for access and could thereby reduce the opportunity to achieve infrastructure-based competition through a third competitive network. In view of the characteristics of the relevant market, Nkom furthermore believes that a delivery exclusivity requirement could weaken the negotiating power of access buyers. Telenor itself also appears to assume that the opportunity to have agreements with two network owners can strengthen the negotiating power of access buyers.³⁰ In Nkom's assessment, both the consideration of achieving infrastructure-based competition through a third network operator and the consideration of promoting access buyers' negotiating power appear to limit Telenor's access to set the condition of delivery exclusivity.

195. Nkom acknowledges, however, that Telenor has a protection-worthy interest in setting certain delivery exclusivity requirements. The purpose of the regulation therefore indicates that considerations which justify giving the access buyer the right to parallel access must be weighed against Telenor's protection-worthy interests. In this weighing, Nkom can see reason to give greatest weight to the consideration of safeguarding the access buyer's opportunity for a parallel access agreement. At all events, the purpose of regulation indicates that the regulation may not permit Telenor to set delivery exclusivity requirements that extend further than is proportionate in order to safeguard this interest.

196. On this basis, the starting point for the regulation is that the access buyer has the right to parallel access agreements with several host operators. In order to ensure Telenor's opportunity to safeguard its own protection-worthy interests, the regulation nevertheless puts some restrictions on this right and provides for Telenor to have some access to set delivery exclusivity requirements, cf. below.

197. The access obligation as such is not intended to constitute a competitive advantage for the access buyer compared with owning its own mobile network. Telenor will therefore have a protection-worthy interest in the access buyer not being able to combine regulated access to Telenor's mobile network and simultaneous access under another host operator in order to offer better access to the mobile network than Telenor itself can offer. The regulation thus acknowledges that Telenor has a protection-worthy interest in being able to prevent an access buyer from using regulated access to gain competitive advantage in the retail market, compared to Telenor's own operations, for example by offering better coverage.

³⁰ See Telenor's remarks concerning Market 15 round I of 29.05.2005 (page 19): "Several service providers therefore also have mobile operations in both networks. This gives the service providers a strong negotiating position, in that they can direct all new customers to one of the operators for shorter or longer periods."

198. In Nkom's view, retail offers that use parallel access to other external mobile networks to offer coverage that, in real terms, can be perceived as better than Telenor itself can offer, will provide such a competitive advantage. Telenor will therefore be able to require that access buyers do not use regulated access to Telenor's mobile network to offer retail products whereby the end user can choose between subscriptions with coverage in Telenor's mobile network, or in another external mobile networks. Telenor will normally also be able to require the access buyer not to grant its existing end users the option to choose between coverage in Telenor's network or coverage in other external mobile networks during the subscription term. The same applies to any offer whereby the choice of coverage is made on behalf of the individual end user, for example as an automated solution.

199. Delivery exclusivity at SIM level entails that an access buyer is not permitted to offer its customers coverage from multiple external mobile networks on the same SIM. SIM (Subscriber Identity Module) denotes the module in the mobile phone that identifies the subscriber in the mobile network³¹. The absence of a delivery exclusivity requirement at SIM level will make it possible for a provider with MVNO or service provider access to offer access to, for example, both Telenor's and Telia's mobile networks on the same SIM. For an operator with a national roaming agreement, the absence of any such requirement would make it possible to offer access in its own network, supplemented with coverage from the two established network providers.

200. 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 individual host operators. A requirement from Telenor prohibiting the access buyer from using the access to Telenor's mobile network to offer coverage in Telenor's mobile network and in other external national mobile networks on the same SIM, will therefore be permitted under the regulation.

201. With brand exclusivity, Nkom's aim is that the access buyer is not permitted to combine access in Telenor's network with access under another host operator for the same brand.³² With regard to this type of delivery exclusivity, Nkom acknowledges that Telenor has a protection-worthy interest in counteracting that access buyers achieve competitive advantage in a retail market³³ by offering coverage in multiple external mobile networks under the same brand.³⁴ Telenor may therefore require that access to Telenor's mobile network may not be offered together with parallel coverage in another external mobile network under the same brand in the same retail market. In Nkom's assessment, the considerations which justify that Telenor may make such a requirement cannot, however, justify that Telenor may be able to refuse an access buyer's use of parallel access for various retail markets, even if these are offered under the same brand. Nkom concludes that Telenor is not to be permitted to include such terms in the company's access agreements.

202. In Nkom's view, the consideration that the access buyers must have a real opportunity to achieve parallel access agreements also speaks against permitting Telenor to include a delivery exclusivity requirement related to the same subscription. In Nkom's view, the opportunity to enforce the restrictions set up by the regulation concerning Telenor's access to set delivery exclusivity requirements, and that the obligations imposed must provide incentives for compliance, gives the same indication. Details of the individual subscription conditions that Telenor has indicated that they require in order to enforce such a delivery exclusivity

³¹ A SIM identifies the subscriber towards the mobile network through the access buyer's IMSI (International Mobile Subscriber Identity), country code and network code.

³² Brand is the term used here. Examples of brands in the mobile market are given in the market analysis, Chapter 3.1

³³ Cf. the market definition in the market analysis, Chapter 2.3.

³⁴ On migration, the access buyer can still use two networks for the same brand, cf. Chapter 7.1.7.4 concerning migration.

requirement, is also information that access buyers have a legitimate interest in protecting. Nkom concludes that Telenor is not to be permitted to set a delivery exclusivity requirement that is related to subscription/subscription conditions.

203. In Nkom's view, the requirement of delivery exclusivity at Group level is an expression of the exclusivity requirement in its most extensive form. This type of delivery exclusivity prevents Telenor's access buyers or companies in the same Group from purchasing access from network owners other than Telenor. The Group exclusivity requirement can weaken buyer power and reduce infrastructure-based competition and, in Nkom's view, goes much further than can be considered proportional to safeguard Telenor's protection-worthy interests. On this basis, Nkom finds that a requirement of exclusivity at Group level would not be a reasonable and proportional requirement. Nkom concludes that Telenor is not to be permitted to include such delivery exclusivity requirements in its access agreements.

204. In Nkom's view, Telenor has an incentive and the opportunity to set delivery exclusivity requirements that extend beyond the company's protection-worthy interest in setting such requirements. Delivery exclusivity requirements that extend beyond Telenor's protection-worthy interests might counteract the purpose of the regulation. In Nkom's view, it is not possible to effectively counteract such behaviour in a less restrictive way than by imposing explicit obligations on Telenor which limit Telenor's opportunity to set such requirements, cf. above. Based on the aforementioned, Telenor is prohibited from setting a delivery exclusivity requirement, with the exception of exclusivity at SIM level, and exclusivity associated with the same brand in the same retail market. Telenor is furthermore prohibited from including other terms, criteria or requirements that might otherwise limit access buyers' opportunity to have parallel access agreements.

7.1.7.4. Migration

205. Telenor has the incentive and the opportunity to limit access buyers' opportunity to achieve better access terms by leveraging that there are other providers of access in the relevant wholesale market. One possible strategy to achieve this might be to impede the migration of the access buyer's customer base to another host operator. In order to strengthen competition in the wholesale market, it is thus relevant to set requirements that prevent Telenor from setting unjustified limitations to the access buyer's opportunity for migration.

206. In recent years, Telenor's reference offer has set an agreement duration of 18 months, whereby the right to migrate to another host operator has been limited to the last 6 months of the agreement's duration. The access buyer's right to terminate the access agreement has been limited to the first 12 months of the agreement period. The limitations have been independent of whether the access buyer has had several immediately consecutive contract periods. Furthermore, Telenor has not offered any other contractual terms than those set out in the reference offer.

207. In accordance with the Market 15 decision from 2016, Nkom has required Telenor to amend the provisions concerning migration in the reference offer, including by setting the requirement that the reference offer must allow for the migration period to be for longer than 6 months. In overall terms, the grounds for this mandatory requirement are that the migration provisions in Telenor's reference offer have a strong lock-in effect and entail an unreasonable contractual term.

208. In the light of the aforementioned, Nkom believes that there is a need to set more specific requirements concerning the content of any restrictions that Telenor might impose on the access buyer's right to migrate to another host operator. In Nkom's view, it is necessary to set requirements concerning when access buyers can begin migration, and for how long the

migration period may last. Such requirements could make the access obligation more effective and increase predictability for affected parties.

209. Nkom acknowledges that Telenor has a protection-worthy interest in having a certain degree of predictability for the sale of access. The migration requirements must thereby take account of two considerations in particular. On the one hand, there is the access buyer's interest in being able to change host operator in an expedient manner, and on the other hand there is Telenor's interest in achieving predictability for the sale of access. These considerations will be contradictory to some extent, so that it is necessary that the requirements seek to maintain a reasonable balance between these interests. On weighing the need for the competition against Telenor's interest in achieving predictability for the sale of access, Nkom believes, however, that the need for competition must be given greatest weight.

210. Access buyers might have different needs and requirements in terms of the duration of their access agreement. The regulation does not prevent Telenor from meeting a request for an agreement duration that deviates from the duration in Telenor's reference offers³⁵. Telenor will also have a certain scope for manoeuvre to change the duration of the agreement in the company's reference offers. On determining the migration requirements, Nkom therefore does not consider it appropriate to assume that Telenor's access agreements have a specific agreement duration, for example 18 months, as Telenor's reference offers have indicated.

211. After weighing the relevant considerations, Nkom concludes that Telenor may require an access buyer to notify migration to another host operator with a reasonable deadline. A requirement from Telenor that such notification must take place within 9 months before migration commences would normally be reasonable, in Nkom's assessment.

212. Changing host operator could often entail extensive and complex processes, in particular concerning large customer groups or in the business segment. Furthermore, changing host operator entails a not-insignificant risk of losing end-customers during the process. The access buyer has to undertake the necessary analyses and create a detailed migration schedule. A migration schedule should include such factors as which customers are to be transferred in which periods, how the dialogue with various customer groups should be, how customers are to be notified, and how the customer centre's increased demand is to be handled. The access buyer will also have a need to be able to reassess and adjust the migration plan as they gain experience from implementing the migration. The access buyer will therefore need to have a certain amount of time, to be able to achieve appropriate migration to a new host operator. Nkom therefore believes that there is a need to require Telenor to give the access buyer reasonable time to migrate to another host operator.

213. For the access buyer that is to migrate end users in the private market, a request for a migration period of up to 12 months will normally have to be considered reasonable. Telenor must thus comply with any such request.

214. In the business market, changing host operator could be more complicated. Here, long-term contracts are often used, and in many cases the provider must undertake extensive obligations towards the end user, including specific network and coverage requirements. An access buyer might therefore need a longer migration period on migrating customers in the business market than in the private market. Nkom also acknowledges that very long migration periods can lead to a lack of clarity concerning the relationship between Telenor's right to require delivery exclusivity at brand level in the same retail market, cf. Chapter 7.1.7.3, and the access buyer's right to migration. For an access buyer who is to migrate end users in the business market, a request for a migration period of up to 24 months will normally have to be considered reasonable. Telenor must thus comply with any such request.

³⁵ Nkom's assessments concerning agreement length are set out in Chapter 7.1.7.8 below.

215. To ensure that the right to migration is effective, Nkom imposes a general requirement on Telenor not to set up any requirements, criteria or procedures, etc. to prevent or impede the access buyer's opportunity to use the right to migrate to another host operator.

216. During the migration period, Telenor will not be able to require exclusivity at brand level, and in such cases the access buyer must be able to use coverage in two networks for the same brand. To ensure that the access buyer cannot use regulated access to gain competitive advantage over Telenor, Telenor will nonetheless be able to require that the access buyer's new sale must take place with coverage in the network of the host operator to which migration is to take place.

217. For the sake of good order, Nkom points out that the right to migrate retail customers to another host operator is not intended to interfere with other obligations assumed by the access buyer in relation to Telenor, for example to purchase a certain amount of traffic during the term of the agreement.

7.1.7.5. Access to require and share information from access buyers

218. In several contexts, it will be both appropriate and necessary for Telenor and access buyer to exchange information. For example, Telenor might need to obtain traffic forecasts from the access buyer, cf. Chapter 7.1.7.2, or information providing a basis to control compliance with contractual obligations. Telenor and access buyers will furthermore have to exchange information during the contractual relationship, typically on the access buyer's use of Telenor's wholesale products.

219. Telenor might have an incentive and opportunity to require information from the access buyer to a greater extent than indicated by the need to safeguard protection-worthy interests. Furthermore, Telenor might have incentives to use the information which the company receives as a wholesale provider in its own retail activity. In Nkom's view, the experience from the follow-up of the Market 15 decision of 1 July 2016 gives reason to impose requirements which restrict Telenor's opportunity to require information from, and undertake audits of, the access buyer.

220. In Nkom's assessment, the requirement that the access buyer might have to share certain types of information with Telenor could make regulated access less attractive and thereby undermine the purpose of the access obligation. Nkom refers to how the access buyer has a justified interest in shielding sensitive information and that sharing such information might entail that the access buyer breaches confidentiality agreements with third parties. Nkom also acknowledges that Telenor has a protection-worthy interest in the access buyer complying with the requirements that Telenor can set in accordance with the regulation.

221. Nkom concludes that a requirement from Telenor that the access buyer must share information with Telenor must be reasonable and proportional.

222. Section 4-13 of the Electronic Communications Act has provisions for a duty of secrecy concerning access and interconnection. According to the provision, each provider shall observe confidentiality concerning any information received from another provider prior to, during or subsequent to negotiations concerning access or interconnection agreements. The provision is limited to information received in connection with negotiations. As an access provider, Telenor will receive various information from the access buyer during the contractual relationship. Since Telenor is vertically integrated, as a general rule an access buyer will be a competitor to Telenor's own activity in the retail market, and Telenor will have an incentive to use the information for its own benefit.

223. On this basis, Nkom believes that it is necessary to set requirements for how Telenor can use the information they receive from the access buyer during the contractual relationship, and to require Telenor to protect the confidentiality of such information. This obligation entails that Telenor must ensure that such information is kept in its own business and is not disclosed

to unauthorised persons, including that such information is not shared within Telenor other than as necessary for the intended purpose of the information, or with any independent third parties, beyond what is strictly necessary. The access buyer will furthermore be entitled to receive further details of how such information is handled.

224. In Nkom's assessment, the limitations to which information Telenor may require from the access buyer and the requirements to protect confidentiality cannot be deemed to impose any great burden. Nkom furthermore cannot see that the purpose of the requirements made of Telenor can be safeguarded in a less restrictive way, and believes that the advantages for competition of setting these limitations exceed the disadvantages for Telenor. On this basis, Nkom believes that the requirements are proportional.

7.1.7.6. Unconditional and unilateral contract amendments

225. In Nkom's view, an unconditional right for Telenor to make unilateral changes to the company's access agreements might create clear unpredictability and entail a commercial risk for the access buyer. Nkom takes the view that this commercial uncertainty should be regarded as a cost which the access buyer would have to take into consideration on pricing its services in competition with, among others, Telenor. Unconditional and unilateral access for Telenor to make changes could therefore limit access buyers' opportunities to compete efficiently in the retail market. This applies regardless of whether the condition, according to its wording, gives such change access, or whether the condition is worded so that the effect of the condition is equivalent to that for unconditional and unilateral change access. On this basis, Nkom believes that it is necessary to consider requirements that limit the ability of Telenor to include provisions granting Telenor an unconditional and unilateral right to change an agreement.

226. The parties might have an interest in being able to make changes and adjustments to the agreement during the term of the agreement. Both access buyer and access seller could thus benefit from the agreement containing change mechanisms. The extent to which such change mechanisms are arranged to give balanced rights and obligations between the parties will in principle depend on the balance of strength between the parties, and thereby on the degree of competition in the relevant market. The balance of strength between Telenor as a provider with significant market power, and the access buyer, and the level of competition in the relevant market, does not provide any basis for balanced rights and obligations. In Nkom's assessment, it is therefore necessary to require Telenor to arrange change mechanisms in the access agreements so that changes can normally only be invoked on the basis of negotiation and agreement between the parties

227. In certain contexts, however, Telenor might have a protection-worthy interest in unilaterally implementing changes to the company's access agreements. This will apply, for example, if changes in regulatory conditions mean that, without changes, Telenor will act contrary to the regulatory requirements. Thus, the regulation allows that Telenor may include such provisions regarding conditional, unilateral changes in Telenor's access agreements. Such a power to unilaterally change an agreed access agreement shall nonetheless not go further than what is reasonable and proportional.

228. Nkom concludes that Telenor may not include terms in its access agreements concerning regulated access that give the company unconditional and unilateral access to make changes. Nkom furthermore concludes that change mechanisms in Telenor's access agreements shall be arranged so that changes can normally only be invoked on the basis of negotiation and agreement between the parties.

229. In Nkom's view, the restrictions in the ability for Telenor to include provisions regarding unconditional and unilateral changes, and obligation to normally have change mechanisms

based on negotiations, involves in itself a small burden on Telenor. Nkom cannot see that the need to ensure balanced access terms for buyers of regulated access can be fulfilled in a less invasive way. Nkom finds that the benefit for the competition by setting the above mentioned requirement outweighs the disadvantages for Telenor. Against this background Nkom finds that the requirement is proportional.

7.1.7.7. Right of cancellation in case of unilateral contract amendment

230. In its reference offers concerning MVNO access and service provider access under the regulation from 2016, Telenor has set the condition of unilateral access to make changes without the access buyer having any corresponding right to exit the contractual relationship.

231. Any such access to make changes for Telenor without the access buyer having the right to exit the contractual relationship would entail unpredictability for the access buyer and might disrupt the balance in the contractual relationship. As an operator with significant market power, Telenor might also have the incentive and opportunity to utilize any such access to make changes to weaken access buyers' opportunity to compete efficiently, including with Telenor's retail activity. In Nkom's assessment, it is therefore necessary to require Telenor to include mechanisms giving the access buyer the right to exit the contractual relationship with Telenor, if Telenor unilaterally changes the access agreement with the access buyer. Nkom cannot see that the need to ensure balanced access terms for buyers of regulated access can be achieved in a less invasive way.

232. Nkom concludes that Telenor shall be required to include in its access agreements a right for the access buyer to exit the contractual relationship with Telenor within reasonable time, if Telenor unilaterally changes the access agreement with the access buyer. In this period, the access buyer shall not be bound by new terms. In Nkom's view, such a requirement places only a small burden on Telenor. In the view of Nkom, this can not be achieved in a less invasive way. Furthermore, the benefits for competition outweigh the disadvantages for Telenor. Nkom finds, against this background, that the requirement is proportional.

7.1.7.8. Agreement duration

233. Access buyers might have different interests in terms of the duration of an access agreement. For example, access buyers offering their services in a retail market with longer agreement terms and where the contractual clauses are more individualised, might need a longer contractual term than a provider that exclusively provides services in the residential market.

234. For different access buyers to be able to compete effectively in the retail market and on equivalent terms to Telenor's own retail activity, Nkom considers it important that access buyers can achieve predictability for access and access terms for a certain period going forward. The access buyer thus has a justified interest in achieving an access agreement with a certain duration.

235. In recent years, Telenor has only offered access agreements with the duration indicated by the reference offers, i.e. with terms of 18 months, and as of now only offers access agreements without a fixed duration. Nkom therefore sees reason to hold that Telenor cannot refuse an otherwise reasonable request for access solely on the basis that access is requested with a different agreement term to Telenor's reference offers.

236. According to Nkom's assessment, this requirement related to the agreement period is not very burdensome for Telenor. The purpose of this duty for Telenor cannot, in Nkom's opinion, be achieved in a less intrusive manner. The advantages for competition outweigh the disadvantages for Telenor by not being able to refuse an otherwise reasonable request solely because a different contract period is requested. According to Nkom's assessment, the requirement is thus proportionate.

7.1.7.9. Restriction of the possibility to terminate an agreement

237. Telenor will have an incentive and the opportunity to set the condition of a right of termination beyond what would be possible in a market subject to competition. Any such extensive termination right would contribute to uncertainty concerning the predictability for the access buyer on buying regulated access to Telenor's network and could thereby undermine the purpose of the access obligation. For its part, Telenor will also have a justified expectation of and interest in access buyers complying with the contractual terms that are in accordance with the regulation.

238. Telenor's right of termination must furthermore be viewed in the light that, under Section 2-5 of the Electronic Communications Act, the provider has an obligation to obtain permission from Nkon before initiating the restriction of use, unless the latter is a consequence of payment default by the access buyer. In cases where no permission is required for the restriction of use, the provision stipulates that the provider against which the restriction of use is directed shall be notified at least one month prior to the disconnection. The requirements in Section 2-5 of the Electronic Communications Act are due to, among other things, end-users' need for continuity in their use of electronic communication services, and due to the competition.

239. Telenor has had terms in its reference offers which, according to their wording, entail that for certain types of breach of the agreement terms, Telenor has an unconditional right to terminate the agreement. In Nkon's assessment, any such wording of the reference offer could create an erroneous impression of Telenor's access to terminate the access agreement, and uncertainty concerning the purchase of regulated access. In view of this, Nkom sees reason to limit Telenor's access to set terms regarding the right of termination in agreements on the purchase of regulated access.

240. With that in mind, Nkom finds that there shall be restrictions in Telenor's possibility to terminate an agreement for the purchase of regulated access. Nkom specifies that Telenor, in its access agreements, may only use terms that give a right of termination in the event of material breach of contract by the access buyer. Nkom specifies that Telenor shall furthermore ensure that any provisions in Telenor's access agreements granting the company the right to terminate an agreement on the purchase of regulated access shall reflect that Telenor is subject to further requirements, including notice, pursuant to Section 2-5 of the Electronic Communications Act. Nkom also specifies that Telenor may only include a right for Telenor to terminate the access agreement in the event of breach of requirements that Telenor can legally set in accordance with the Market 15 decision.³⁶

241. In Nkom's view, limiting the possibility for Telenor to terminate an agreement to cases of material breach, places only a small burden on Telenor. The purpose behind the requirement on Telenor cannot, in Nkom's view, be achieved in a less intrusive way, and the benefits for the competition outweigh the disadvantages for Telenor of not being able to

³⁶ In accordance with Section 10-11 of the Electronic Communications Act, an agreement in conflict with the Electronic Communications Act or a decision made pursuant to the Act shall be invalid between the parties.

terminate at any breach of contract. Thus, Nkom concludes that the requirement is proportionate.

7.1.7.10 General prohibition on setting unreasonable requirements

242. In order to limit Telenor's opportunity to set unreasonable requirements in relation to access buyers, Nkom has found it necessary to set several specific requirements for how Telenor is to fulfil the access obligation, cf. above.

243. Certain types of requirements from a provider that is subject to an access obligation could be equated with and entail denial of access. An order to grant access thus in itself entails that certain requirements are made of the party on which the access obligation is imposed, and of the access. In some cases, unreasonable requirements might also be affected by other obligations, and among other things might entail breach of the non-discrimination obligation.

244. In order to make the access obligation sufficiently effective, in Nkom's assessment there is reason to assess whether a general obligation should be imposed on Telenor not to set unreasonable requirements related to the access obligation in accordance with this decision. In Nkom's assessment, this obligation could facilitate increased predictability for affected operators and thereby contribute to more effective access negotiations. Nkom refers to how such a requirement gives scope to provide guidance on Telenor's room for manoeuvre by drawing up key elements of the assessment of whether a given requirement is reasonable. This obligation might also provide a clearer basis for intervening against any unreasonable claims that might be made.

245. On this basis, Nkom believes that the specific requirements set out in Chapters 7.1.7.2 to 7.1.7.9 must be supplemented with a general obligation not to set unreasonable requirements in relation to the access obligation according to this decision. Any such obligation would, among other things, entail that Telenor is not permitted to introduce procedures, criteria, requirements, definitions or other measures that might delay, limit or prevent the fulfilment of the access obligation. Whether a given requirement is considered to be unreasonable will depend on a specific overall assessment. Whether the requirement in question can be deemed to be justified by protection-worthy interests at Telenor, and the effect which the requirement is deemed to have for the competition in the relevant retail markets, will be key factors in such assessment. Another element to which weight might be given is whether the requirement can be considered to be customary in comparable commercial practice.

246. Nkom cannot see that a general obligation not to set unreasonable requirements in relation to the access obligation pursuant to this decision can be deemed to impose any great burden. Above, Nkom refers to how the access obligation in itself entails certain requirements and that such a requirement can ensure increased predictability. Furthermore, Nkom cannot see how the purpose of the requirement can be achieved in a less restrictive way in relation to Telenor. Nkom also refers to how Telenor cannot be deemed to have any protection-worthy interest in being able to set unreasonable requirements related to regulated access, and concludes that the requirement is proportional.

7.1.7.11 Indoor coverage

247. Indoor coverage is a challenge at many locations, not least in newer, energy-efficient buildings with thick walls and energy-preserving glass panes. According to a survey conducted

by Ericsson, no less than 60 per cent of respondents were not satisfied with the indoor coverage³⁷.

248. There are various different solutions to improve indoor coverage. Repeaters receive, amplify and send the signals out on the operator's frequency. Small cells, such as femtocells, normally use the operator's frequencies and can (unlike repeaters) build own coverage. A distributed antenna system (DAS) consists of cables and antennas that are connected to a repeater or base station. WiFi routers connected to the mobile network could provide indoor coverage for both voice and data.³⁸

249. Telenor has chosen a Cel-Fi signal booster to improve indoor coverage for businesses. Cel-Fi is a signal booster that, via an internal or external antenna, picks up 4G signals from outside and sends them in.³⁹ According to Telenor, the solution is available to all business customers connected to Telenor's network. Only Cel-Fi signal boosters approved by Telenor are permitted to be used in Telenor's network.

250. Voice via WiFi is an alternative solution to amplify indoor mobile coverage. This solution entails connecting the mobile phone to the wireless network inside. There is no need for a mobile signal to make calls or send text messages. Voice is transmitted as data packets via wireless networks. On moving away from the wireless network, the mobile phone will connect to the 4G network automatically. It is a weakness, however, that the call will fail if 4G coverage is not available⁴⁰. At the present time, the solution is not a satisfactory substitute for indoor coverage on the mobile network.

251. 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 Telenor shall be required to grant access to the access buyers to the solutions that offered by Telenor to improve indoor coverage on its own network. Nkom therefore finds that the access obligation also includes indoor coverage. This also entails that Telenor must meet reasonable requests to change coverage and/or improve indoor coverage at the locations requested by the access buyer, just as Telenor would have done for its own retail operations. Grounds must be given for rejection of any such request, see Section 4-1 of the Electronic Communications Act. The conditions for such measures must be reasonable and proportional.

252. In Nkom's view, the requirement related to indoor coverage represents a small burden on Telenor. Nkom is of the view that this cannot be achieved in a less intrusive way. Against this background, Nkom finds that the requirement is proportional.

7.1.7.12 Finalising agreements

253. 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.

254. Section 4-1 of the Electronic Communications Act authorises the stipulation of rules concerning time spent. Article 12, no. 1, paragraph three of the Access Directive also states that the regulatory authority must be able to impose such requirements. It is therefore relevant to assess whether the access obligation should be supplemented with a requirement that negotiations for regulated access may not be prolonged unnecessarily.

³⁷ <https://www.ericsson.com/en/networks/offerings/5g/5g-supreme-indoor-coverage>

³⁸ <https://www.telia.no/magasinet/wifi-tale/>, <https://www.telenor.no/privat/dekning/innendorsdekning.jsp>

³⁹ <https://www.telenor.no/bedrift/dekning/cel-fi/>

⁴⁰ <https://www.telenor.no/privat/dekning/wifi-tale.jsp>

255. It follows directly from Section 4-1 of the Electronic Communications Act that Telenor, as a provider with significant market power, must document and give grounds for 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. An obligation to provide grounds for the rejection of reasonable requests will not, however, be focused directly on the relevant competition problem and, in Nkom's view, will therefore not be adequate in this context.

256. Telenor is ordered to have reference offers for the forms of access described above. 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, a reference offer requirement could indirectly, to some extent, rectify competition problems related to delaying tactics.

257. An obligation of non-discrimination will also be imposed on Telenor. To some extent, any such requirement could 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.

258. Section 11 of the Norwegian Competition Act could be brought to bear against the use of delaying tactics⁴¹. However, it is clear to Nkom that this provision is not suited to effectively alleviating the relevant competition problem.

259. 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 neither individually nor collectively adequate to alleviate the relevant competition problem to a sufficient degree. In Nkom's view, the regulation of Telenor's response time may nonetheless not be considered to be particularly burdensome when viewed in relation to the potential consequences of an unnecessary delay for the other party and thereby for competition.

260. Concerning the co-location agreement, reference is made to the deadline specified in Chapter 7.1.5.3.

261. Telenor shall, upon request from an access seeker that claims to have been experiencing delaying tactics, without undue delay 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. Telenor shall submit a copy to Nkom of its response to the request for documentation of the use of time. The transmission to Nkom shall take place without undue delay and normally at the same time as the response is sent to the access seeker..

262. In Nkom's view the requirements regarding finalising of agreements represents only a small burden on Telenor. Furthermore, Nkom finds that the purpose of the requirements on Telenor cannot be achieved in a less intrusive way. In addition, the benefits to the competition outweigh the disadvantages for Telenor. Thus, Nkom finds that the requirements are proportionate.

7.1.7.13 Overall assessment of proportionality

263. In Chapters 7.1.7.2 to 7.1.7.12 above, Nkom has concluded that a number of requirements must be imposed on Telenor relating to how Telenor is to fulfil the access

⁴¹ https://lovdata.no/dokument/NL/lov/2004-03-05-12/KAPITTEL_3#§11

obligation. Nkom has furthermore concluded that each of the requirements is proportional. Here, Nkom will assess the proportionality of the requirements in overall terms.

264. The overall justification for the requirements is that they are appropriate and necessary to rectify the competition issue of unreasonable requirements and to make the access obligation sufficiently effective. The requirements are furthermore based on the experience Nkom has gained from previous regulation periods.

265. Nkom acknowledges that the requirements will entail a reduction of Telenor's freedom to act in a number of areas. Unreasonable requirements related to the purchase of regulated access are a relevant competition issue, however, and could have a significant negative effect on competition. Furthermore, Nkom cannot see that there are less restrictive alternative options to rectify the current competition issue. Nkom thus believes that the advantages for competition of setting these requirements exceed the disadvantage for Telenor of curtailing the company's freedom to act.

266. In Nkom's assessment, the clarifications made above would to a great extent be followed by other obligations under the decision. However, the clarifications provide increased predictability for all parties involved and a clearer basis for intervention. The clarifications are thus appropriate to ensure that the regulation can be more effective.

267. On this basis, Nkom concludes that the requirements are also generally proportional.

7.1.8. Specific obligations related to access

268. Nkom refers to the aforementioned assessments concerning which special obligations associated with access are to be imposed on Telenor in Market 15. The special obligations imposed on Telenor ASA (in the remainder of the chapter referred to as Telenor) are stated in this chapter.

269. As a consequence of the designation of Telenor as a provider with significant market power in this market, Telenor will also have individual obligations associated with access, as a direct consequence of the Norwegian Electronic Communications Act. In these cases, Nkom also has occasion to impose and define such obligations in further detail on the basis of Section 4-4, paragraph four, and Section 4-5, paragraph five, of the Electronic Communications Act.

270. Pursuant to Section 4-1, paragraph one, of the Electronic Communications Act, Nkom requires Telenor to meet any reasonable request for access within the market for access and call origination on public mobile telephone networks, in line with Chapter 7.1. Requests for national roaming, cf. Chapter 7.1.2, MVNO access, cf. Chapter 7.1.3, and service provider access, cf. Chapter 7.1.4, will normally be considered to be reasonable. Requests for access to national roaming with one-way or two-way seamlessness, and/or geographical coverage throughout the country, cf. Chapter 7.1.2.1, will normally also be considered to be reasonable. In the same way, a request to close access to the network in specified areas, or a request to only purchase access in delineated areas, will normally be reasonable, subject to the assumption that it is technically responsible to restrict access to the requested area, cf. Section 4-1 of the Electronic Communications Act.

271. Pursuant to Section 4-1, paragraph one, and Section 4-4, paragraph four, of the Electronic Communications Act, Nkom imposes an obligation on Telenor to accommodate any reasonable request for co-location within the market for access and call origination on public mobile telephone networks, in line with Chapter 7.1.5. Nkom specifies the following:

- Telenor is obliged to provide the information necessary to initiate a reasonable request for co-location, including a mast drawing with antenna information or similar information. This information must be issued to the requesting party without undue delay and within 14 days of the request.
- A request for co-location that requires infrastructure capacity expansion may be deemed to be reasonable on the basis of an overall assessment, cf. Section 4-4, paragraphs three and four of the Electronic Communications Act, cf. Section 4-1, paragraph two of the Act. Telenor must fulfil reasonable requests for capacity expansion after a weighing of Section 4-1, paragraph two, of the Electronic Communications Act. A request will in principle be reasonable in cases where the requesting provider can demonstrate that there are no alternative locations that make it possible to offer equivalent area coverage at an equivalent or lower cost.
- For capacity expansions, in principle the simplest and most reasonable priced alternative should be selected. Telenor must perform a thorough assessment of alternative solutions in each individual case. If there are simpler and more reasonable priced alternative solutions than the one that is chosen, Telenor should substantiate the assessment behind the choice. In cases where an exemption according to The Planning and Building Act is required before any changes to the construction of the site can be made, the requesting party shall receive a copy of the application when it is submitted. Costs for processing the application can be charged the requesting party.
- In cases where Telenor offers placement, but where this will entail construction contributions, it must also be possible to document the capacity shortfall, including whether this is due to reservations concerning future placement. The offer must also state when the right to reserve will expire.
- The site for placement can be reserved by Telenor or other parties for a maximum of 12 months. There must be documentable expansion plans for the right to reserve to be maintained at the expense of a specific request during the 12-month period.
- On any capacity expansion, operators that have already deployed equipment will retain their sites. Telenor will determine its own location, but as a general rule must cover the costs of any relocation of its own equipment. In cases where the relocation of equipment is necessary to maintain existing quality, redundancy, coverage or capacity, the costs of the relocation will be covered by the requesting party. In such cases, the costs for relocation shall be specified in the offer and Telenor must justify the necessity of the relocation to the requesting party. New requesting parties will be given space as it becomes available.
- Co-location agreements must be finalised without undue delay. Co-location offers must normally be made within six weeks. If the requesting party accepts placement proposals, the placement preparations must be initiated and performed without undue delay.
- Pursuant to Section 4-4, paragraph six, second sentence of the Electronic Communications Act, refusal of a request for co-location must be justified and documented. The grounds must include all information necessary to assess the basis for the refusal. If the refusal is due to a shortage of capacity, Telenor will be obliged to give a specific account of which options have been assessed and why it will not be reasonable to expand capacity. If a capacity shortage is due to opt-outs, this must be stated in the grounds for the refusal, and it must be stated when the right to opt-out expires.

272. Telenor should biannually report to Nkom the following information on the processing of requests for co-location:

- The number of received requests for information, including the number of requests that was processed within 14 days
- The number of received requests for co-location, including the number of requests that was processed within 6 weeks
- The number of requests that have been granted
- The number of granted requests that involves a construction contribution, specified in number of construction contributions below and above NOK 500.000.
- The number of confirmed orders from applicants
- The number of confirmed orders that involves a construction contribution, specified in number of construction contributions below and above NOK 500.000.
- The number of refused applications, including the most common background for refusal

273. Nkom may request further information if this is needed. The first report in accordance with this decision must include the first half of 2020 and be submitted before 1 August 2020. After this, half-yearly reports must be submitted before 1 February and 1 August each year.

274. Pursuant to Section 4-1 of the Electronic Communications Act, further requirements are imposed on Telenor for how Telenor is to fulfil the access obligation, cf. section 7.1.7.1 and below.

275. Any requirement from Telenor for the provision of security must be reasonable and proportional. This entails, among other things, that such requirements must be proportional to the commercial risk to which Telenor is exposed, and must be proportional to equivalent requirements vis-a-vis other access buyers. Telenor may not require forecasts other than what is necessary for dimensioning purposes, and must ensure that such information only flows to employees who require this information. See further details of the requirements in Chapter 7.1.7.2.

276. Telenor is not permitted to set terms concerning negotiation exclusivity in connection with negotiations to enter into or amend an agreement on regulated access, cf. Chapter 7.1.7.3.

277. Telenor must offer access without provisions concerning delivery exclusivity. The prohibition does not include delivery exclusivity at SIM level. The prohibition will also not prevent Telenor from requiring that access to Telenor's mobile network may not be offered together with parallel coverage in other external mobile networks under the same brand in the same retail market. Telenor may furthermore require that access buyers do not use regulated access to Telenor's mobile network to offer retail products whereby the end user can choose between taking out subscriptions with coverage in Telenor's mobile network or in other external mobile networks, and will normally also be able to require that the access buyer does not enable its exiting end-users to choose between coverage in Telenor's network or coverage in other external mobile networks during the subscription relationship. Telenor is prohibited from setting other exclusivity requirements. Nkom refers to Chapter 7.1.7.3.

278. Any requirements made by Telenor which limit the access buyer's opportunity for migration must be reasonable and proportional. A requirement from Telenor for the access buyer to give up to 9 months' advance notice before migration commences will normally be reasonable. Telenor is obliged to grant the access buyer a migration period of reasonable length. For an access buyer that is to migrate end users in the private market, a request for a migration period of up to 12 months will normally be reasonable. For the business market, a request for a migration period of up to 24 months will normally be reasonable. Telenor may not set requirements, criteria or procedures, etc. which prevent or impede the access buyer's

opportunity to use the right of migration to another host operator, and during the migration period Telenor may not require brand exclusivity, cf. Chapter 7.1.7.4.

279. Any requirement from Telenor for the access buyer to share information with Telenor, or anyone Telenor sets out to act on their behalf, must be reasonable and proportional. Telenor must protect the confidentiality of such information, and among other things ensure that such information is not shared internally in own business, other than as necessary for the purpose for which the information is obtained, cf. Chapter 7.1.7.5.

280. Telenor will be obliged to design change mechanisms in the access agreements so that changes can normally only be applied on the basis of negotiation and by agreement between the parties. Telenor may not include terms that give Telenor unilateral access to change that goes beyond what is reasonable and proportional. Telenor may not include terms that give Telenor an unconditional and unilateral access to change, cf. Chapter 7.1.7.6.

281. If Telenor sets the condition of a right to unilaterally amend an access agreement, the agreement must also give the access buyer the right to withdraw from the contractual relationship within reasonable time in the event of any such change, without being bound by new terms. Reference is made to Chapter 7.1.7.7.

282. Telenor may not refuse an otherwise reasonable request for access on the sole grounds that access is requested with a contract term of a different length to Telenor's reference offers, cf. Chapter 7.1.7.8.

283. In its access agreements, Telenor may not include terms that give Telenor a right of cancellation, unless the access buyer is in material breach of the contract. Any provisions in Telenor's access agreements which grant Telenor a right of cancellation must reflect how Telenor is subject to specific requirements, including notification requirements, pursuant to Section 2-5 of the Electronic Communications Act. Reference is made to Chapter 7.1.7.9.

284. A general obligation is imposed on Telenor not to set unreasonable requirements in relation to the access obligation pursuant to this decision, cf. Chapter 7.1.7.10.

285. Telenor must meet reasonable requests from the access buyer to change coverage and/or improve indoor coverage at the locations requested by the access buyer, just as Telenor would have done for its own retail business. Telenor's terms for such measures must be reasonable and proportional, cf. Chapter 7.1.7.11.

286. All agreements concerning access and call origination in Telenor's mobile network must be negotiated without undue delay. If access is denied, Telenor must give the requester a documented and justified refusal 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 necessary to assess the basis for refusal, such as the reason why access has been denied, together with the necessary documentation. Concerning any claim of delaying tactics, Telenor must send Nkom a copy of Telenor's response on any request for documentation of the time spent. Reference is made to Chapter 7.1.7.12.

7.2. Non-discrimination

7.2.1. General information about non-discrimination

287. In Chapter 5, various types of discrimination are identified as competition problems in the relevant market.

288. Section 4-7 of the Electronic Communications Act authorises Nkom to impose a non-discrimination obligation. The first and second paragraphs of the provision read:

“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.”

289. The provision grants the authority to impose an obligation of non-discrimination in two areas: The first paragraph grants the authority to require non-discrimination between external providers. The second paragraph grants the authority to require non-discrimination between external operations and own operations.

290. It is evident from the preparatory remarks concerning the provision⁴² that non-discrimination must be viewed in particular in the context of the purpose of the access regulations and that the requirement of access on non-discriminatory terms must compensate for the disadvantage of the provider not itself owning or controlling the necessary infrastructure. It is furthermore stated that non-discrimination entails the requirement of the same functionality, and that “[the]a decisive aspect in a competition context is that the offered ‘service’ is designed so that it can be competitive on equal terms”.

291. The overall purpose of requiring access to be granted on non-discriminatory terms is thus that access, with the associated terms, must be designed so that it can be competitive on equal terms. Non-discrimination will therefore entail that a provider with significant market power must treat similar situations equally with regard to access, prices, price structure⁴³, quality, information, and other terms, irrespective of which activities they concern. Further, non-discrimination can also entail that different situations must be treated differently.

292. Non-discrimination does not necessarily entail that all businesses that are similar must have identical terms, but that any differences in the terms that are granted must be based on objective criteria.

7.2.2. Assessment of the need for a non-discrimination requirement

293. A vertically integrated provider with significant market power may have the incentive and the opportunity to discriminate between its own and other providers’ retail activities in order to leverage market power from the wholesale market to the related retail markets. Discrimination can take place with regard to parameters such as access, price level, price structure, quality, information and other terms.

294. A provider with significant market power may furthermore have an incentive and opportunity to discriminate between external customers as a strategy for utilising market power. Such discrimination might be based on the same parameters as for discrimination between own and other providers’ retail activities, and could, for example, consist of information bias, varying quality of services, varying correction times and unreasonable contractual terms. One effect of such a strategy might be that Telenor offers poorer terms to providers that constitute the greatest competitive threat in the related retail markets, or gives benefits to providers that may offer Telenor a quid pro quo.

295. A non-discrimination requirement could prevent the leveraging of market power from the wholesale to the retail market, by reducing the scope to engage in exclusionary behaviour. In this context, exclusionary behaviour means attempts to deny access to and shut out

⁴² Cf. remark to the provision, cf. Proposition no. 58 (2002-2003) to the Odelsting, pp.104-105.

⁴³ Reference is also made to the Ministry’s decision of 9 March 2018, p. 47 https://www.nkom.no/marked/markedsregulering-smp/anbefaling-2004/marked-15/_attachment/35776?_ts=1653c3dd565

competitors from markets by operating with prices, quality differences, information bias or other access terms that favour the provider's own activities.

296. In the decision of 1 July 2016 in Market 15, Telenor became subject to a non-discrimination requirement with regard to prices and other terms of access to national roaming, MVNO access, service provider access and co-location. The requirement applied between external operations within the same access form, and also between own and external operations.

297. Nkom believes that discrimination in terms of both price and quality still presents particularly relevant competition problems in the relevant market, and in this respect refers to Chapter 5.

298. To a certain extent, discriminatory behaviour could be rectified through price control and/or transparency obligations. A transparency requirement can make it more difficult to maintain a discriminatory practice, among other things because the behaviour is made more visible. The obligation to provide access in combination with price control will limit the scope for manoeuvre of the provider with significant market power. However, there are price conditions that are not captured by price control, but which can still present competition problems in the relevant market, and which can be rectified via the non-discrimination requirement. Nkom therefore believes that price control and transparency obligations alone will not be sufficient to resolve the competition problems related to discrimination.

299. Discriminatory terms might also fall under Section 11 of the Norwegian Competition Act. Any reactions from the Norwegian Competition Authority might consist of an order that the unlawful situation must cease, with an infringement fee. In Nkom's assessment, the competition problems related to discrimination in the relevant market indicate that relatively detailed non-discrimination requirements should be drawn up in advance. The need for predictability and prompt intervention therefore indicates that the provision in the Competition Act will not provide an adequate degree of protection against discriminatory behaviour in the relevant market.

300. On this basis, Nkom believes that there is a need to impose a non-discrimination obligation on Telenor concerning access covered by this decision, in terms of price and also other conditions besides price. For the non-discrimination requirement to be sufficiently effective, Nkom believes that the requirement must apply between own and external operations, and between external operations within the same access type. The non-discrimination obligation will apply to all access forms imposed in Chapter 7.1.

301. Discrimination may occur in many different forms. It is therefore difficult to identify every consequence of an obligation of non-discrimination in advance. Below, however, Nkom will specify a number of types of instances and specify the content of the non-discrimination requirement. It is, however, neither expedient nor possible to specify all conceivable situations. This presentation must therefore not be considered to be exhaustive, and concrete assessment would be required of whether given behaviour or agreement terms entail discrimination.

302. Access agreements must in principle be entered into after commercial negotiations within the framework of the current regulation⁴⁴. Telenor's flexibility on submitting an offer concerning regulated access products in terms of price, price structure and other conditions must be viewed in this light.

⁴⁴ The Ministry's decision of 9 March 2018, p. 52.

7.2.3. Further details of the content of the non-discrimination obligation between external enterprises

303. The requirement of non-discrimination between external access buyers is intended to ensure that Telenor cannot limit the competition in the retail market by setting access terms that favour certain providers over others, without this being founded on objective conditions.

304. The requirement of non-discrimination between external access buyers therefore entails that Telenor must treat external access buyers equally, so that they have equal opportunities to compete in the retail market. The requirement thereby entails a prohibition against discrimination between buyers of the same access form, with respect to price or other conditions.

305. The non-discrimination requirement furthermore entails that when a competing provider achieves better terms, equivalent terms must be offered to other competing providers. When this happens, Telenor should inform other competing providers, and they should have the right to renegotiate their terms.

306. The non-discrimination requirement entails that not all access buyers must necessarily have equal terms. On the contrary, the requirement entails that all buyers of regulated access must be able to enter into an access agreement on such terms as are stipulated in existing access agreements. Telenor must therefore ensure that providers within the same access form have the opportunity to enter into an agreement on such terms as are offered to other providers of this access form. Telenor must furthermore ensure that access buyers can benefit from such terms as from the same time. To ensure a real opportunity to enter into an access agreement on the terms arising from existing access agreements, the access buyer must be able to change its agreement relatively quickly. Nkom therefore specifies that any required lock-in period must not prevent the access buyer from changing its terms, including price terms, pricing structure or other terms than price, as a consequence of the non-discrimination requirement.

307. Telenor's obligation according to the non-discrimination obligation applies for as long as it cannot be proved otherwise, based on objective conditions. The preparatory remarks state that:

"[un]equivalent services can be provided on unequal terms. The requirement of objective terms may, however, entail that terms cannot be differentiated solely on the basis of what the services are to be used for, or in relation to which providers they are offered to. The terms must also be clear, so that it is possible to verify compliance with the non-discrimination principle and the objectivity requirement."⁴⁵

308. A concrete decision in each individual case must be taken as to whether objective grounds exist. Nkom nonetheless considers it appropriate to prepare guidance for what will be given weight in such an assessment.

309. In the appeal decision of 9 March 2018, the Ministry provided guidance concerning what may constitute objective terms. In Chapter 6.4.6, the Ministry writes the following:

"The Ministry refers to how volume discount, volume commitment and lock-in period, among other things, may be objective reasons for different prices. Whether such conditions constitute an objective reason must be determined in the individual case. Reference is made to section 237 and Nkom's elaboration of how, when a competing provider achieves better terms, equivalent terms must be offered to other competing providers. This entails that it must be possible for the terms to result in a lower price for

⁴⁵ Proposition no. 58 (2002-2003) to the Odelsting, p.105.

all access buyers, for this to be considered to be an objective reason for different prices.

The fact that terms have a value for Telenor will not necessarily mean that this is an objective reason for different prices. The actual cost savings are central to the assessment of what is considered to be an objective reason. The cost savings must be documented and, to a certain degree, quantified in order to constitute a objective reason for different prices. This is in line with the Electronic Communications Act's preparatory work, which sets the requirement that the terms must be clear and verifiable, so that it is possible to control compliance."

310. Nkom believes that the Ministry's assessment is also relevant for the current period in the market for access and origination in public mobile telephone networks.

311. Volume discounts as mentioned, are often divided in to steps with discounts increasing with volume. This will be beneficial to operators with high volumes compared to smaller operators. The discounts should not be designed in a way that can limit the competition, for example if some operators get disproportionately large discounts without any justification in cost savings. Nkom refers to Competition rules, which also sets requirements for discounts applied by a dominant market player. The discounts can only be applied to the actual increment. Thus, the discounts cannot be retrospective, meaning that the discount within a threshold cannot be eligible to a larger volume than the actual increment.

7.2.4. Further details of the content of the non-discrimination obligation between own and external operations

312. The requirement of non-discrimination between Telenor's internal operations and external access buyers is intended to ensure that Telenor does not set access terms which favour the company's own retail operations to the detriment of external access buyers. The requirement will thus ensure that external access buyers have the same conditions as Telenor's own end-user operations to compete effectively in the retail market.

313. As a vertically integrated operator with its own mobile network, Telenor has full flexibility to design its retail products in terms of price, price structure and other conditions. The requirement of non-discrimination between its own and external operations entails that, as far as possible, the access that Telenor offers to access buyers must give the same opportunities and flexibility to design retail products as Telenor's own retail operations. Telenor's wholesale offer must therefore have characteristics so that, in terms of technical features, quality and price, the access buyer has the same opportunities as Telenor to offer products in the retail market.

314. Offering access to the access buyer that gives the same opportunities as Telenor's own retail operations entails that the access is not limited to mirroring the products Telenor itself provides at any time in the retail market. However, the aim of facilitating service innovation dictates that a distinction should be made between the facilitation required of Telenor to compensate for the fact that the access buyer does not itself own or control the necessary infrastructure, and the development that the access buyer can undertake itself.

315. The non-discrimination requirement entails that the access buyer must have access to the same bearer services as Telenor uses to realise its retail services, within the framework of the access obligation. With regard to the data transmission speed and quality, the speed and quality that are offered to Telenor's own retail operations at any time must also be made available to external access buyers.

316. The non-discrimination requirement dictates that services used by Telenor to increase the quality of its own services, and which use input factors that are subject to the access obligation, must also be made available to the access buyer, so that it can offer services to its

end-users that are of the same quality as that offered by Telenor. If this is not technically possible in particular cases, Nkom must be informed of this in writing without undue delay and before the services are taken into use by Telenor's own retail operations.

317. In some instances, access buyers must make changes to their own equipment etc. to be able to make use of the improved quality. In such cases, Telenor is responsible for whatever lies within Telenor's control sphere, while the access buyer is responsible for making the necessary upgrades and for facilitation within its own control sphere. Telenor must ensure that the access buyer receives all information that the access buyer can reasonably be deemed to require, in order to make adjustments for its part.

318. In order for access buyers to have conditions equivalent to Telenor's own retail operations, to be able to compete effectively in the retail market, it is necessary that they receive relevant information, including the necessary technical documentation, of the same quality and at the same time as Telenor's own retail operations. On request, Telenor must be able to document to Nkom that the requirement to provide information on non-discriminatory terms is fulfilled.

319. The non-discrimination requirement entails that Telenor must give the access buyer information concerning fault rectification at the same time and with the same content as to the company's own operations. If Telenor's retail operations offer compensation to end-customers that have experienced faults/downtime, Telenor will be obliged to offer access buyers compensation that gives the same opportunity as Telenor's own retail operations to offer compensation to the affected end-user.

320. The non-discrimination requirement furthermore entails that Telenor must give access buyers information about changes in the network (such as changes in technology) that are of significance to access buyers' offers in the retail market, at a time that gives access buyers equal opportunities to arrange themselves in the same way as Telenor's own retail operations.

321. The non-discrimination requirement entails a general requirement for Telenor to make all wholesale products subject to the access obligation available to the access buyer within a reasonable period of time. The requirement entails, among other things, that Telenor must ensure that the access buyers have sufficient time to develop and adapt their own IT systems and processes, so that they have the same opportunities as Telenor's retail operations to plan and offer new services in the retail market. Telenor therefore cannot make new or changed wholesale products that are subject to the access obligation available to access buyers at a later time than when they are made available to the company's internal retail operations.

322. In terms of price, the non-discrimination requirement entails that the price level of Telenor's wholesale offering may not be higher than the price that the company could charge its own retail operations. However, Telenor has no explicit access agreement between the company's wholesale operations and retail operations. Follow-up of the non-discrimination requirement in terms of price therefore cannot be based on direct comparison of the content of an internal access agreement with Telenor's offer of access to external buyers. As Chapter 7.4 shows, Nkom will use accounting separation as an instrument to follow up the requirement of a non-discriminatory price level. Accounting separation is, however, an aggregated instrument to follow up non-discrimination and does not preclude follow-up of the non-discrimination requirement between own and external retail operations by other means. Nkom assumes, however, that other regulatory requirements will limit the need for such follow-up.

7.2.5. Further details of the requirement concerning non-discriminatory price structures

323. The non-discrimination requirement entails that Telenor's wholesale offers may not have a price structure that favours, prevents or restricts access buyers' opportunity to compete

in the retail market, and thereby favours its own operations⁴⁶. In Chapter 7.5.9, Nkom sets more detailed requirements on price structure in Telenor's regulated wholesale agreements.

7.2.6. Proportionality

324. Nkom considers an order concerning non-discrimination for Telenor in Market 15 to be proportionate and appropriate to achieve the purpose of regulation. Nkom believes that non-discrimination is a relatively less burdensome obligation. The core of the obligation is equal treatment.

325. The non-discrimination obligation mainly entails a continuation of the regulation of the former Market 15, with the exception of individual clarifications.

326. In the decision, Nkom specifies the obligation to offer different price structures on request, including bulk price. Nkom believes that this is an important clarification in order to facilitate that access buyers have the flexibility and opportunity to compete on the same terms as Telenor's own operations, including by offering new pricing models. Nkom acknowledges that the clarifications may impose an extra burden on Telenor, but nonetheless considers them to be necessary, to ensure an effective non-discrimination obligation.

327. Nkom finds that the competition-related advantages of a non-discrimination requirement clearly outweigh the burdens for Telenor. Moreover, Nkom cannot see that there are other remedies that could adequately redress the competition problems that have been identified in relation to price discrimination and discrimination based on other variables besides price.

328. Nkom therefore concludes that the aforementioned non-discrimination obligations are proportionate.

7.2.7. Specific obligations related to non-discrimination

329. Nkom refers to the aforementioned assessments concerning which special obligations associated with non-discrimination are to be imposed on Telenor in Market 15. The special obligations imposed on Telenor ASA (in the remainder of the chapter referred to as Telenor) are stated in this chapter.

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

331. Pursuant to Section 4-7, paragraphs one and two, of the Act, Nkom will impose the requirement of non-discrimination between external operations, cf. Chapter 7.2.3 and between own operations and external operations, cf. Chapters 7.2.4 and 7.2.5. The requirement of non-discrimination between external operations will apply to buyers of the same form of access.

332. The requirement of non-discrimination between external operations entails that:

- Telenor must ensure that all buyers of the same access form must have the opportunity to choose among all existing access agreements. Telenor must ensure that if a competing provider achieves better terms, equivalent terms must be offered to other competing providers, unless there are objective reasons for different terms, cf. Chapter 7.2.3.

333. The requirement of non-discrimination between own operations and external operations entails that:

- Telenor's wholesaler offer must be designed in such a way that the access buyer has equal opportunities in technical, quality and price terms to develop and offer products

⁴⁶ See also the Ministry's decision of 9 March 2018, p. 49.

in the retail market that Telenor has in its own retail operations, cf. Chapter 7.2.4. The access is not limited to being able to mirror the products Telenor offers the retail market at any time, but must also give flexibility and the opportunity for service innovation for the access buyer, in line with Telenor's own operations.

- Telenor must give the access buyer access to the same carrier services that Telenor uses to achieve its retail services, within the scope of the access obligation, cf. Chapter 7.2.4. With regard to the speed and quality of data transmission, the speed and quality offered to Telenor's own retail operations at any time must also be made available to external access buyers.
- New services and product development that Telenor is to launch in the retail market, or use to increase the quality of its own products within the relevant markets, must normally be made available to access buyers, so that they can offer their end-users services of equivalent quality to that offered by Telenor to its own operations, cf. Chapter 7.2.4. If this is not technically possible in particular cases, Nkom must be informed of this in writing without undue delay and before the services are taken into use by Telenor's own retail operations.
- Telenor will provide access buyers with current information so that they have the same opportunities as Telenor's own retail operations to compete effectively in the retail market, with the same quality and at the same time as the Telenor's own retail operations. On request, Telenor must be able to document to Nkom that the requirement to provide information on non-discriminatory terms is fulfilled, cf. Chapter 7.2.4.
- Telenor must give the access buyer information concerning fault rectification at the same time and with the same content as to the company's own operations. If Telenor's retail operations offer compensation to end-customers that have experienced faults/downtime, Telenor will be obliged to offer access buyers compensation that gives the same opportunity as Telenor's own retail operations to offer compensation to the affected end-user, cf. Chapter 7.2.4.
- Telenor will make wholesaler offers at prices that may not be higher than the company could charge its own retail operations, cf. Chapter 7.2.4.
- Telenor's wholesale offer shall not have a price structure that hinders or restricts access buyers' ability to compete in the retail market, thereby favouring their own business.

7.3. Publication and reference offer

7.3.1. General information about the legal basis

334. Section 4-6, paragraph one of the Electronic Communications Act gives authority to require an undertaking with significant market power to publish specified information or prepare and publish 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.”

335. Pursuant to Section 4-6, paragraph two of the Electronic Communications Act, 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.

336. Pursuant to Section 4-6, paragraph four, the Authority may issue orders concerning where, how and on which terms the information will be made publicly accessible, and also order changes to the offer.

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

338. With regard to co-location, Section 2-6 of the Electronic Communications Regulation gives authority to order providers with significant market power to publish a number of elements related to the location of equipment.

7.3.2. Assessment of the need for transparency obligations

339. Transparency obligations play an important role in ensuring compliance with other imposed obligations such as the access obligation and non-discrimination obligation. Nkom refers to Chapters 7.1 and 7.2, in which Telenor is subject to requirements concerning access and non-discrimination. As stated above, Section 4-6, paragraph one of the Electronic Communications Act gives authority to order both the publication of specific information and the preparation and publication of a reference offer. Nkom believes that standard agreement requirements are the most relevant transparency obligation in Market 15. 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. A requirement for transparency via a standard agreement is furthermore appropriate to strengthen confidence that access will be provided on non-discriminatory terms. A requirement for transparency is also appropriate to support Nkom's control of compliance with the obligations concerning access and non-discrimination. Nkom believes that reference offers that are available to external access buyers are necessary in order to make the access obligation and the non-discrimination requirement sufficiently effective.

340. Nkom furthermore believes that it is sufficient to impose only one form of transparency obligation, which is the requirement to prepare and publish reference offers for the various different access forms. At the current time, Nkom does not see any need to require Telenor to publish specific information beyond what is stated in the reference offers.

7.3.3. General requirements concerning reference offers

341. The point of departure for imposing specific obligations is that Telenor has significant market power and can thereby, to a great extent, act independently of competitors and customers. 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 a type that would be expected to apply if the market was characterised by competition. This entails that, to a reasonable degree, the reference offers must balance the respective interests of Telenor and access buyers. On this basis, Nkom specifies that Telenor's reference offers may not include any terms that are unreasonable, cf. Chapter 7.1.7.1 above. Nkom therefore imposes a general obligation on Telenor not to include unreasonable terms in its reference offers. This is authorised under Section 4-6, paragraph four, cf. Section 4-1, of the Electronic Communications Act.

342. The content of Telenor's reference offers must reflect an offer of access on the terms and with the limitations stated in Chapter 7.1 concerning access, and Chapter 7.2 concerning

non-discrimination, for the access forms that are subject to Telenor's access obligation. The prices in the reference offers must be in line with the requirements presented in Chapter 7.4 Accounting separation and Chapter 7.5 Price and accounting regulation. A reasonable request regarding access must therefore be able to be accommodated with the terms stipulated in the reference offers.

343. The reference offers must reflect all services and products that the access buyer may require at any time, pursuant to the regulation. The products must be included in Telenor's reference offers early enough for access buyers to be able offer the same or equivalent services or products in the retail markets, at the same time as Telenor, cf. the discussion of non-discrimination in Chapter 7.2.4.

344. Nkom is of the view that detailed requirements of the content of the reference offers will generally be well suited to streamline access negotiations and ensure predictability for access buyers. The reference offers must be clear and adequately divided into individual elements with appurtenant terms. In line with Chapter 4-6, paragraph two of the Electronic Communications Act, the division must fulfil market requirements, so that the other party is not obliged to accept services, functions or benefits that have not been requested. The elements that the reference offers must contain, as a minimum, are stated in Chapter 7.3.8.

7.3.4. Publication of reference offers

345. Publication of reference offers is important to making the access obligation more efficient. Publication of the reference offer on Telenor's website is regarded as 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.

346. In previous decisions in Market 15, Nkom has concluded that the publication requirement should not include price information for national roaming, MVNO access and service provider access. The main reason for this has been that readily available price information might otherwise facilitate tacit collusion in this market. The risk of such collusion applies particularly to markets with few operators. So far, only Telenor and Telia have buyers of national roaming, MVNO access and service provider access in their networks, so that the market is still concentrated around only two providers.

347. To reduce the possibilities of tacit collusion, Nkom is still of the view that it is appropriate to safeguard the need for transparency for access buyers by other means than by setting requirements for the publication of price information. Operators that request regulated access must therefore, when requested and without undue delay, have access to all relevant price terms. Existing access buyers at Telenor must also at all times have knowledge of existing price terms, so as to have the opportunity to choose other price structures, in line with the non-discrimination requirement.

348. With regard to co-location, Nkom believes that the risk of tacit collusion does not apply 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, in overall terms more operators besides Telenor and Telia 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 effects. Based on this, Nkom is of the view that the requirement to publish a reference offer for co-location must also include prices.

7.3.5. Submission of agreements and amendments thereto

349. It is important that Nkom is kept updated at all times about applicable contract terms and amendments thereto, among other things so that Nkom can intervene quickly when required. Nkom therefore believes that there is a need to impose an obligation on Telenor to submit copies of all reference offers, including the reference offer for co-location. In addition,

Telenor must submit established agreements concerning national roaming, MVNO access and service provider access.

350. Reference offers (including amendments thereto) must be submitted to Nkom before they come into force. Individual reference offers must be submitted to Nkom without undue delay and no later than two weeks after the signature date.

351. For Nkom to be able to effectively monitor the requirement of non-discriminatory prices and price control pursuant to Section 4-9 of the Electronic Communications Act, it is necessary for Nkom to have an overview of the applicable prices at any time. When agreements are amended, the new prices may enter into force before the agreements have been formally signed by the parties. In such cases, Telenor must inform Nkom of the relevant changes without undue delay and at the latest at the time that the prices come into force. Agreements entered into must then be submitted to Nkom as described above, i.e. within two weeks of signing.

352. In the event of amendments to an agreement, it must be clearly stated in an accompanying document to the submission which parts of the agreement have been amended, dates when the agreement was last 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.

353. In the case of major changes in Telenor's existing reference offers, it is particularly important for transparent processes to take place, involving the access buyers and taking account of the needs of the access buyers, before such major changes are implemented. In this context, major changes are, for example, changes that could materially affect the access buyers' investments and/or choice of business model. Before Telenor makes any major changes to its reference offers, Telenor must obtain the views of the access buyers and involve the access buyers in the change process.

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

355. Reference offers, individual access agreements, information on changes to the agreements, and changes in current prices must be sent by email to avtaler@nkom.no.

7.3.6. Requirement of an extended notice period

356. Failing to notify changes in prices or other terms in due time 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 be made 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, cf. paragraph four, of the Electronic Communications Act, Nkom may stipulate an extended time limit for the notice, if this is necessary.

357. Pursuant to Section 2-4, paragraph three of the Electronic Communications Act, 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."

358. In order for providers that purchase regulated wholesale services from Telenor to have sufficient time for their own terms to reflect changes in Telenor's products or terms, Nkom considers it necessary to expand the general notification obligation pursuant to Section 2.4,

paragraph three of the Electronic Communications Act. On this basis and pursuant to Section 4-6, paragraph one, cf. paragraph four, of the Electronic Communications Act, Nkom imposes an obligation on Telenor to notify buyers of regulated access of any changes in existing offers that are to the disadvantage of the other party to the agreement and/or its end users no later than two months before the change is implemented. Without this extended obligation 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 obligation to give notice to their own end users. The obligation entails a continuation from previous decisions, and Nkom finds that an extended obligation to give notice is not disproportionately burdensome for Telenor.

359. Changes that disfavour are changes that will normally be considered burdensome or disadvantageous for wholesale customers and/or their end users; for example, but not limited to, price increases. The requirement of an extended notification deadline may not be understood as a right to unilateral amendment, cf. Chapter 7.1.7.6.

360. With regard to changes to the benefit of external access buyers and/or their end-users, such as price reductions and increased quality, a two-month notice period is not necessary. In line with previous practice, such changes can be made immediately.

7.3.7. Proportionality

361. Nkom believes that imposing an obligation concerning publication and a reference offer on Telenor in Market 15 is proportionate and suitable to achieve the purpose of the regulation. The requirement of publication and a reference offer, in line with the aforementioned requirements, is a relatively less onerous obligation and will entail administration costs for Telenor to a limited extent.

362. The publication obligation and reference offer is primarily a continuation of the regulation in the previous decision in Market 15.

363. In addition, Nkom is of the view that the benefits to competition from setting reference offer requirements for will outweigh the disadvantages such requirements might have for Telenor. Nkom is therefore of the view that it is proportionate to impose an obligation on Telenor to prepare and publish reference offers for regulated access forms.

7.3.8. Specific obligations relating to publication and reference offers

364. Nkom refers to the aforementioned assessments concerning which special obligations relating to publication and reference offers must be imposed on Telenor in market 15. The special obligations imposed on Telenor ASA (hereinafter in this chapter referred to as Telenor) are stated in this chapter.

365. Pursuant to Section 4-6 of the Electronic Communications Act, Nkom imposes an obligation on Telenor to draw up reference offers for national roaming, access for virtual operators (MVNO agreement) and access for service providers and co-location in accordance with Chapter 7.1 concerning access and Chapter 7.2 concerning non-discrimination and chapter 7.3.3. on general requirements concerning reference offers. The access prices in the reference offer must furthermore fulfil the requirements stated in Chapter 7.4 concerning Accounting separation and Chapter 7.5 concerning Price and accounting regulation.

366. The reference offers shall be sufficiently divided into individual elements with appurtenant terms and conditions. Pursuant to Section 4-6, paragraph two 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 benefits that are not requested. The agreement shall be kept up-to-date and, as a minimum, contain details of:

- description of service offered; including indoor coverage,

- 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,
- provisions regarding the right for buyer of access to renegotiate when another buyer of access obtain better terms and
- provisions regarding reasonable compensation for failure to meet the agreed quality level.

367. Pursuant to Section 10-3 of the Electronic Communications Act, Nkom orders Telenor to send Nkom all reference offers and agreements entered into relating to access and call origination on mobile networks, with the exception of agreements entered into concerning co-location, cf. Chapter 7.3.6. Signed copies of negotiated agreements shall be sent to Nkom without undue delay no later than two weeks after signing. Telenor 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 the changes have been adopted, and no later than two weeks after signing. If the changes enter into force before the agreements have been formally signed, Nkom must be informed of the changes in prices and discounts without undue delay and by no later than the date that these changes enter into force.

368. Pursuant to Section 4-6 of the Electronic Communications Act, Nkom imposes an obligation on Telenor to publish the reference offers, cf. Chapter 7.3.4. It will be sufficient that reference offers for access to national roaming, virtual operators, service providers and co-location are published on Telenor'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 will be sent current prices for the relevant access form. Existing access buyers must be also be kept informed of all applicable price terms in order for them to be able to choose from among the existing agreements in accordance with the non-discrimination requirement, cf. Chapter 7.2.3.

369. Price terms offered by Telenor on any request for national roaming must be submitted to Nkom without undue delay and no later than two weeks after the offer has been made, cf. Chapter 7.3.5.

370. In addition, Telenor ASA must inform Nkom immediately of any changes in current prices arising on the basis of contractual terms. Copies of agreements, information about changes to agreements that have been entered into and information regarding changes in current prices must be sent by email to avtaler@nkom.no, cf. Chapter 7.3.5.

371. In case of material changes in existing reference offers, including changes that certainly can affect the investments of buyers of access and/or their choice of business model,

Telenor should ask for the opinion of the buyers of access, involve them in the process and take their needs into account, cf Chapter 7.3.5.

372. Telenor must give advance notice to buyers of national roaming, MVNO access, service provider access and co-location of any change in existing offers that disfavour the other parties to the agreements and/or their end users, and by no later than two months before the change is implemented, cf. Chapter 7.3.6, cf. Section 4-6, paragraph one, cf. paragraph four, 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.

7.4. Accounting separation

7.4.1. General information about the legal basis

373. 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 related to interconnection and access.”

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

375. As Nkom sees it, the main purpose of accounting separation is to adhere to a requirement for non-discrimination between intra-company activities and external providers. Chapter 3.4 of Nkom’s remedies document provides a more detailed description of accounting separation.

7.4.2. Assessment of the need to impose accounting separation for national roaming

376. In Chapter 5, Nkom has identified price discrimination as an actual and serious competition problem in the relevant market. On this basis, requirements for non-discriminatory prices between internal operations and buyers of national roaming will be imposed in order to remedy this competition problem, cf. Chapter 7.2.4. Accounting separation will make such an obligation more effective.

377. Price discrimination could also be remedied through price control. In Chapter 7.5, Nkom accounts for how price control for national roaming is imposed on Telenor. Accounting separation has similarities with a margin squeeze test, but a margin squeeze test as envisaged by Nkom will, among other things, take place at a lower aggregation level than accounting separation. All of Telenor’s products will be covered by accounting separation. Nkom believes that these two remedies complement each other and that this will give the authorities a good starting point to gain a nuanced picture of the competitive conditions in the market. To be able to assess the overall competitive landscape for national roaming, Nkom believes that there is a need to impose accounting separation that gives a comprehensive picture of Telenor’s mobile operations.

378. The purpose of the accounting separation is to show whether a buyer of national roaming, with the same volume as Telenor⁴⁷, can run its operations with positive results, assuming that it operates as efficiently as Telenor.

379. Ice is the only buyer of national roaming, but in Telia's mobile network. Ice entered into a new national roaming agreement with Telia in May 2018. The agreement had a two year duration with the option of one more year. Ice have a need to negotiate a new access agreement with Telenor or Telia within the upcoming regulation period. Nkom is of the view that there is need for reporting of accounting separation for national roaming according to the principles that appear in this decision.

7.4.3. Assessment of the need to impose accounting separation for MVNO

380. As already mentioned, accounting separation can contribute to identifying any discrimination between Telenor's external wholesale customers and Telenor's internal operations. Accounting separation will show Telenor's revenue and costs in its retail operations if the retail operations had to purchase MVNO access from Telenor's wholesale operations at the same prices as external wholesale customers.

381. Price discrimination could also be remedied through price control. Since a margin squeeze test as described by Nkom in Chapter 7.5 takes place at a lower aggregation level than accounting separation, Nkom is of the view that it is necessary to impose an accounting separation obligation for the buyer of MVNO access, in order to follow up the non-discrimination requirement. Any such accounting separation would include all of Telenor's products. Accounting separation would thus be a supplement to the margin squeeze test imposed for MVNO access.

382. The market analysis in Chapter 3.3 shows that eRate is the only operator with an MVNO agreement in Telenor's mobile network. Today, eRate's customers are served with the help of the company's service provider agreement with Telenor, but the plan is for these to be gradually moved to the MVNO agreement.

7.4.4. Assessment of the need to impose accounting separation for service provider

383. In the decision of 1 July 2016, Nkom concluded that reporting accounting separation is not very appropriate to follow up the 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, in contrast to the service providers who offer products that to a great extent are targeted at selected segments in the retail market. As a rule, the service providers also have an even narrower product range than the operators with MVNO access. For example, several of the service providers do not have any offers for businesses.

384. 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 requirement for 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, so that the regulation does not reduce the incentives for investment, cf. Chapter 7.1.4.

385. On this basis, Nkom maintains that the requirement to report accounting separation should not include service provider access. Nkom is of the view that the other regulatory

⁴⁷ The principle of EEO (Equal Efficient Operator) is used for separated accounts, while the margins squeeze test use "adjusted EEO"

requirements that are imposed concerning service provider access are sufficient to remedy the competition problems for this form of access.

7.4.5. Further details of accounting separation for national roaming and MVNO

386. Accounting separation such as that imposed on Telenor by Nkom in the decision of 1 July 2016 in Market 15 is designed to show the result for Telenor's retail business as if it were organised as an independent entity and had faced the same access prices as buyers of national roaming and MVNO access from Telenor, respectively. Accounting separation comprises all revenue invoiced by Telenor to end users of mobile services, and revenue from interconnection to the same end users. Network operator costs, external costs of sales and internal costs related to sales and invoicing, etc. (avoidable costs) are calculated on the basis of Telenor's volume and are deducted from the revenue. The normal rate of return on capital in the retail business is also calculated and deducted in order to calculate the result.

387. The accounting separation gives a comprehensive picture of revenue and costs relating to Telenor's mobile operations. The reporting includes revenue and costs that a mobile operator might have, including revenue and costs that are not directly related to Telenor's regulated access products, such as international roaming and sale of handsets to end users. This is nonetheless revenue associated with traditional mobile telephony, including international roaming in the relevant retail market. As far as possible, revenue and costs must be specified. Each revenue item in the accounting statement must in principle 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, so that the revenue and cost sides correspond when relevant. Detailed and corresponding information about revenue and costs provide an opportunity to isolate the effects of including (or possibly excluding) certain products or services in the accounting statement, and increase the opportunities to analyse the reported figures.

388. In Nkom's decision of 1 July 2016, traditional M2M services in mobile networks were defined as a closely related retail market, and data traffic to provide M2M services was also included in the relevant wholesale market. M2M services were thereby covered by the reporting of the accounting separation imposed in the decision of 1 July 2016. The changes in the market delineation for this decision, whereby neither M2M nor IoT services are part of the relevant retail markets or the relevant wholesale market, must be reflected in the reporting of the accounting separation. This entails that revenue and costs associated with M2M communication must no longer be included in the accounting statement.

389. Network operator costs are calculated on the basis of Telenor's standard agreements for national roaming and MVNO access. Telenor is required to offer a standard access agreement, at a variable price, for each of the access forms, cf. Chapters 7.3.8 and 7.5.9. The calculation of the network operator's costs must be based on the reference offer with variable prices.

390. Volume discounts are often divided into levels, whereby the discount increases with the volume. Businesses with high volumes thereby have an advantage over minor access buyers. In Nkom's decision of 1 July 2016, a volume discount principle was adopted which indicates that the discount achieved for access buyers with the least volume during the period must be applied.

391. A volume discount that is higher than that used in the decision of 1 July 2016 will entail an advantage for Telenor since it will be easier to achieve a positive result in the financial statement. The regulation should also not facilitate ineffective establishment, which indicates that the volume discount in the accounting separation should not be too low. The development in market shares shows, however, that access buyers have only taken modest market shares, and it will thereby not be reasonable to assume a high volume discount.

392. For each of the access forms, national roaming and MVNO, the handling of discounts is continued by including the discount achieved for the access buyer with the least volume in the period. If Telenor doesn't have buyers of access in their network, there should be no discounts included in the reporting.

393. As a minimum, the non-discrimination requirement entails that the reporting shows a positive result. The accounting separation is based on aggregated accounting information for Telenor's entire traditional mobile operations and is therefore not suitable to reveal discrimination at a lower aggregation level, such as within specific market segments. Any discrimination at a lower aggregation level would thereby have to be assessed in another way than by using accounting separation.

394. 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. Reporting of accounting separation by Telenor is thus not, as such, suitable for investigating the margins for other operators in the Norwegian mobile market.

395. A negative or very weak result from the accounting separation might indicate that price discrimination between internal and external operations may have occurred. In such cases, Nkom will follow up on the matter and impose adjustment of access prices as required.

396. The technology to offer NB-IoT was recently implemented commercially and the retail offers are in an early phase in terms of application areas and price models. Nkom has a need to monitor the development in this market, as it might later be relevant to assess this as a separate market. Supplementary reporting is therefore imposed on Telenor whereby revenue and costs associated with M2M and NB-IoT are isolated. The reporting must otherwise adhere to the same principles as for accounting separation, but will not entail requirements concerning results, since the services are not regulated.

7.4.6. Proportionality

397. In connection with previous decisions, an exhaustive process has been carried out to determine detailed principles for the preparation of accounting separation, first for MVNO access and then also for national roaming. Well-functioning procedures have been established for reporting accounting separation and Nkom now has extensive experience from 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.

398. In the decision of 1 July 2016, half-yearly and yearly reporting of accounting separation were imposed on Telenor. In Nkom's view, reporting of accounting separation with this frequency is still necessary to ensure that Nkom can intervene with sufficient speed in the event of a breach of the non-discrimination obligation. 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 to be relatively limited. Since M2M has been included in the accounting reporting under the decision of 1 July 2019, separate reporting of M2M whereby IoT is included is not considered to be disproportionately burdensome.

399. In overall terms, Nkom considers the benefits to competition from imposing accounting separation for national roaming and MVNO access to clearly exceed the disadvantages for Telenor, and Nkom considers such an obligation to be proportionate.

7.4.7. Specific obligations related to accounting separation

400. Nkom refers to the aforementioned assessments concerning which specific obligations associated with accounting separation should be imposed on Telenor in Market 15. The

specific obligations imposed on Telenor ASA (hereinafter in this chapter referred to as Telenor) are stated in this chapter.

401. Under the authority of Section 4-8, first paragraph, of the Electronic Communications Act, Nkom imposes the requirement on Telenor to prepare accounting separation for its mobile operations in Norway, in line with Chapters 7.4.2 and 7.4.5. The accounting separation will provide a basis for monitoring that the prohibition against price discrimination vis-à-vis external buyers of national roaming is complied with, cf. Section 4-7, second paragraph, of the Electronic Communications Act.

402. Under the authority of Section 4-8, fifth paragraph, of the Electronic Communications Act, Nkom requires Telenor to divide the value chain into wholesale operations and retail operations, and to show Telenor's revenue and costs in the retail operations if Telenor's retail operations had to purchase national roaming from Telenor's wholesale operations at the same prices as external wholesale customers.

403. Under the authority of Section 4-8, first paragraph, of the Electronic Communications Act, Nkom requires Telenor to prepare accounting separation for its mobile operations in Norway, in line with Chapters 7.4.3 and 7.4.5. The accounting separation will provide a basis to monitor compliance with the prohibition against price discrimination vis-à-vis external buyers of MVNO access, cf. Section 4-7, second paragraph, of the Electronic Communications Act.

404. Under the authority of Section 4-8, fifth paragraph, of the Electronic Communications Act, Nkom imposes the requirement on Telenor to divide the value chain into wholesale operations and retail operations, and to show Telenor's revenue and costs in the retail operations if Telenor's retail operations had to purchase MVNO access from Telenor's wholesale operations at the same prices as external wholesale customers.

405. Under the authority of Section 4-8, fifth paragraph, of the Electronic Communications Act, Nkom imposes the requirement on Telenor to base the accounting separations on fully distributed, historical costs, on the basis of Telenor's financial accounts and Telenor's prices and volumes for the reporting period. Below are the principles for the preparation of the accounting statements for Telenor's retail operations and the auditing principles:

- **Revenue** will comprise revenue that is invoiced to end users, and revenue from interconnection to the same end users. Revenue from end users and revenue from interconnection must be stated separately. The revenue that is invoiced to the end users must, as a general rule, be obtained directly from the accounts and comprise all relevant services purchased by the end users from Telenor's mobile operations. Detailed information must be provided concerning how revenue from end users is distributed among all significant revenue categories, such as establishment and subscription revenue and traffic revenue. Any other revenue included in the accounting statement must be specified. In the accounting statements, for each revenue item a corresponding cost item must be stated, where relevant. Revenue from interconnection must be based exclusively on Telenor's own interconnection charges.
- **Costs for the network operator** must include the costs that Telenor's internal retail operations would have paid to their network operator if an MVNO reference offer or a national roaming reference office had been established between them. The costs of the network operator will be calculated on the basis of Telenor's reference offers with variable prices for MVNO access and national roaming, respectively. The reference offer that is used for the different calculations must be stated. The costs will be calculated by multiplying the volume of voice traffic, SMS and data traffic that is relevant in the various accounting statements, and which is generated from and terminated to the end users, by the applicable charges in the relevant reference offer for MVNO access or national roaming, respectively. The specification of the costs of the network operator must be supplemented with a presentation of the calculation of

the costs of data traffic for the period in question. Any operating costs in the current reporting period must be included in the network operator's costs. If there are price changes during the reporting period, the period to which the prices and volumes relate 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. Furthermore, for each form of access, Telenor may not use higher discount rates than as achieved by the access buyer with the lowest volume during the period reported, unless Telenor can document objective reasons for using higher discounts.

- **External cost of sales** must be based on the total cost of sales and traffic costs in Telenor's mobile operations and distributed 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. External cost of sales also includes interconnection to Telenor's own fixed network operations. All significant items under external cost of sales must be specified.
- **Internal costs for the retail business** will include all costs incurred by the retail business in order to sell and provide the services to end users. Typical activities/processes will be sales, marketing, customer services, invoicing, 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 must be based on activity-based costing. Remaining costs will be distributed proportionally based on previously assigned costs. The distribution principles for the different cost items that are split between network operations and service provider operations must be described and substantiated.

Since the individual items under costs of retail operations are applied in margin squeeze tests, the greatest possible consistency is required in terms of the classification of costs from one year to another. If changes in the classification of costs have nonetheless been made, between, for example, the network operations and the retail operations, or between cost categories under the costs of the retail operations, Telenor must state this explicitly in conjunction with reporting.

- **Imputed interest cost** must be included in the accounting statement in order to factor in a reasonable return on the investments in the retail operations that are required of an MVNO provider or a provider with a national roaming agreement. Capital tied up in connection with sales, marketing, customer services and invoicing systems must be assigned to the retail business in its entirety. Book capital tied up in connection with service platforms will be distributed 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 will be distributed between them, so that other costs are distributed according to the relevant cost centres. A specification of the basis for calculating the imputed interest must be included in the reporting. Telenor must use the imputed interest rate in accordance with the applicable decision from Nkom at any time concerning the imputed interest rate for the mobile markets.

406. Under the authority of Section 4-8, first paragraph, and Section 10-3 of the Electronic Communications Act, Nkom imposes an obligation on Telenor to prepare supplementary reporting in which the revenue and costs associated with M2M and IoT are isolated. The reporting must adhere to the same principles as for the accounting separation.

407. Under the authority of Section 4-9, second paragraph, of the Electronic Communications Act, Nkom imposes an obligation on Telenor to provide sufficient documentation of the accounting separation system for it to be inspected. Among other things, the documentation must include an overview of the cost categories that have been assigned to Telenor ASA's own retail operations in the mobile area. A description of the accounting separation system, including an overview of revenue and cost categories and the allocation keys used, must be published.

408. Under the authority of Section 4-9, third paragraph, of the Electronic Communications Act, Nkom imposes a requirement on Telenor to engage an external accountant to perform verification procedures in accordance with ISRS 4400 "Agreed-upon Procedures Regarding Financial Information". The accountant's declaration that the accounting statements are in line with the prevailing principles for reporting accounting separation must be attached to each report. The accountant's declaration in connection with reporting for the full financial year must be submitted to Nkom together with the accounting statements. With regard to half-yearly reporting, the accountant's declaration must be sent to Nkom within 14 days of the deadline for the relevant report. If the accountant's verification procedures give a need to change reports already submitted, updated accounting separation reports must be sent to Nkom together with the accountant's declaration.

409. Telenor must report accounting separation every six months, in addition to annual reporting. With regard to half-yearly reporting, distribution keys can be used that are based on figures from the previous year. With regard to annual reporting, Telenor must use distribution keys from the same period as that reported.

410. The first reporting in accordance with this decision must include the second half of 2020 and must be submitted to Nkom before 1 April 2021. After this, subsequent half-yearly reports must be submitted before 1 October and 1 April each year. Annual reports must be submitted before 1 July each year. The reporting deadlines will apply until Nkom hands down a new decision or withdraws the regulation in the relevant market.

7.5. Price and accounting regulation

7.5.1. Assessment of the need for price control of access to national roaming, MVNO access and service provider access

411. The Norwegian Electronic Communication Act §4.9 entails that a provider with a strong market position can be made subject to price obligations, including regulated rates for access. Such obligations can be imposed if the provider can leverage its market position to the detriment of end-users in the market by maintaining a disproportionately high price level or by establishing margin squeezes for competing providers. It is evident from the preparatory work on the Electronic Communication Act that there is a reverse burden of proof⁴⁸ for a provider subject to price regulation pursuant to §4.9. It also states that price controls authorise repayment when an illegal high price has been proven.

412. Chapter 5.3 states that price discrimination, overpricing and margin squeezes are real and serious competition problems that largely relate to the transfer of market power. Vertically integrated enterprises with a strong market position can transfer market power from the wholesaler level to the end-user level by increasing the costs for competitors in the end-user markets. By setting higher access prices for external access buyers than the actual or implicit prices that apply internally within the enterprise, the external parties will have a disadvantage

⁴⁸ In this instance, a 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 a breach of the regulations and is therefore assigned the burden of proof.

in the price competition at the end-user level. External access buyers can thus experience a margin squeeze due to the high access price.

413. In the decision by the Norwegian Communications Authority (Nkom) of 1 July 2016, the observed competition problems were decisive for Nkom determining that regulated access rates were required. Price controls were considered suitable for improving competition in the market, particularly in a situation where Nkom does not have the same information base as Telenor. Telenor's price obligations were designed as a requirement to offer access⁴⁹ at prices that prevent the access buyer from being placed in a margin squeeze.

414. Nkom believes that the competition problems remain prominent and that price control is therefore necessary. The lessons learned from seven rounds of margin squeeze tests have shown that there is a need to regularly investigate whether Telenor is complying with the requirement for access prices. In connection with the timing of margin squeeze tests, Nkom has registered that the company initiates or is required to make price reductions.

415. Nkom has also noted that the access conditions, which are largely determined by margin squeeze tests of a portfolio of Telenor products, could cause access prices for service providers to sometimes be more attractive than those for MVNO. This is a situation that could damage the investment incentives of operators who are climbing the investment ladder. This is also the case if prices for MVNO access are more attractive than prices for national roaming. Nkom therefore believes that there is a need to set conditions for the relative price level between these two forms of access.

416. Experience from previous decisions has also shown that there is a need to set requirements on price structure in addition to price levels, to ensure that price controls are effective and work as intended. The price obligations in this decision are thus supplemented by specific requirements for price structure.

7.5.2. Selection of method of price control of access to national roaming, MVNO access and service provider access

417. The starting point for selecting the price control method is the principles described in Chapter 6.1. Nkom concludes that control as a main principle shall facilitate infrastructure investments, i.e. facilitate dynamic efficiency (Principle 3). At the same time, consumers' interests must be promoted by making the best possible use of the existing infrastructure towards achieving the goal of infrastructure competition (Principle 2).

418. In its strictest form, price control in the form of cost-oriented prices will entail that the access is priced at a level that corresponds to Telenor's long-term marginal costs, and such price control will thereby support the competition for services and facilitate low prices for end-users. This price control could also reduce the third network's incentives for further investment in infrastructure, if the purchase of access to existing networks is relatively more attractive than building one's own. In the longer term, access prices down towards marginal costs could also be unfortunate for the third network's opportunities and incentive to themselves offer wholesale access. Moreover, reduced retail prices are a desired effect of price control at the wholesale level, while the pressure in the retail market may not be so hard that it impedes Ice's opportunities to compete in the retail market in a phase where the company relies on building up a customer base, thereby weakening the company's economic clout for investment in the network.

419. An opposite extreme, in the form of no or very moderate price control, would entail that insufficient consideration is made of other access buyers. Nkom assumes that the price obligations must balance the consideration of facilitating that external operators can compete on established infrastructure and contribute to price competition in the retail market, while

⁴⁹ The price obligations apply to all three forms of access: National roaming, MVNO and service provider.

ensuring that an opportunity space is created for the third network to compete in both the wholesale market and the retail market.

420. The competition for services can be taken into account by ensuring that efficient access buyers can profitably replicate services equivalent to those offered by Telenor through its own retail activity. This type of control would thereby probably entail that the access prices are higher than when cost-orientation is required. Nkom also expects that the retail prices will decline for some time as a consequence of how the control facilitates the market's movement towards the goal of sustainable competition, cf. the aforementioned reference to dynamic efficiency.

421. To assess whether the wholesale prices are close to a level equivalent to what can be expected in a market subject to sustainable competition, i.e. reasonable prices, Nkom could use other European sources. Wholesale prices for international roaming, for example, can be a good indication. These are currently at a lower level than Telenor's current wholesale prices.

422. On the basis of the aforementioned assessments, Nkom believes that it is not currently appropriate to impose price control in the form of cost orientation. On the other hand, price control in the form of prohibition of margin squeeze is still assessed to be an appropriate form of price control that can help to mitigate the competition problems identified. Any such requirement entails that Telenor must offer access to external providers at a price that enables access buyers to replicate Telenor's products in the retail market and achieve positive margins⁵⁰. In the light of the current market situation, Nkom believes that this requirement is best suited to remedy the competition problems, balance the consideration of facilitating infrastructure competition against the need for competition for services, ensure compliance and enable an effective follow-up of the access obligation. The selected design of price control thereby seeks to safeguard the purpose of facilitating infrastructure competition while also incentivising the competition for services by using the existing infrastructure.

423. Nkom's decision of 1 July 2016 explains that the principle of "adjusted EEO"⁵¹ is appropriate to support the instrument that will remedy the competition problems identified. Nkom believes that the assessments concerning this issue remain valid. The principle of adjusted EEO is therefore continued in the upcoming control period. The practical implications of this appear in the enclosed principles for margin squeeze tests. Telenor is in a unique situation concerning scale and scope advantages and it would not be in line with the objective of the controls to apply an efficiency requirement that presupposes that all operators in the market have the same advantages as Telenor. The controls 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.

424. Nkom finds on this basis that Telenor's access prices should be such that the purchaser of national roaming, MVNO-access and service provider access are not subjected to margin squeeze. This means that the most significant parts⁵² of Telenor's bundled mobile products and mobile broadband should be possible to replicate by an access buyer with a positive margin.

7.5.3. Differentiated margin squeeze regulation

425. To ensure compliance with the margin squeeze prohibition, margin squeeze tests can be performed. Margins can be tested as a gross margin or by using a full margin squeeze test.

⁵⁰ Margins can be measured as a gross margin or according to a full margin squeeze test.

⁵¹ EEO is an abbreviation for "Equally Efficient Operator".

⁵² Product selection is laid down in stated principles, cf. Appendix 2.

Gross margin means relevant revenues from end-user operations, including termination revenues related to the relevant end users, less access costs and termination costs⁵³. A full margin squeeze test also takes costs in the retail business into consideration.

426. Different access buyers who use the three different forms of access will typically organise themselves in different ways in the retail market. They also have different investment needs, and they have different needs in terms of purchase of access. The margin squeeze regulation is intended to prevent Telenor's pricing of the various access forms from maintaining the competition problems. Nkom is therefore of the view that it is appropriate to differentiate the regulation of various forms of access. The margin squeeze tests assume reference operators based on efficiency assessments, as described below and in the principles in Appendix 2. In this way, account is taken of the facilitation of competition for infrastructure and services, but without stimulating inefficient establishment.

427. As stated in Chapter 7.1.2, national roaming is a form of access that facilitates the gradual development of one's own radio network. National roaming is thus an access form that may be in demand for geographically delineated parts of the country. Since a national roamer will produce parts of the retail traffic in its own network, and thereby have its own production costs, it is difficult to use an ordinary margin squeeze test to test whether the access buyer is subject to margin squeeze. Such a test would model a significant traffic volume that does not represent a realistic purchase volume for a national roamer with traffic in their own network. At the same time, a high volume of traffic generates relatively high volume discounts, which in reality a national roamer with parts of the traffic in its own network will not achieve. Nkom will therefore not perform explicit margin squeeze tests for agreements concerning access to national roaming. The access prices for national roaming are controlled on the basis of the regulated prices for MVNO access, cf Chapter 7.5.4 and 7.5.9.3.

428. With regard to providers with MVNO access, they can be considered to lie a step lower on the investment ladder than national roaming, since such operators do not invest in radio networks. MVNO access will normally be requested as a fully nationwide service. Experience shows that an MVNO will target selected elements of the total retail market. Nkom assumes that an efficient MVNO is targeted towards either the overall residential market or the overall business market.

429. Agreements concerning MVNO access must pass the full margin squeeze test. Based on the aforementioned efficiency assessments, agreements concerning MVNO access are tested together for the residential markets and together for the business markets. This entails that mobile broadband and ordinary mobile subscriptions are tested together, even though Nkom has defined these as separate retail markets. However, Nkom refers to how there is an increasing degree of substitution from mobile broadband to ordinary mobile subscriptions, cf. Chapter 2.3.9.2 of the analysis, which makes it natural to test the products together. At the same time, for practical reasons it is difficult to distinguish costs of retail activities between these two retail markets on a sufficiently robust basis.

430. An operator with a service provider agreement has a more limited need to make their own investments and purchase a processed product for resale. In the same way as MVNO access, service provider access will be in demand as a nationwide service. In contrast to providers using the other forms of access, a service provider will not be able to leverage opportunities that exist in producing via their own infrastructure to a partial extent. A service provider may also have a somewhat lower threshold for entering the market by being targeted towards a limited part of the residential or business markets. Nkom therefore assumes that an efficient service provider is geared towards offering products in limited parts of the retail market.

⁵³ Termination revenue and costs will not normally be incurred for a service provider.

431. Service provider access agreements shall consist of a positive gross margin requirement for each individual product included in the test. Nkom believes that such a test, combined with other requirements of the agreement terms arising from this decision, will be necessary and sufficient to safeguard the opportunities for this group of access buyers to compete in the relevant retail markets.

432. By conducting differentiated margin squeeze tests, the control is intended to ensure that providers with national roaming access can have approximated the same conditions for competition as the dominant network owner. Furthermore, that MVNO access are not excluded from any of the defined retail markets, and that access buyers with service provider agreements are not excluded from any niches of the retail markets.

7.5.4. Requirements of relative price levels between access forms

433. The requirement of non-discrimination between external operators entails a prohibition against discrimination between purchasers of the same form of access. However, it may be a potential competition problem that Telenor would be able to discriminate between external buyers of access by offering providers at the lower levels of the investment ladder, i.e. providers that can be considered to represent less of a long-term competitive threat, better terms than other access buyers. During the preceding regulation periods, Nkom has seen that the access conditions have sometimes been more favourable for service provider access than for MVNO access. Equivalent incentives to keep the access buyer at the lower investment levels will apply between MVNO access and national roaming. Such a situation is unfortunate in terms of investment incentives and may adversely affect the goal of sustainable competition.

434. Nkom therefore requires Telenor to not set access prices that are more attractive for a service provider than for MVNO. This means that prices for mobile data access should not be higher for MVNO-access than for service provider access. Since an MVNO must pay for access to both origination and termination of voice and text messaging, the MVNO prices for these services must not be higher than half of the service provider prices.

435. Parallel to this, limits are set for the absolute price level between national roaming and MVNO, so that access prices for national roaming should not exceed access prices for MVNO. See further deliberations and clarifications in Chapter 7.5.5 concerning national roaming prices and 7.5.9.3 on linear wholesale access price for national roaming.

436. Today, Telenor's reference agreements include discounts that increase with the traded volume. In line with the requirement concerning the relative price level between access forms, the discount scale may not be more attractive for one access form compared to access forms higher on the investment ladder.

7.5.5. Further details of access prices for national roaming.

437. The price regulation of national roaming should take into account several considerations. On the one hand, it should give incentives to invest in own infrastructure for the buyer of access and at the same time it should ensure cost recovery for Telenor.

438. In previous decisions, Nkom has used the "ladder of investment theory" as a principle for the design of remedies. Nkom maintains the principle in this decision. A key element of the "ladder of investment theory" is that access to established infrastructure must not be so favourable over time that such access becomes more attractive than investment in own infrastructure. According to the theory, this can be achieved with two different approaches. One approach is that the wholesale access price increases over time. Alternatively, a so-called "sunset clause" can be set for the ex-ante regulation, ie an end date for the access regulation or the price controls is set.

439. In the decision of 1 July 2016, Nkom stated that the unit cost of production in sparsely populated areas may be higher than in urban areas, and that it can therefore be argued that

the access price for national roaming may be higher as the purchase is concentrated on such areas. In practice, such a pricing model would involve a form of geographically differentiated prices and was aimed at giving buyers of access an opportunity to assess the economic effects of the build or buy relation and provide incentives for further development as long as it was profitable.

440. In light of the overall objective of developing three competitive networks, it is Nkom's view that the regulation should continue to incentivize infrastructure development. However, following the hearing in January 2019, Nkom found a basis for changing the incentive facility for further development.

441. The situation is very different for the network owners in the Norwegian market when it comes to capital and profitability. Telenor had an EBITDA of almost 44 per cent for 2019 and has paid dividends equivalent to NOK 12.6 billion in 2020. Ice had a negative operating profit of NOK 34 million in 2019. At the same time, further expansion of the company's network has an investment limit of [REDACTED] billion. As described in the market analysis, access to sufficient capital is a significant barrier for entry and growth. Further development towards a nationwide network will depend on Ice being able to raise sufficient capital. The company's profitability, competitiveness and market development will be important factors in obtaining the necessary financing. In Nkom's view, this implies that the regulation should as far as possible facilitate the third network to realize gains from the investment in its own infrastructure during a final phase of the roll out. This also means that the company must be able to compete in the retail market on terms that to greatest possible extent provide them with equal opportunities to other players who do not face the same investment needs. Nkom believes this goes in favour of not to continue the principle of geographically differentiated prices during this regulatory period.

442. Nkom assumes that a price adjustment in the form of a ban on margin squeezes will result in access prices well above a cost-oriented level in Norway. Wholesale prices for international roaming, as well as results from the EU's cost model for international roaming, show wholesale prices and costs well below the levels of access prices in Norway, see Chapter 7.6. Nkom expects access prices to decrease during this regulatory period, but still remain higher than the aforementioned comparable wholesale prices. Thus, Nkom believes that it can be assumed that a price regulation for national roaming based on a ban on margin squeeze will give Telenor cost recovery for national roaming, also in more dispersed areas without geographically differentiated prices.

443. In order to incentivize further development of the third network, Nkom believes there is a need to set an end date for the price regulation of national roaming.

444. In 2015, Ice took over parts of the infrastructure from Tele2 and then started its roll out of the mobile network. During the five years since then, the company has built a network with around 90 percent population coverage. In the roll out, the company has been able to take advantage of base stations taken over from Tele2 as a result of remedial measures following a merger between Telia and Tele2. Achieving population coverage up to the level that Telenor and Telia have, will be more time and resource consuming than in earlier phases of the roll out. The company has concrete plans for further roll out to [REDACTED] population coverage within the time horizon of this analysis of around three years. At this level of population coverage, the company will still need national roaming. In this case, however, the scope of the access purchase can be expected to be relatively limited. Nkom believes that a time limit on the price regulation of national roaming for this regulatory period will strengthen the third network's incentive to build as much coverage as possible before the price regulation ends. Nkom points out that new market analysis must be notified to ESA within three years from the date of the current decision, cf. Electronic Communications Act § 9-3.

445. On the basis of the above, Nkom concludes that the price regulation for national roaming should as a main rule, be limited to the time of this decision. No further price controls

can be expected for access to national roaming after this. A price regulation that combines a ban on margin squeeze with a fixed ending for the price regulation of national roaming is suitable to provide incentives and opportunities for further roll out of the third network, while at the same time Telenor will achieve cost coverage for access to national roaming.

446. Nkom will closely monitor the further development of the third network and, pursuant to Section 10-3 of the Electronic Communications Act, may require information and documentation for the roll out to take place as intended. Such information will also be suitable to understand reasons for any delays in the development. If any delays are caused by circumstances beyond the control of the third network, Nkom will consider whether the price regulation for national roaming should still be extended, provided there is still a need for regulating this market. However, both the documentation requirements and the threshold for reaching such a conclusion will be high.

447. Nkom has considered other alternatives to incentivize further roll out of the third network, including sanctioning the lack of deployment, for example by increasing the access price if Ice does not reach set targets for the coverage extension during the decision period. In Nkom's opinion, however, it is difficult to justify that the regulation should be aimed at allowing Telenor to increase the access price and thus its wholesale revenues as a result of delays in Ice's roll out, especially if the delays are cannot be attributed to a lack of willingness to invest.

448. In accordance with previous decisions on asymmetric termination rates for Mobile Norway, Nkom followed up that the company complied with the prerequisite for the regulation by showing "ability and will" to develop a network with 75 percent population coverage. The possible sanction was linked to ending an advantage for the third network, in particular the additional income from the asymmetric termination prices. Such a sanction is thus different from a sanction in the form of increased access prices, since the latter implies increased access revenue for Telenor.

449. Nkom concludes that the price regulation of national roaming should be limited to this regulatory period in line with the above.

7.5.6. Further details of the full margin squeeze test for MVNO-access

7.5.6.1. Introduction

450. Nkom has developed principles for the margin squeeze test in market 15⁵⁴ for implementing the margin squeeze test that is well suited for following up the prohibition on margin squeezes. These principles will form the basis for a specific margin squeeze model.

451. Nkom has further developed the margin squeeze model from the previous control period, so it is well suited for the specific tests. A margin squeeze model will depend on the use of information from multiple sources and will strive to be specifically adapted to the current structures for access agreements and updated accounting and traffic information. If the structure of this information changes during the regulation period, it is not ruled out that the model may be adjusted. However, this does not imply a change to the regulatory obligations.

7.5.6.2. Products included in the tests

452. The margin squeeze tests for MVNO-access shall be conducted based on Telenor's products⁵⁵ in a way that ensures sufficient scope and that representative products are included. Nkom has assessed on this basis whether it is most appropriate to test for all of Telenor's products, products that are for sale or a representative range of products. Based on

⁵⁴ Appendix 2: Principles for margin squeeze tests in Market 15.

⁵⁵ Products from the Telenor's internal brands. At the time of the decision, these brands are Telenor, Talkmore and Dipper.

the competitive situation in the retail market and knowledge of Telenor's subscription distribution on all products, Nkom has decided to test a representative sample of products. More concrete, Nkom has decided to test products that cumulatively constitute approximately 70% of the number of subscriptions in each of the end-user markets that are subject to the margin squeeze test, as well as products that accounts for at least 10% of the number of subscriptions in the relevant end-user markets. The shares are calculated on the basis of the subscription distributions at some time near to the test. Such a representative selection of products will in Nkom's opinion, provide a relevant picture of the competition situation. By limiting the scope in this way, the burden on Telenor is reduced with regard to data gathering.

7.5.6.3. Efficiency requirements in the tests

453. In terms of assumptions about which market share should be used as a basis to define an efficient reference operator for marginal squeeze test purposes, experience during the regulation period from 2016 has shown that there are grounds to re-assess the assumptions used a basis for the 2016 decision. Experience suggests that the principle of 5% market share does not adequately avert competition problems and does not adequately facilitate new establishment. A requirement for 5 percent market share for MVNO-access, as follows from the decision of 1 July 2016, is a strict requirement that to a small extent facilitates a provider starting from zero. Experience shows that access buyers who use these forms of access have also not achieved such a market share. A requirement for 5 percent market share seems to be unrealistically high as an efficiency requirement for a MVNO in the Norwegian market.

454. The company eRate AS⁵⁶ is the access buyer at Telenor who represents most customers, i.e. an estimated 2.2% of the total number of subscriptions for mobile-connected services and mobile broadband at the end of the first half of 2018. The company is moving from buying access as a service provider over to MVNO-access. Other MVNOs in the Norwegian market are Lyca and COM4. The latter has an end-user business geared towards the M2M market, while Lyca offers telephone-linked services. Lyca's market share in the residential market at the end of first half 2019 was 1.3%.

455. Based on the real conditions and developments in market share, Nkom has found that a 3 percent market share as a basis for implementing the margin squeeze test for MVNO is a more adapted and proportionate prerequisite to help resolve the competition problems in the Norwegian market.

7.5.6.4. Conclusion

456. Telenor has been required to offer MVNO-access on price terms that prevent the purchaser of access from being placed in a marginal squeeze. The access agreement(s) that satisfy requirements for traffic-dependent (variable) rates are used, cf. Chapter 7.5.9.2. The obligation is followed up using tests that follow the principles above⁵⁷, and are designed as follows⁵⁸:

- Test of an operator that purchases standard MVNO-access from Telenor. The operator has 3 percent of the residential market 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 from Telenor. The operator has 3 percent of the business markets for bundled mobile services and for mobile broadband, and replicates Telenor's representative products in these markets.

⁵⁶ eRate is a contracting party with Telenor, facilitator and reseller to providers that have end-user offers.

⁵⁷ Cf. also Annex 2, Principles for a margin squeeze test

⁵⁸ The obligation to not put the buyer of access in a margin squeeze has been fulfilled if Telenor's reference offer with variable prices gives positive margins.

7.5.7. Further details of the gross margin test for service provider access

457. The gross margin test for service provider terms involves a test of whether each of the representative products included in the MVNO tests have a positive gross margin. It implies a requirement that income from each end-user product shall exceed its respective access costs. Representative products for the gross margin squeeze test will thus coincide with representative products for the MVNO tests for both the residential market and the business market.

458. A gross margin squeeze test of the terms of service provider access implies that no product can be offered in the end-user market with prices lower than that of an access buyer having to pay Telenor to offer the corresponding product. However, an aggregated or full margin squeeze test will accept products with negative gross margin, as long as the total margin exceeds zero.

459. Service providers are geared towards a smaller portion of the end-user market and are more reliant on being able to replicate individual products with a minimum positive gross margin. Positive gross margin requirements for all products included in the test are thus deemed suitable for operators who target their end-user offers to a defined and limited part of the markets.

460. However, the positive gross margin requirement still imposes requirements for service providers, who have a limited product portfolio, to operate their end-user business very efficiently, for example by leveraging established distribution channels and existing customer groups. However, establishing oneself as a service provider requires relatively limited investments, and in the event of withdrawal from the market, acquired customer base can be sold. Nkom therefore believes that a positive gross margin requirement constitutes an adequate safety net for this form of access.

461. As regards market share assumptions, Nkom refers to the fact that service providers have significantly lower market share than Telenor. In the decision of 1 July 2016, the market share for testing service provider is set at 5%. However, developments in the Norwegian market suggest a need to assume a reference operator with a more realistic market share. Among access buyers who have their own end-user offers, Fjordkraft and Komplett⁵⁹ have had the largest growth and have each achieved just under 1.5% market share in the residential market at the end of the first half of 2018. Nkom believes that a similar treatment with MVNO is proportionate and therefore establishes a requirements for 3% market share for the testing of service provider access.

462. Telenor has subsequently been required to offer service provider access on price terms that prevent the purchaser of access from being placed in a marginal squeeze. The access agreement that satisfies requirements for traffic-dependent prices shall be applied, cf. Chapter 7.5.9.2. The obligation is monitored by a gross margin test. The test shall be conducted in accordance with the principles above, cf. also Appendix 2,⁶⁰ and using Nkom's margin squeeze model. The test is designed as follows:

- Test by an operator who buys standard service provider access at Telenor. The operator has 3 percent of the residential market for bundled mobile services and for mobile broadband, and replicates each of Telenor's representative products in these markets.

⁵⁹ In March 2019, Komplett's customer base for mobile services was transferred to Ice, cf. <https://www.ice.no/om-ice/pressemeldinger/ice-kjoper-kundebasen-til-komplett-mobil/>

⁶⁰ The obligation to not put the buyer of access in a margin squeeze has been fulfilled if Telenor's reference offer with variable prices gives positive margins.

- Test by an operator who buys standard service provider access at Telenor. The operator has 3 percent of the business market for bundled mobile services and for mobile broadband, and replicates each of Telenor's representative products in these markets.

7.5.8. Further details of the follow-up of the price regulation

7.5.8.1. Frequency of the tests

463. In order to oversee that the prohibition against margin squeeze is observed, Nkom will conduct margin squeeze tests and gross margin tests on a regular basis. When assessing the frequency with which tests should be carried out, Nkom believes that it is necessary to verify that the prices continually meet the requirement that the access buyer at Telenor is not subjected to margin squeeze. At the same time, the assessment takes into consideration that the implementation of the margin squeeze test entails a substantial administrative burden for both Telenor and Nkom. Nkom finds it appropriate to specify what is normal for how frequently the margin squeeze tests will be carried out, and at the same time what conditions (trigger points) Nkom will take into account when assessing whether to conduct tests in addition to this.

464. As a general rule, Nkom will carry out full margin squeeze tests and gross margin tests at six-month intervals and will obtain relevant information in advance from Telenor and any other providers, cf. §10.3 of the Electronic Communications Act on disclosure obligations. Normally, relevant information should be reported to Nkom on 1. April and 1. October each year, and include the period from September to February and the period from March to August respectively. The tests will be performed as soon as possible after the requested information has been received, and normally within 30 days. Nkom will process the results without undue delay based on general principles pertaining to processing. Nkom assumes that the assessment of the results arising from the full margin squeeze tests and gross margin tests might normally be completed within the time frames stipulated in §11.2 of the Electronic Communications Act.

465. As mentioned above, there may be situations where it is necessary to conduct tests beyond what we have referred to above as the general rule. This could be in cases where e.g. wholesale prices are changed or if new wholesaler products are introduced. If access buyers or other stakeholders present reasoned grounds for significant market changes, including prices, costs or customer distribution, which have an impact on the outcome of the tests, it is also relevant to implement margin squeeze test beyond the established form. For the sake of clarity, we note that the examples of trigger points for when it may be required or necessary to conduct tests outside the stated schedule are not exhaustive.

466. However, Nkom emphasizes that the obligation to offer access prices that prevent margin squeezes is ongoing. By using the margin squeeze model, Telenor has the opportunity to calculate margins on its own products and with given access prices so that the company can predict which prices will comply with the regulation in the coming periods, also in view of expected growth in the use of mobile data.

7.5.8.2. Correction of wholesale prices

467. Nkom believes that, in order for the margin squeeze controls to efficiently promote the purpose of the controls, it is important for the operators involved to achieve transparency and predictability. It is therefore necessary that the controls sufficiently clarify in advance how a breach of the margin squeeze controls will be dealt with. A margin squeeze test is passed if the end-user revenue is greater than or equal to the sum of the wholesale costs and downstream costs. Whether there is a margin squeeze will therefore depend on the relative relationship between revenues and costs in the margin squeeze model. It is thus necessary to decide what prices Telenor should be able to adjust if the margin squeeze tests are not

passed. Specifically, the question is whether Telenor is to be granted the right to increase the end-user prices to remedy an identified margin squeeze.

468. Nkom's choice of margin squeeze test as a price control instrument builds on an overall assessment of a number of conditions, including that the obligations shall promote the purposes of the controls. In its evaluation of the price adjustment method, cf. Chapter 7.5.1, Nkom explains that cost-orientation is an option for price control. Nkom concludes, however, that the prohibition against margin squeeze is a suitable approach in this market. The room for action that Telenor should have in order to remedy an identified breach of requirements in the margin squeeze controls, is a significant element of Nkom's assessment of whether margin squeeze control will work efficiently enough as a price control instrument.

469. In the market analysis, Nkom has shown that Telenor has a stable and high market share over time. Telenor therefore has a controlling influence on the end-user markets. Nkom believes that if Telenor is allowed to correct violations in the margin squeeze test by increasing the end-user prices, this will not remedy the underlying competition problem in the wholesale market. Nkom refers to the fact that both the vertical transfer of market power, including through price-setting, and single market dominance, including exploitative behaviour, have been identified as current competition problems in the wholesale market, cf. Chapter 5.3. According to Nkom's assessment, the need for the handling of any breach of the requirements of the margin squeeze controls to remedy competition problems in the wholesale market, suggest that Telenor should be required to remedy a margin squeeze by reducing wholesaler prices.

470. In Appendix 2, Nkom has justified the choice of representative products and the aggregation level that will be the basis for the margin squeeze tests. If the margin squeeze tests show that the requirements of the controls are not met, it is important that this situation can be remedied efficiently. In such a situation, if Telenor is to be able to fulfil the requirement to pass the margin squeeze test by increasing the end-user prices, such a remedy will only be effective by increasing the end-user prices on one or more of the products covered by the margin squeeze test. Within the products covered by the test, there will be a segment of end-users who are in a contractual period with an agreed price. Furthermore, §2.4 of the Electronic Communications Act requires that a change to or termination of an agreement to purchase electronic communications services cannot come into force until one month after notification has been sent to the end-user. The provision also grants end-users who do not accept the new terms and conditions, the right to terminate the contract at no additional charge. Overall, Nkom believes that these conditions tend to suggest that allowing Telenor to remedy the situation by increasing the end-user prices, will not provide sufficiently effective price controls.

471. The margin squeeze control of Telenor entails that Nkom periodically conducts a margin squeeze test. The test is carried out at the end of each period and thus has a limited retrospective perspective. A more invasive form of margin squeeze control is to impose demands that the margin squeeze test should be passed before end-user products can be offered in the market. If the regulator finds in such a margin squeeze test, that the margin requirement in question is not fulfilled, there are no end-users who will be directly affected if the controlled provider is allowed to increase the end-user prices in order to remedy the margin squeeze situation. However, this does not apply to margin squeeze testing of products that end-users have already entered into an agreement to purchase. Nkom considers that consideration of the end-users suggest that Telenor should not be granted the right to increase the end-user prices to remedy an identified margin squeeze.

472. Based on the above, Nkom believes that allowing Telenor to increase the end-user prices in order to remedy an identified margin squeeze, would not normally be a sufficiently good alternative to demanding that Telenor, in the event of an identified breach of the margin squeeze controls, must reduce their wholesale prices.

473. Requiring that an identified margin squeeze must be remedied by reducing wholesale prices involves a restriction of Telenor's freedom of action. Nkom believes, however, that such a restriction is necessary so that the margin squeeze controls can adequately promote the purpose of the controls, namely to remedy identified competition problems, and thereby be a suitable form of price control. Nkom cannot see that the purpose of the controls can be achieved in a less intrusive way. The alternative would be to impose a different and more invasive form of price control. Nkom concludes on this basis that it is proportionate to require Telenor to reduce its wholesale prices in the event of a breach of the margin squeeze controls.

474. If the margin squeeze and/or gross margin tests are not passed, i.e. that they do not give a positive result, Nkom will normally require Telenor, pursuant to §10.6 of the Electronic Communications Act, to correct the company's wholesale prices for access to a level necessary to ensure that the margin squeeze tests show a positive result.

7.5.8.3. Correcting prices for voice, SMS and data

475. The portfolio approach when conducting a margin squeeze test means that an imposed reduction in wholesale prices could be distributed across multiple access products. Access to voice, SMS and mobile data are the most important services included in the access obligation for all relevant forms of access. The access price for the three aforementioned services is therefore of vital importance for the competitiveness of the access buyers. A standard access agreement typically contains substantially more products than those mentioned, including costs related to SIM cards and twin cards, international calls, content services, implementation of number sequences and the like.

476. One problem is then whether Telenor is to be given the freedom to choose how to allocate the reduction between different access products that are included in the margin squeeze test. A key element behind the choice of the portfolio approach is that the margin squeeze controls will ensure some flexibility for Telenor with regard to the pricing of various end-user products. In the event of an identified breach of the margin squeeze controls, Nkom believes that this consideration cannot be emphasized equally. Nkom therefore refers to the assessment above, where we state that Telenor will be required to reduce its wholesaler prices to a level that ensures a positive margin in the margin squeeze tests. Considering that price controls are intended to remedy overprice and price discrimination, the price controls must have an effect on the core products in the relevant markets. If the tests are not passed, Telenor will be required to make changes in the prices for voice, SMS or mobile data, or a combination of these.

477. Based on the above assessments, Nkom has decided that if the margin squeeze tests are not passed, i.e. do not produce a positive result, Nkom will require rectification of Telenor's access prices, cf. §10.6 of the Electronic Communications Act. The order is clarified so that Telenor must make changes limited to the price for either voice, SMS or mobile data. This means that when Telenor is ordered to make a correction, it can choose to change the price for voice, SMS or mobile data, or a combination of the prices for these three services.

478. Access prices should be reduced to a correct level as quickly as possible, since high access prices reduce the ability of the access buyer to compete in the end-user market. At the same time, Telenor should have some time to assess how the company will comply with the decision, including the application of the reduction of wholesale prices. Nkom has assessed it to be reasonable that the wholesale prices must normally must be rectified within ten business days from the rectification decision being made.

7.5.8.4. Refunds

479. If the margin squeeze test is not passed, Nkom will instruct Telenor to correct the access prices to a level that entails that the requirement not to put access buyers in a margin squeeze is fulfilled. Such an order for rectification will only be effective forward in time.

480. It follows from §10.12 of the Electronic Communications Act that a provider who has paid too high a price in relation to such a price obligation as is imposed on Telenor by this decision, may claim the overcharge refunded. At the request of the entitled party, Nkom will specifically assess in each case whether an individual decision should be made on the refund of the excessive price. The most important criteria in the assessment are the size of the excessive price and whether too low a price has been taken in a previous period. The Act does not specify any formal lower limits for when Nkom may impose a refund of the excessive price.

481. A refund decision involves a subsequent settlement between the parties. The provision is objective, and questions of guilt are therefore not part of the assessment to be made by Nkom. In the notes on the provision, any difficulties in determining the amounts paid that have certainly been excessive, and whether the price paid was too high, are mentioned as elements in assessing whether a refund should be imposed. Nkom believes that these factors would normally be considered to have limited significance in an assessment of a refund pursuant to the price obligation imposed on Telenor in this decision. Nkom refers, among other things, to the fact that Telenor has access to the model and knows the different values used to assess whether there is a margin squeeze.

482. In order to calculate the size of the repayment amount, Nkom will have to consider for which period an excessive price has been charged, and how high the excessive price has been during this period.

483. Normally, Nkom gathers information for the periodic margin squeeze tests twice each year. The information will have a six month retrospective view. If there have been no changes to the access prices after the expiry of such a six-month period and until an order to take corrective action has been issued, Nkom believes that it normally can be assumed that the margin squeeze situation has existed since the end of the six-month period. Restitution of such excessive prices could occur, according to the Electronic Communications Act, based on a refund requirement.

484. If Telenor reduces the access price during the period after the expiry of the six-month period, and the reduction is limited to what is necessary to remedy a margin squeeze situation, then Nkom believes it can normally be accepted that the margin squeeze situation has existed during the period from the expiry of the six-month period until the price reduction came into effect. Restitution of such excessive prices could also occur, according to the Electronic Communications Act, based on a refund requirement. If Telenor reduces the access price after the end of the six-month period, Nkom will also make known results based on the previous price when Nkom publishes results from the margin squeeze tests based on the current access prices.

485. In case of restitution in situations as described above, Nkom will assess the size of the restitution requirement by looking at the actual change in access price as well as the purchased volume of the access buyer for the relevant service (s) during the relevant period.

486. Whether a margin squeeze has also existed during the six-month period may have to be assessed in the light of supplementary information from previous periods.

7.5.9. Requirements regarding price structure

7.5.9.1. Introduction

487. In Chapter 7.2 above, Telenor is subject to a requirement for non-discrimination between its own operations and external businesses. The requirement entails, inter alia, that the access offer from Telenor, should to the largest possible extent, provide for the same opportunities and flexibility to design retail products, as Telenor's own retail business.

488. In Chapter 7.2, Nkom has pointed out that Telenor, as a vertically integrated operator with its own mobile network, has full flexibility to design its retail products in terms of price and price structure, among other things. The non-discrimination requirement entails that Telenor's wholesale offers may not have a price structure that prevents or restricts access buyers' opportunity to compete in the retail market, and thereby favours its own operations. The non-discrimination obligation further entails that price structures offered to access buyers should not constitute barriers to establishment or have exclusionary effects.

489. In order to facilitate access buyers to compete on equal terms as Telenor's retail business, Nkom believes that price controls aimed at price levels must be supplemented by price structure requirements in order for price obligations to be sufficiently effective.

7.5.9.2. Requirements for at price structure without fixed fee per subscription for all types of access

490. In the decision of 1 July 2016, Nkom required Telenor to offer a price structure at wholesale level without a fixed fee at subscription level. Prior to the decision, all of Telenor's access agreements had a price structure consisting of relatively high fixed fee at subscription level, and traffic-dependent prices for use. The fixed fee component entailed a fixed monthly charge per SIM⁶¹, irrespective of traffic during periods of 30 or 90 days, respectively. Access to different data speeds (speed classes) entailed additional charges (fixed fee) per SIM.

491. Nkom believes that the payment obligation should be linked to the access buyer's use of the network, since it is the volume of traffic flows that seize capacity, and not the number of subscribers with access to the mobile network. Users of the mobile network move around, using multiple base stations, and have no exclusive access to use the network from where they are located. On this basis, Nkom believes that Telenor should not require SIM fee or fixed fee per subscription as a component in the payment for mobile access.

492. For an operator with a national roaming agreement, Nkom believes that a fixed fee at subscription level is unfortunate, since it could have a negative effect on the incentives to increase the scope of their own network. The savings for such a provider from transferring traffic to their own network correspond to the loss of the access price. If the traffic-dependent prices are relatively low and are combined with a high fixed fee per subscription, the savings from increasing the scope of their own network will also be reduced, compared to a price structure that is based solely on traffic-dependent prices. This will apply for as long as the operator relies on buying national roaming. The effect of a price model with a fixed fee at subscription level for such an operator can also be described as the buyer of national roaming having a cost disadvantage per subscription that will persist until the buyer can compete effectively in the retail market without access to roaming. The savings from building their own network will thereby generally not be materialised until the operator is able to completely withdraw from the national roaming agreement. In isolated terms, this may indicate that the price structure with a fixed fee at subscription level gives incentives to expand, because this makes it attractive to be able to dispense with the fixed-price component. The development pace for the network of an operator with agreement on national roaming will, however, be governed by a number of conditions, such as access to financial resources, access to spectrum and locations for base stations. The coverage achieved in the later stage of a network roll out can be expected to be more time-consuming than in the earlier phase. Nkom therefore believes that the price structure in a regulated national roaming agreement must be designed so that, to the greatest possible extent, savings from moving traffic to the new network can be achieved in the course of the roll out. In this context, the fixed price at subscription level is not appropriate to promote the purpose of the regulation.

⁶¹ Per MSISDN.

493. Nkom also points out that, in its decision on 21 June 21 2018, the Competition Authority was very clear that the SIM fee in Telenor's previous access agreement with Network Norway was suitable to reduce incentives for network roll out and limit and/or delay further roll out of the third network. The introduction of a SIM fee was, in the Competition Authority's opinion, an abuse of a dominant position⁶².

494. In Nkom's view, a fixed fee, in the form of a coverage fee as well as other fixed pricing elements at subscription level, might also exclude access buyers from parts of the retail market. High fixed fees at subscription level, for example, might exclude the opportunity to offer products with low ARPU⁶³, such as prepaid cards and small data bundles. In this context, traffic-driven prices will to a greater extent provide equal opportunities for Telenor's access buyers to compete with Telenor's own operations.

495. In order to mitigate competition problems related to price structure, Nkom finds it necessary to require Telenor to offer regulated access without fixed-fee components at subscription level. In practice, this will entail a requirement for the price structure in Telenor's reference offers for regulated access to be based on traffic-dependent (variable) prices. In Nkom's view, such a pricing structure will not have the same limiting effects as a fixed fee per subscription on external access buyers' opportunity to compete effectively in the retail market. Nkom specifies that Telenor should not design the price structure in its reference offers so as to undermine the purpose of a requirement of traffic-dependent prices. For example, with a design that gives reason to believe that the price structure has the same or equivalent effect as a fixed fee at subscription level.

7.5.9.3. Requirement of inear prices for national roaming access

496. As described above, the design of the price structure is particularly important for the incentives for buyers of national roaming to transfer traffic to their own network. Degressive price models whereby the access price decreases with increasing volume per subscription/customer might also weaken the incentives for network development and transfer of traffic to their own network. As the purchase of national roaming declines, because larger shares of traffic are produced in own networks, the average cost per traffic unit (minutes, SMS or MB) will increase, because MB with the lowest access price will be transferred to own networks to a greater degree. In order to facilitate that the benefits of network development can be achieved on an ongoing basis, Nkom therefore requires that the traffic-dependent (variable) price of national roaming must be linear in the sense that the price may not vary according to the traffic volume per subscription.

497. A linear variable price requirement would give providers with a national roaming agreement an advantage with regard to sales in the low segments (customers who buy small data packages) in relation to other access buyers that apply degressive price models. The pattern of use of an operator with a large share of traffic in their own network would amplify this effect, since the share of traffic purchased by the host network is expected to be relatively low per subscription. A buyer of national roaming will thereby benefit from such a price structure.

498. It is stated in Chapter 7.5.4. that access prices for national roaming must not exceed access prices for MVNO. This applies to each of the services: voice, SMS and data. To be able to compare the linear variable price required for national roaming with any other price structure for MVNO, Nkom will apply calculations from the margin squeeze tests for MVNO access. The maximum linear price for national roaming will be the linear price that for each of the services gives the same or lower access costs as the actual prices in the reference offer

⁶² <https://konkurransetilsynet.no/788-millioner-i-gebyr-til-telenor/>

⁶³ Average Revenue Per User.

for MVNO access.⁶⁴ This will be measured and made known to Telenor and any national roamer in conjunction with each margin squeeze test.

499. During the period in which the 2016 decision applied, the access price for data was in excess of Exempt from public disclosure: [REDACTED]. With a linear data price for national roaming, as well as tighter price regulation of MVNO access, Nkom expects the price for Exempt from public disclosure: [REDACTED]. In overall terms, Nkom expects the linear price for national roaming to be more favourable for consumption up to at least Exempt from public disclosure: [REDACTED].

7.5.9.4. Requirement for alternative price structures, including bulk-price for all types of access

500. Nkom is aware that traffic-dependent prices appears to be customary in mobile wholesale access agreements. Nkom refers to the EU's international roaming regulations, whereby network owners must offer access to their networks based on traffic-dependent (variable) maximum prices. The parties can, however, bilaterally negotiate agreements with other price structures.

501. The effect of a given price structure on the provider's opportunity to offer competitive retail products might, as stated, differ across various retail markets and segments. To be able to compete on equal terms, cf. non-discrimination requirements, access buyers must have the degree of pricing flexibility in the retail market, as Telenor itself has.

502. Based on information from other regulatory authorities in Europe and information from Telenor, it seems clear that in markets with well-functioning competition, more than one price structure is offered for access to mobile networks. Several authorities have, on request from Nkom, confirmed that both linear prices per subscription, non-linear prices per subscription, fixed fees per subscription and bulk prices are offered. Different pricing structures create flexibility for access buyers to align with different pricing models in the retail market.

503. In order to facilitate operators being able to establish themselves in different parts of the retail market, and to have pricing flexibility like Telenor, which is also common in competitive markets, Nkom requires that Telenor must meet reasonable requests for other pricing structures than the structure in the reference offer. Wholesale offers with alternative pricing structures shall not entail higher access costs for the applicant than the reference offer. Telenor will have the burden of proving that the pricing requirement is met based on the access buyer's own usage pattern.

504. A price model whereby the access buyer can purchase a defined amount of traffic for the entire customer base or parts of it, hereinafter referred to as a bulk price, will, in Nkom's assessment, entail that external access buyers can achieve a price structure that is more similar to the structure that Telenor's own retail operations would face. Any such price model will therefore be appropriate to give access buyers the same opportunities as the vertically integrated provider to compete in the retail market. It will also be appropriate to enable the access buyer to achieve low marginal costs for traffic, and for the access buyer to have strong incentives to leverage the traffic volume purchased from the network owner. Such a price model is demanded by access buyers who believes that it would be a suitable alternative to a traffic-dependent price. In Nkom's view, the price model gives increased flexibility and better opportunities to design new price models in the retail market. Against this background, Telenor

⁶⁴The maximum linear access price for national roaming will be calculated as a weighted average of the average access price for the private and business markets, respectively.

shall, upon reasonable request, be obliged to offer regulated access based on a bulk price, whereby a defined traffic volume could be used for the entire or parts of the customer base.

505. Nkom believes the design of a price model based on a bulk price should in principle take place on the basis of negotiation between the parties. For the negotiations to function effectively, Nkom will draw up individual guidelines for the design of a pricing model based on bulk purchase of traffic.

506. The purpose of requiring Telenor to offer access based on a bulk price is that the access buyer must to a greater extent face a price structure equivalent to Telenor's own retail operations, and thereby have equivalent flexibility and opportunity for product innovation. Telenor's bulk price offer must therefore be designed so as to be suitable for this purpose.

507. The amount of data included is a major driver in the retail market. A price model based on bulk can be particularly appropriate to give an incentive and opportunity to offer larger data packets. Nkom therefore upholds that demand for bulk purchases would be related particularly to data traffic. Telenor's obligation to offer access based on bulk pricing is not limited to data traffic, however, but also includes voice and SMS/MMS.

508. A price model based on bulk pricing might entail a risk for both the access buyer and access seller. An access seller, for example, will have a need for a degree of predictability concerning capacity requirements in its own network, and the access seller's access delivery commitments. There can thus be reason to assume that the access seller will seek to limit the time in which a given bulk purchase can be exploited. On the other hand, the access buyer might wish to use the bulk purchase for as long as possible, in order to better leverage the capacity which the bulk represents.

509. The opportunity for effective utilisation of bulk purchase of traffic cannot be assessed solely on the basis of for how long the bulk can be used, but must also be viewed in conjunction with the bulk volume. Bulk that involves a lot of traffic and a short amount of time to use the content of the bulk will entail a disproportionately large risk for the access buyer and thereby entail that, in reality, the access buyer will not be able to make use of bulk purchase. For the opportunity to use bulk purchase to be realised, bulk purchase should therefore be offered in sizes that are matched to the operators and the requirements in the relevant market. Telenor's bulk price offer must therefore entail a reasonable balancing of the interests described above.

510. Concerning the duration of a bulk, Nkom considers it expedient to take the same periods as the starting point as Telenor uses for traffic forecasts for the access buyer. Here, Nkom refers to how Telenor's reference offer indicates traffic forecasts for the coming 12-month period.

511. The risk for buyers of access in connection with purchasing a defined amount of traffic up-front, should result in lower prices for access than the standard traffic-dependent (variable) rate. This should be independent of the size of the bulk, however the larger the bulk is, the larger should the risk compensation be. This implies that all bulk offers should have an average price per unit that is lower than the variable price for access (the reference offer), provided that the entire bulk is used⁶⁵. Average price per minute, SMS or MB should decrease together with increased volumes in the bulk.

⁶⁵ In order to be able to compare the average price in the bulk agreement with the variable price for access, Nkom will use calculations from the margin squeeze tests for MVNO access and service provider access. Maximum average price in the bulk contract will be the linear price that provides the same access cost for each of the services as the prices in the standard agreement for the relevant type of access. This will be measured and made known to Telenor at each margin squeeze test

7.5.9.5. Summary

512. The requirements for pricing structure mean that Telenor shall offer a reference agreement based on traffic-dependent, variable prices for all types of access. For national roaming, Telenor shall offer access based on traffic-dependent linear price per service / subscription.

513. Telenor shall further offer alternative price structures without undue delay after a reasonable request for a given price structure has been received and facilitate such alternative price structures without undue delay after the agreement has been concluded. Telenor shall, on request, document the time spend. Wholesale offers with alternative pricing structures shall not entail higher cost for access for the applicant than the reference offer. Telenor will have the burden of proving that the pricing requirement is met based on the access buyer's own usage pattern.

514. Bulk price can be an alternative pricing structure. On request, Telenor shall offer a defined amount of traffic for all or part of the customer base to the access buyer, the so-called bulk price. Regarding possible costs related to developing systems for bulk offers, Nkom is of the view that Telenor should cover such costs. It is expected that several buyers of access will request such price structures in the future, this means that the costs should not be covered only by one or a few buyers of access.

7.5.10. Price of establishment of access

515. An unreasonably high price for the establishment of access might prevent new operators from entering into access agreements and thereby from establishing competing offers in the retail markets. An unreasonably high establishment fee might, as such, have a similar effect to denial of access. As a dominant operator, Telenor might have incentives to utilise this opportunity to limit competition in the retail markets. Moreover, the price control in this decision gives a certain scope for rebalancing between various price elements in the access agreements. To prevent any rebalancing from resulting in anti-competitive behaviour, Nkom is of the view that there is a need to set requirements for the level of any potential establishment fee.

516. Nkom acknowledges that there are certain costs associated with making arrangements for operators that require access to Telenor's network, including technical adaptations, testing etc. The price that Telenor may charge for establishing access to its network must be reasonable, however.

517. What constitutes a reasonable price will have to be determined as required in any specific case. In such an assessment, Nkom will give emphasis to:

- Relevant underlying costs. On request, Telenor must be able to document relevant underlying costs for establishment of access for the relevant operator. If Telenor also requires a fixed monthly price to cover ongoing operating costs associated with the access agreement, Telenor must be able to document which costs are covered by this ongoing charge, so that the same cost is not covered by multiple price elements.
- That the price is not be an unjustified obstacle to efficient operators becoming established in the market.

7.5.11. Price controls of co-location

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

519. 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 opportunity to limit the access and thereby the competition by demanding disproportionately high prices for co-location. For the access obligation to be sufficiently effective, Nkom is of the view that it is necessary to impose price control, cf. Section 4-9 of the Electronic Communications Act.

520. As described in Chapter 6.1, Nkom finds that the main principle for the choice of remedies in the market for access and origination is principle 3, i.e. that duplication of infrastructure is possible. The use of remedies must thereby support the establishment of new infrastructure. When it comes to infrastructure for co-location (masts, cabins, etc.), however, the duplication of this equipment is not a competitive objective. On the contrary, co-location will contribute to reduced costs for newcomers and thereby directly facilitate the conditions for further development.

521. Since the decision of 23 January 2006, Telenor has been subject to a requirement for cost-oriented co-location prices. Nkom sees a need to maintain this requirement in order to make the access obligation sufficiently effective. Cost orientation is considered to be a burdensome form of price control. In the light of the objective to have three competitive mobile networks and the development in the expansion of the third network, however, Nkom considers the cost-orientation requirement to be proportionate. On this basis, Nkom is also of the view that there is a need for closer follow-up of the requirement for cost-oriented prices.

522. The requirement of cost-orientation for co-location entails that Telenor must be able to demonstrate that the revenue from co-location does not exceed the costs, including a reasonable return on the capital. Pursuant to Section 4-9, third paragraph, of the Electronic Communications Act, certain systems for keeping cost accounts may be imposed together with price control obligations.

523. In previous decisions, Telenor has been required to document on request that the prices for co-location are cost-oriented. Based on the need for closer monitoring, Nkom imposes a regular reporting obligation on Telenor in the form of annual cost accounts for co-location in mobile networks. On the same basis, Nkom also believes that there is a need for an auditor's verification of the annual reporting and therefore imposes this obligation on Telenor.

524. Nkom has previously assessed whether cost accounts for co-location in mobile networks must be prepared per base station, or as overall accounts for all of Telenor's base stations. Nkom maintains that cost accounts per base station would not give a very good overview or provide robust cost figures, since this would entail a high degree of cost distribution, with a disproportionately high level of detail. Nkom is therefore of the view that overall, aggregated cost accounts for co-location in mobile networks are the only appropriate solution. Cost accounts for co-location in the fixed network are prepared in the same way.

525. Aggregate cost accounts entail that pricing can be based on average calculations. 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.

526. Nkom emphasises that the cost accounts must also include placement in facilities owned by Norkring AS that are used for Telenor's mobile network.

527. The principles for reporting cost accounts are stated in Chapter 7.5.13. Below, Nkom elaborates on what the requirement for cost-oriented price entails in relation to capacity expansions.

7.5.11.1. Construction contributions for capacity expansions related to co-location

528. The price for renting space in Telenor's facilities will mainly cover a share of operating costs and depreciation at existing facilities. If Telenor does not have available capacity in a

facility where placement has been requested, the costs of the measures taken to expand capacity can be distributed among and charged as construction contributions to those requiring capacity. 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 distributed among the party or parties that request placement before the measure has been taken.

529. An alternative would have been a general increase in rent to cover the capacity expansion of individual facilities. Nkom considers it reasonable, however, that those with a need for capacity cover the costs of the change measures. Firstly, expansions and changes involve liquidity outlays that it is not reasonable for Telenor to have to bear. In addition, such a practice would entail that the investment costs would be charged to all existing lessees. These lessees have made a decision concerning co-location in Telenor's facilities rather than other alternatives and if the rental prices were to be changed retrospectively due to one or more other operators requesting co-location at the same location, this would not be very predictable. 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 distributed among all buyers of co-location, there would be a risk of not selecting the most cost-efficient alternative, if the requesting party was to only be charged for a share of the cost of co-location.

530. In this connection, 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. In principle, however, Telenor must select the simplest and most reasonable measure to expand capacity, if there are multiple alternatives, cf. Chapter 7.1.5. If Telenor chooses measures that are also of benefit to Telenor, the construction contribution must be reduced equivalently.

531. To facilitate the efficient functioning of the co-location obligation, Nkom believes that cost-orientation requirements must also apply to the construction contribution. The offer that Telenor submits to the placement requestor may be based on actual figures, to ensure that the process can get started quickly. The offer must include more detailed specification of the measures that must be taken to expand capacity. The final invoicing must, however, be based on actual costs incurred for materials, building permit costs, compensation to landowners, contractors' invoices, other subcontractors, etc. Invoices must be specified to the greatest possible extent, so that the access buyer can assess the reasonableness of the various cost elements. It must be possible for costs to be documented to Nkom on request.

532. On a random sampling basis, Nkom will also be able to check that completed capacity expansions covered by construction contributions observe the principles that the simplest and most affordable measures should be chosen. Reference is made to Chapter 7.1.5.1 of the decision for further review of the principles for the choice of solution. Nkom requires a comprehensive assessment of alternative solutions in which the costs of the measures carry significant weight. If there are simpler and more affordable solutions than those selected, Telenor must document the assessment on which the choice is based. It might be relevant for Nkom to use external assistance to assess the selected capacity expansion solution and that the construction contribution solely covers actual accrued costs for the selected solution.

533. The final invoice may be lower or higher than the estimated price. To ensure predictability and prevent the access buyer from facing a situation in which the actual price is significantly higher than envisaged, Nkom considers it reasonable to impose the requirement on Telenor that the actual price may not exceed the price estimate by more than 15 per cent⁶⁶. This requirement gives Telenor incentives to calculate a probable price estimate, and the risk and cost of a price estimate that is too low will be shared between the access buyer and Telenor.

⁶⁶ An equivalent provision can be found in Section 33 of the Norwegian Craftsman Services Act.

534. All costs that are covered by construction contributions must be capitalised and written-off so that the cost is accrued in the cost accounts. The construction contribution must also be recognised as revenue in the cost accounts. Even though the periods for depreciation and revenue recognition of construction contributions can be different, the total depreciation for a change measure must have a corresponding revenue entry over time. The investment as a consequence of the change measure will therefore, over time, not have any effect on the result in the cost accounts, nor will it influence the rental price.

535. With a practice as described above, buyers of co-location will have to pay rent for placement in a facility for which they also have paid construction contributions, since the rental price covers operating costs and investments in existing facilities. Capitalisation and accrual of the costs of the change, and the related construction contribution as described above, will prevent Telenor from receiving duplicate cover of the costs of the change measure.

7.5.12. Assessment of proportionality concerning obligations related to price and accounting regulation

536. Nkom imposes price control on Telenor in the form of a prohibition against subjecting the access buyer to margin squeeze. This regulation is mainly a continuation of the previous price regulation for MVNO access and service provider access, but Nkom expects that some changes in the principles for conducting the tests will lead to price reductions for these types of access. For access to national roaming, the regulation stipulates a linear price requirement, and that access prices for national roaming should not exceed MVNO access prices. Nkom expects a decline in prices for national roaming, compared to prices offered in the previous regulatory period. However, Telenor did not have buyers of national roaming during this period, will therefore not experience a direct revenue reduction as a result of the price decline. For an operator with national roaming, the price regulation will result in lower wholesale prices at Telenor, which in practice can have an impact on the wholesale access price for the third network.

537. Margin squeeze tests have been used as a regulatory tool during the period after the decision of 1 July 2016. Nkom upholds that Telenor's experience with price control has contributed to a gradual reduction of the administrative burden. It is still assumed that Nkom will undertake the development of the actual model to be used in the tests, which will also contribute to reducing the administrative burden for Telenor. The experience from 1 July 2016 will also facilitate the regulation's efficient functioning as from the entry into force of the new decision.

538. The benefits of a margin squeeze prohibition would exceed the disadvantages for Telenor. Nkom thereby considers such an obligation to be proportionate.

539. Nkom still requires a reasonable price for the establishment does not consider this to be a disproportionate requirement.

540. The cost-orientation requirement for co-location has also been continued from before. However, Telenor is required to report cost accounting to Nkom on an annual basis, in contrast to the previous requirement for this to take place on request. Nkom upholds, however, that the reporting obligation is not disproportionately burdensome for Telenor since Telenor already has a cost accounting system.

7.5.13. Specific obligations relating to prices and account control

541. Nkom refers to the aforementioned assessments concerning which specific obligations relating to prices and account control are to be imposed on Telenor in Market 15. The specific obligations imposed on Telenor ASA (hereinafter in this chapter referred to as Telenor) are stated in this chapter.

542. Under the authority of Section 4-9 of the Electronic Communications Act, Nkom imposes the requirement on Telenor to offer access for national roaming at prices that are not higher than the reference offer for MVNO access in line with Chapter 7.5.5, Chapter 7.5.8 and Chapter 7.5.9.3. The price controls must be expected to end at the time of this decision.

543. Under the authority of Section 4-9 of the Electronic Communications Act, Nkom imposes the requirement on Telenor to offer access as MVNO at prices which entail that the access buyer is not subject to margin squeeze. Telenor must pass a portfolio-based margin squeeze test of the retail products, in line with Chapter 7.5.6, Chapter 7.5.8 and Annex 2. The prices for wholesale data traffic should not be higher for MVNO access than for service provider access. The MVNO prices for voice and SMS should not be higher than half of the corresponding prices for service providers.

544. Under the authority of Section 4-9 of the Electronic Communications Act, Nkom requires Telenor to offer service provider access at prices which entail that the access buyer is not subject to margin squeeze. Telenor must pass a gross margin test for a selection of Telenor's products, in line with Chapter 7.5.7, Chapter 7.5.8 and Annex 2.

545. Under the authority of Section 4-9 of the Electronic Communications Act, Nkom requires Telenor to prove a reference offer, cf. Chapter 7.5.9., with traffic-dependent (variable) access prices for each access form. An access agreement with a fixed fee per subscription can be offered as an alternative, but such a price structure, or price structure with equivalent effect, may not be the only price structure offered. For national roaming access, the traffic-dependent (variable rates) should be linear, meaning the price cannot vary according to the volume of traffic per subscription.

546. Under the authority of Section 4-9 of the Electronic Communications Act, Nkom requires Telenor upon request from buyer of access, to offer alternative price structures. Wholesale offers with alternative pricing structure shall not entail higher cost for access for the applicant than the reference offer. Telenor will have the burden of proving that the pricing requirement is met based on the buyer of access own usage pattern. Telenor should offer alternative price structures without undue delay after a request for such a price structure has been received and should facilitate alternative price structures without undue delay after the agreement has been established. Telenor should on request document the time used.

547. An alternative pricing structure could be a bulk price whereby an access buyer is offered a defined traffic volume for its entire customer base or a part of it. Such a bulk offer should have an average price per unit that is lower than the traffic-dependent (variable) price for access, provided that the entire bulk is used. Average price per minute, SMS or MB should decrease together with increased volumes in the bulk. Development costs should be covered by Telenor.

548. Under the authority of Section 4-9 of the Electronic Communications Act, Nkom requires Telenor to offer establishment of access at reasonable prices, cf. Chapter 7.5.10.

549. Under the authority of Section 4-9, second paragraph, of the Electronic Communications Act, Nkom requires Telenor to offer co-location at cost-oriented prices, cf. Chapter 7.5.11.

550. Under the authority of Section 4-9, third paragraph, of the Electronic Communications Act, Nkom requires Telenor to keep cost accounts for co-location in mobile networks based on fully distributed historical costs, cf. Chapter 7.5.11. The cost accounts must be prepared as combined accounts for all of Telenor's base stations, and must satisfy the following requirements:

- Product revenue and product costs (including depreciation), imputed interest payments and capital employed for co-location for mobile telephony must be separated from other operations and appear as a separate profit unit.

- Costs/capital that are not directly attributable must 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 must be allocated in proportion to previously allocated costs/capital.
- All costs that are covered by construction contributions must be capitalised and written-off so that the cost is accrued in the cost accounts. The construction contribution must also be recognised as revenue in the cost accounts. Even though the periods for depreciation and revenue recognition of construction contributions can be different, the total depreciation for a change measure must have a corresponding revenue entry over time.
- The cost accounts will be based on the financial accounts, with the exception of the financial items to be replaced by imputed interest on the book capital employed. The cost accounts must be reconciled with the financial accounts, and any discrepancies must be explained.
- The imputed interest must correspond to the applicable imputed interest rate set by Nkom for the mobile markets.

551. Nkom reserve the right to specify the elements of the reporting and the level of details further.

552. Under the authority of Section 4-9, third paragraph, of the Electronic Communications Act, Nkom imposes the requirement on Telenor to have the cost accounts reviewed by an external auditor according to the limited audit standard. Among other things, the auditor will prepare a confirmation that the cost accounts comply with the stipulated system of cost accounting, including verification of the reconciliation with the audited financial accounts. In addition, it must be verified that distribution keys fulfil the activity-based costing requirements. The auditor must have access to all relevant documentation in order to express an opinion about the cost accounts.

553. Pursuant to Section 4-9, second paragraph, of the Electronic Communications Act, Nkom requires Telenor to report the aforementioned cost accounts to Nkom annually before 1 July of the following year. The first report after this decision will be for the 2019 financial year and must be sent to Nkom before 1 July 2020.

554. Under the authority of Section 4-9, second paragraph, of the Electronic Communications Act, Nkom requires Telenor to base any construction contributions for capacity expansions in conjunction with co-location on actual costs incurred, cf. Chapter 7.5.11.1. The invoice for construction contributions must be specified to the greatest possible extent. It must be possible for the costs to be documented to Nkom on request. If offers are given on the basis of estimated costs, the actual price may not exceed the price estimate by more than 15 per cent. If the selected capacity expansion solution is also of benefit to Telenor, the construction contribution must be reduced equivalently.

7.6. Assumed consequences of the remedies

555. Assumed consequences are described in the aforementioned sections for the individual specific obligations. It is the price regulation in Chapter 7.5, however, that will have the most direct and measurable consequences. These are therefore explained in further detail in this chapter.

556. The main objective of the regulation is to facilitate sustainable infrastructure competition in the form of three competitive networks. In several areas, the decision is thereby aimed at providing incentives for the development of the third network. Tightening and close follow-up of the co-location obligation is an important remedy that is aimed directly at the continued effective network development. Furthermore, the changes in the price regulation are

directed at facilitating that purchase of national roaming, in addition to own production, gives opportunities to compete effectively in the retail market during the last part of the development, and gives incentives for further development and transfer of traffic to own network.

557. Since Telenor's access prices being regulated by a margin squeeze prohibition, it can be assumed that the prices are above a cost-oriented level. Results from the Commission's cost model for international roaming support that the costs of producing data traffic are far below current access prices. According to the BEREC Benchmark Data Report⁶⁷, average wholesale prices for international roaming in Norway were also at the level of the Commission's cost model⁶⁸ and thereby far below the Norwegian access prices. The figure below illustrates access costs based on various consumption patterns and Telenor's access prices for national roaming compared with costs from the Commission's cost model and average wholesale prices for international roaming in Norway.

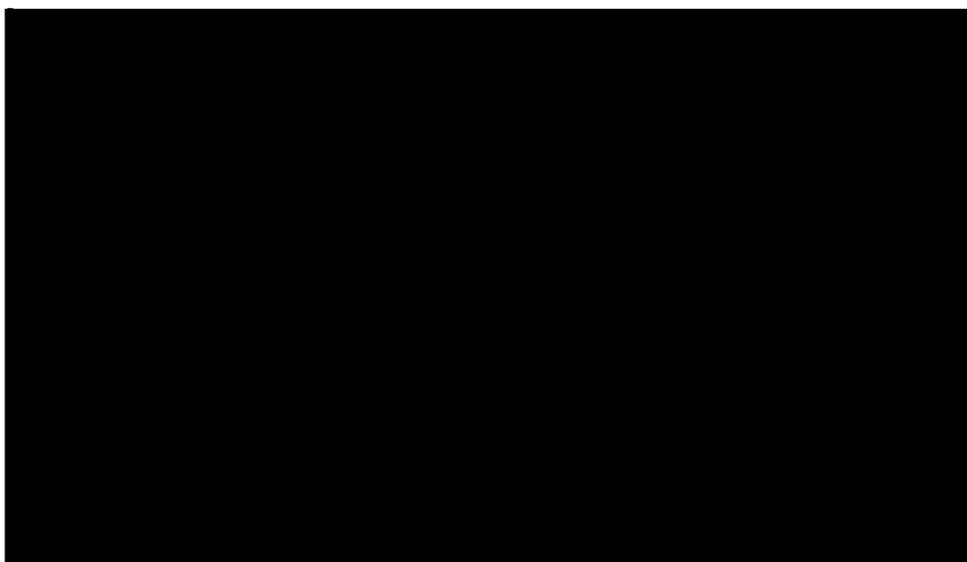


Figure 1 Comparison of wholesale prices for national roaming at Telenor with production costs from the Commission's cost model for Norway 2019 and the average wholesale price for international roaming in Norway, Q1 2019.

558. Nkom expects that the changes in efficiency requirements for MVNO and service providers will lead to some reduction of access prices for these forms of access. At the same time, the clarifications related to reasonable requests for alternative pricing structures should facilitate these operators to negotiate other price structures that are better adapted to their use and retail segments. In the longer term, it must be assumed that the facilitation of increased infrastructure competition will to a greater extent benefit MVNO and service providers in the form of reduced access prices.

⁶⁷ https://berec.europa.eu/eng/document_register/subject_matter/berec/reports/8839-international-roaming-berec-benchmark-data-report-october-2018-8211-march-2019

⁶⁸ <https://ec.europa.eu/digital-single-market/en/news/finalisation-mobile-cost-model-roaming-and-delegated-act-single-eu-wide-mobile-voice-call>

559. In addition, for national roaming the effect of linear price is expected to reduce the cost of the access purchase. During the period in which the 2016 decision applied, the access price for data was in excess of Exempt from public disclosure: [REDACTED]

[REDACTED]. With a linear data price for national roaming, as well as tighter price regulation of MVNO access, Nkom expects the price for Exempt from public disclosure: [REDACTED]

[REDACTED]. In overall terms, Nkom expects the linear price for national roaming to be more favourable for consumption up to at least Exempt from public disclosure: [REDACTED]

[REDACTED]. For an operator like Ice with a relatively well-developed own network and a large share of traffic in its own network, consumption per customer is expected to be relatively low. In this way, the linear price requirement will present significant advantages for the company.

560. The consequences of regulation for competition in the retail market are uncertain. Today, the private market is characterised by the strongest price competition among service providers. Providers such as Chili Mobil, Fjordkraft and Hudya have the lowest prices for data packages of different sizes, while Ice has prices that are in the upper tier among the operators with the lowest prices. Telenor's and Telia's low-price brands, Talkmore and OneCall, are rather higher in price, while the Telenor and Telia brands have the most expensive products. The figure below illustrates the price picture. Operators with fewer than 15,000 customers are excluded from the figure.

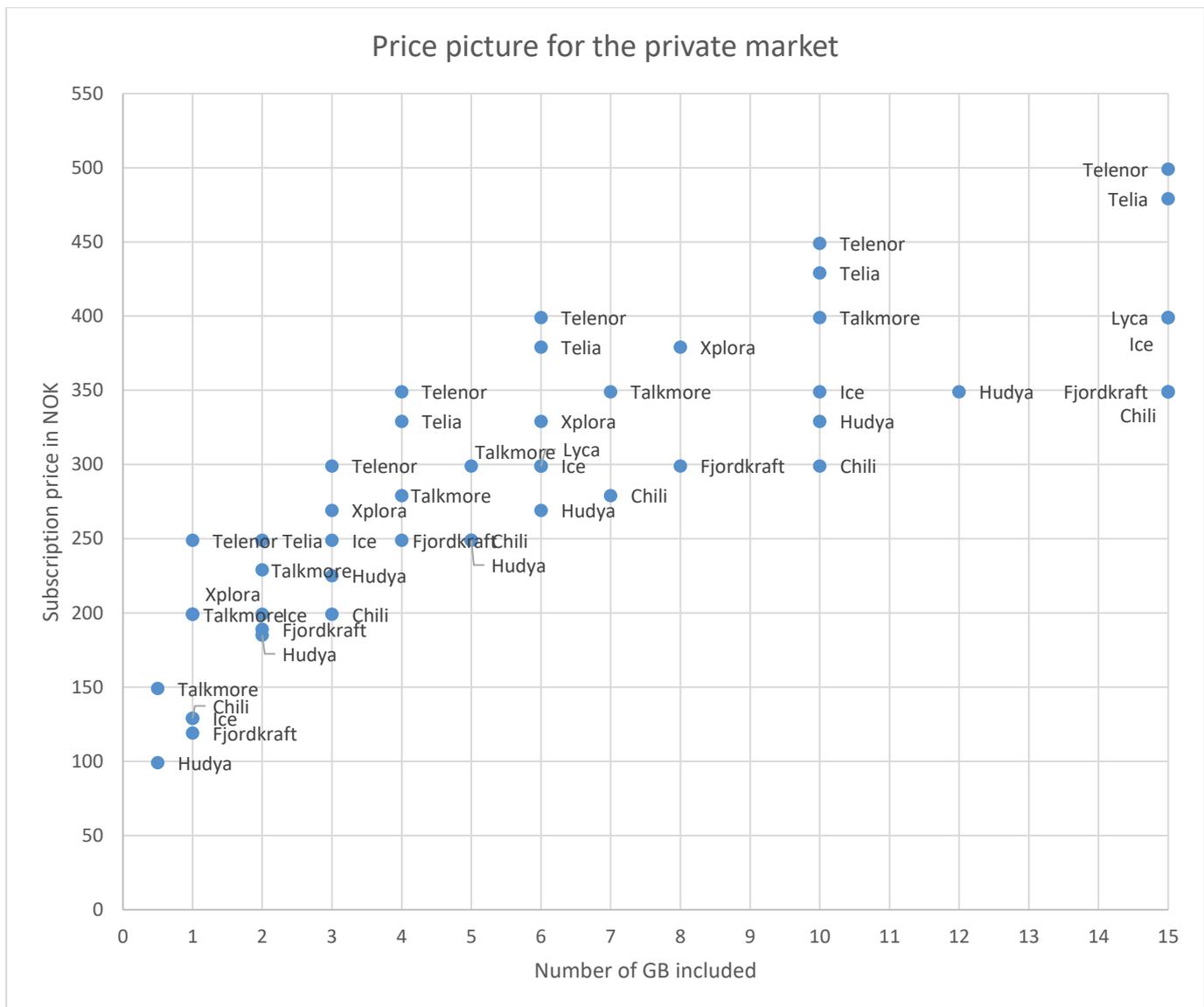


Figure 2 The price picture in the private market, February 2020. Source: Nkom

561. Nkom expects that competition in the retail market will be strengthened somewhat as a consequence of the changes in margin squeeze tests and the possibility of bulk purchases for all access buyers. During the consultation rounds, however, access buyers have described very squeezed margins, so it is not certain that improved access terms will be directly reflected in reduced end-user prices. As stated, Nkom expects that Ice will be able to strengthen or at least maintain its competitiveness, in particular as a consequence of the change in price structure. Nkom has little expectation that Telenor's prices in the short term will be disciplined by any price effects among service providers and Ice.

562. The tightening of the price regulation for national roaming, in combination with the price regulation itself being time-limited to this regulatory period, is expected to provide strong incentives for the rapid and efficient development of the third network. Nkom assumes that increased infrastructure-based competition as a consequence of a more competitive third network in the longer term will have greater effects in the retail market.

563. Based on the above, Nkom concludes that the assumed consequences of the decision are in accordance with the objectives on which Regulatory Principle 3 is based, namely

duplication of the infrastructure where possible, while at the same time ensuring access buyers 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 significant unintended consequences of the use of remedies in this decision.

7.7. Overall assessment of proportionality

564. 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.

565. 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.

566. Nkom believes there is a need to continue the access obligation for service provider access, MVNO access, national roaming and co-location within the relevant market. Nkom has delineated the market towards IoT/M2M communication, cf. Chapter 2 of the market analysis. This entails a relaxation of the obligations compared to previous decisions since the access obligation does not include access to offer M2M communication. However, Nkom has seen a need to specify the access obligation in a few areas, including in relation to the exclusivity and migration requirements.

567. Since effective co-location is very important for the third network's development during the next two to three years, the co-location obligation is specified in further detail, as both the access obligation and in relation to price control. Among other things, Nkom imposes the requirement on Telenor to disclose information necessary to initiate a request for co-location no later than 14 days after the request, and that reasonable requests for co-location must be met without undue delay, normally within six weeks. Nkom furthermore requires that preparation for placement must be initiated and performed without undue delay, if accepted by the access buyer. Telenor is required to report on a half-yearly basis on the extent of request applications, acceptances and construction contributions, as well as the time spent.

568. The non-discrimination obligation mainly entails a continuation of the regulation of the former Market 15. The transparency obligations are also essentially a continuation of existing obligations.

569. The accounting separation requirement for MVNO access and national roaming is a continuation from the previous regulation. However, Telenor is still not required to report accounting separation on biannual basis, not only upon request for such access. Since access to offering M2M/IoT is not a part of the relevant market, revenues and costs for such services should not be included in the separated accounts. Instead, Nkom requires Telenor to prepare an additional report in which the aforementioned revenues and costs are isolated.

570. Nkom continues the price control in accordance with Section 4-9 of the Electronic Communications Act for national roaming, MVNO access and service provider access. The price control for MVNO access and service provider access mainly entails equivalent tests and follow-up to those under the decision of 1 July 2016. The assumptions concerning efficiency have been changed, so as to better match national conditions. The efficiency requirement, measured as market share for the reference operator, is therefore reduced from a 5 percent to a 3 percent market share. The price levels should give incentives to further network roll out and reduce Telenor's chances to offer more attractive prices for operators with limited own infrastructure. The requirement is therefore that prices for national roaming should not be higher than prices for MVNO-access.

571. Prices for MVNO access shall not exceed prices for service provider access. This means that any future requirements for the adjustments of prices for service providers may also entail requirements for the correction of prices for MVNO access.

572. The half-yearly tests are performed by Nkom and are based on the margin squeeze test principles. Nkom will use a margin squeeze model that, in each testing instance, must be adapted to the relevant parameters that, according to the principles, are to be included. The tests calculate margins for representative products. The overall effect is that efficient access buyers are not excluded from either all or parts of the retail market. Nkom believes that regulation in this way ensures that the terms of competition are reasonable for operators competing in all or some of the defined retail markets, while ensuring investment incentives.

573. The price controls are supplemented by requirements for pricing structure. The requirement for traffic-dependent (variable) access price for all types of access is a continuation from earlier. However, for national roaming the requirement is further clarified by the fact that the regulated traffic-dependent (variable) price must be linear, in the sense that the price may not vary with the traffic volume at subscription level. The reason for the clarification is to strengthen the incentives for the third network to continue the development and to transfer as much traffic to its own network as possible during the roll out.

574. Furthermore, Nkom specifies the obligation to offer alternative price structures, including bulk prices, on request. The requirement for alternative price structures is intended to provide flexibility for access buyers in their pricing and product innovation in the retail market. To give access buyers incentives to buy the largest possible data volumes in bulk and thereby facilitate end users' benefit from large data packets, Nkom has set the requirement that the average traffic price in the bulk, if the entire volume is used, must be lower than the variable price for the equivalent service. This entails that any future requirement to rectify the prices in the reference offers may entail a requirement to rectify established bulk agreements.

575. Furthermore, the aforementioned bulk pricing requirement may entail that Telenor has to sell traffic in bulk at a price lower than the margin squeeze prohibition would indicate. This assumes, however, that the entire bulk has been used. Since Nkom has the authority to impose cost-orientation requirements as a price control method, which would entail a lower access price than the decision requires for the variable price, Nkom cannot see that any such requirement may not be imposed.

576. Nkom is of the view that the interrelationship between the remedies, as described above, is necessary for the regulation to provide incentives for investments while also facilitating competition for services and product innovation.

577. The price regulation notified for co-location is based on the same principles as before, i.e. cost orientation. Certain conditions are clarified, however, including that construction contributions must be invoiced based on the actual costs incurred. The requirement will be followed up more closely with frequent reporting in the form of annual cost accounts to Nkom. The cost accounts will be reviewed by an external auditor.

578. Nkom is of the view that the notified remedies effectively address identified competition problems. The overall regulatory burden for Telenor will be somewhat greater compared to the decision of 1 July 2016. The main principles are continued, but are defined more closely in certain areas and the price controls will be stricter in some areas. In addition, some areas will be followed-up more closely. Nkom believes that this is necessary in the context of achieving the objective of sustainable competition. The fact that the overall effect may be burdensome for Telenor cannot be a determining factor for as long as no less burdensome forms of regulation exist that are just as appropriate to achieve the intended result. Nkom has not been able to identify any such alternatives.

7.8. The use of remedies and sanctions in accordance with the Electronic Communications Act and change in the use of remedies in the decision

579. Nkom has found that there is still a basis for the advance regulation of the mobile market for access and call origination. The Ministry of Transportation and Communications' appeal decision of 9 March 2018 states that, assuming this outcome, the Ministry would like Nkom to state how the market decision will be followed up and what consequences any breach of the market regulation might have. The Ministry also requested specification of the concrete remedies that will apply if other remedies are not successful⁶⁹.

580. Nkom's follow-up on the obligations imposed is in principle stated in Chapters 7.1.8, 7.2.7, 7.3.8, 7.4.7 and 7.5.13.

581. If breach of one or more of the obligations in the decision is discovered, Nkom will follow these up by assessing whether the remedies provided for in the Electronic Communications Act and the Electronic Communications Regulation are to be used, including whether the conditions are met. Nkom will use remedies such as the rectification requirement, coercive fines or, at the request of the provider, the repayment requirement, in cases where this is deemed to be necessary, appropriate and proportionate. How the case should be followed up will be assessed in each individual case. The same applies to sanctions in the form of an infringement fee in accordance with the Electronic Communications Act.

582. In situations where the remedies set out in the decision do not function as intended, Nkom has the opportunity to change the use of the remedy when this is appropriate. Second 3-4, third paragraph, of the Electronic Communications Act states that the authority may amend obligations that have been imposed. The preparatory remarks state that "*imposed obligations may be changed when this is appropriate*" and that such a "*change may be made without a new market analysis if the obligations imposed are not successful*".⁷⁰

583. As specified in the preparatory remarks, changes can be made to the remedies without a new market analysis if the obligations imposed "*are not successful*"⁷¹. In overall terms, this entails that the development during the regulation period is not moving towards the objective of sustainable competition. Indications of this might include a low number of newly established operators in the market, a low development rate for the third network, or that the well-established operators even more strongly consolidate their already strong positions. The list is not exhaustive, however, and there may also be other conditions indicating that the remedies "are not successful".

584. The fact that changes can be made to the use of the remedies without prior market analysis entails that Nkom can make changes to the current regulation within a relatively short time. This will be appropriate, expedient and effective within the decision's time horizon of two to three years.

585. The Ministry also requires specification of which concrete remedies will be applied if other remedies are not successful. Nkom is of the view that this cannot be specified in general for all instances. Changes in use of the remedies must be assessed specifically according to the relevant situation. It is, however, specified in the preparatory remarks that "*use of remedies may be tightened if the remedies imposed prove not to function as assumed*".⁷²

586. As stated in Chapter 7.5.8 concerning the follow-up of price regulation, a more invasive form of margin squeeze regulation might be to require that a margin squeeze test must be

⁶⁹ Decision in the appeal case concerning Nkom's decision on the designation of an undertaking with significant market power and imposing specific obligations in the market for access and call origination on public mobile telephone networks (formerly market 15), Chapter 8.

⁷⁰ Proposition no. 58 (2002-2003) to the Odelsting, pp. 100-101.

⁷¹ *Ibid.*

⁷² *Ibid.*

passed before an end user offer can be made in the market. Any such stricter form of price regulation might be an option if there is a need to change the remedies.

8. Relation to current decisions

587. Nkom's decision of 1 July 2016 to impose specific obligations in the market for access to and call origination on public mobile telephone networks will be repealed when a new decision enters into force.

588. Telenor ASA must continue its reporting of separated accounts according to the same principles as set out in previous decisions for the first half of 2020 and the full year 2019. First reporting under this decision shall comprise the second half of 2020 and shall be sent to Nkom by 1 April 2021. Thereafter, biannual reports should be submitted by 1 October and 1 April each year. The full-year report is submitted by July 1st of each year.

589. Margin squeeze tests must be performed according to the principles in this decision. The first ordinary margin squeeze test will be carried out in October 2020. However, Nkom will initiate the process of obtaining information for margin squeeze test when the decision enters into force, so that an extraordinary margin squeeze test can be carried out as soon as possible after the new reference offer is available.

590. Cost accounting for co-location must be reported in accordance with the principles in this decision on 1 July each year, as from and including 1 July 2020 for the 2019 financial year.

9. Entry into force of the decision, deadline for appeals, etc.

591. The decision enters into force from the day it is adopted. However, Nkom assumes that Telenor will need some time develop new reference offers for the various types of access in line with the decision and to undertake the necessary technical development/implementation in its own systems. At the same time it is also important to ensure that access buyers can relatively quickly use the rights provided by the decision. On this basis, Telenor is given one month from the date of the decision to develop and publish new terms and conditions in the reference offers.

592. 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 appealing decisions is normally three weeks, cf. Section 29, first paragraph, of the Public Administration Act. Since the decision is extensive, Nkom believes that there are grounds for an extended appeal deadline, cf. Section 29, fourth paragraph, of the Public Administration Act. The appeal deadline is therefore set at 4 weeks from the decision date. Any appeal must be addressed to the Ministry of Local Government and Modernisation and sent to the National Communications Authority.

593. Only the Ministry of Local Government and Modernisation may make a decision on deferred implementation of the decision, cf. Section 11-6, fourth paragraph, of the Electronic Communications Act, cf. Section 42 of the Public Administration Act. If, during any appeal process, the implementation of the decision is deferred, the existing obligations will be continued until a final decision has been made concerning the appeal.