



Post- og teletilsynet  
Norwegian Post and Telecommunications Authority

Draft decisions for designating undertakings  
with significant market power and imposing  
specific obligations in the markets for voice  
call termination on individual mobile networks  
(market 7)

25. August 2010

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**Annex**

1. Analysis of the markets for voice call termination on individual mobile communications networks
2. Result of the consultation on NPT's notification of decisions.
3. Model documentation for LRIC model.

## **Summary**

In light of the analysis of the markets for voice call termination on individual mobile networks (hereinafter voice call termination on mobile networks, market 7) and the notified decision, the Norwegian Post and Telecommunications Authority (NPT), pursuant to Electronic Communications Act Section 3-3, designates Telenor, NetCom, Tele2, Network Norway, TDC and Ventelo as undertakings with significant market power in this market.

The Authority has identified a number of competition problems within the relevant markets for voice call termination on mobile networks. The competition problems are largely due to the existence of absolute entry barriers in the relevant markets.

As of today it is not possible to offer competing products in other providers' termination markets, nor is it likely that this will happen within a reasonable time horizon. Each provider thus has a monopoly on termination on its own network. Combined with the calling party pays (CPP) principle, absolute entry barriers mean that undertakings have little incentive to set efficient prices for voice call termination on their own mobile network.

In light of the above, the Authority regulates the markets for voice call termination on mobile networks on the basis of Principle 2 in NPT's remedies document. That is, consumer interests are to be protected, since the duplication of infrastructure will not be able to remedy the competition problems in question.

NPT has assessed the appropriateness and proportionality of the remedies available, and concluded that all undertakings with significant market power should be directed to meet any reasonable request for interconnection in the form of termination on the providers' mobile networks.

For Telenor, NetCom, Tele2 and Network Norway, NPT believes it is necessary to impose an obligation of non-discrimination. In addition, Telenor and NetCom shall be directed to prepare and publish reference offers. For Tele2, Network Norway, TDC and Ventelo, NPT considers publication of the companies' termination charges to be sufficient.

The objective of NPT's regulation of mobile termination charges is that all operators shall have efficient and symmetric termination charges. However, out of consideration for the objective of infrastructure building in the market for access and origination on mobile networks (former market 15), NPT laid down softer regulation of new providers in earlier decisions. This was affirmed in the decision by the Ministry of Transport and Communications in connection with an appeal of NPT's decision. However, both NPT and Ministry of Transport and Communications have found that asymmetry ensuing from such regulation shall be limited in time. Under NPT's plan the period of asymmetric termination charges for the providers in question will cease in the coming regulatory period.

On this basis NPT is imposing price cap regulation as specified in the table below.

	Current price at the end of 2010	1 January 2011 - 30 June 2011	1 July 2011 – 31 December 2011	1 January 2012 - 30 June 2012	1 July 2012 – 31 December 2012	1 January 2013 – 31 December 2013
Telenor	0.50	0.30	0.30	0.30	0.20	0.15
NetCom	0.50	0.30	0.30	0.30	0.20	0.15
Tele2	0.90	0.50	0.30	0.30	0.20	0.15
Network Norway	0.90	0.90	0.80	0.65	0.20	0.15
TDC	0.75	0.40	0.30	0.30	0.20	0.15
Ventelo	0.75	0.40	0.30	0.30	0.20	0.15

**Table 1: Maximum prices per minute for termination in the period 1 January 2011 to 31 December 2013. All prices are in NOK (excluding VAT).**

# 1 Introduction and background

1. The document contains the draft decisions in the markets for voice call termination on individual mobile networks (market 7, former market 16).
2. Section 3-2 of Act no. 83 of 4 July 2003 on Electronic Communication (Electronic Communications Act) requires the Norwegian Post and Telecommunications Authority (NPT) to define relevant product and services markets and geographic markets pursuant to the EFTA Surveillance Authority (ESA)'s Recommendation on relevant markets (Recommendation)<sup>1</sup>. The Authority shall analyse the markets and identify any undertakings with significant market power. If a provider is designated as having significant market power, at least one of the specific obligations in Chapter 4 of the Electronic Communications Act shall be imposed on the provider. Specific obligations shall be imposed following a specific assessment of potential competition problems in the relevant market and the relevant provider's position in this market.
3. NPT has previously undertaken three analyses of the markets for voice call termination on individual mobile networks (hereinafter referred to as voice call termination on mobile networks or market 7, corresponding to former market 16<sup>2</sup>) dated 19 September 2005, 8 May 2007 and 17 November 2008, respectively.
4. Telenor ASA (Telenor), NetCom AS (NetCom), MTU Networks AS<sup>3</sup> (later MTU Gruppen AS, MTU), Tele2 Norge AS (Tele2) and TDC Song AS (now TDC AS, TDC) were designated as having significant market power and directed to comply with specific obligations in NPT's decision of 8 May 2007.
5. In NPT's decision of 17 November 2008 Network Norway AS (Network Norway), Ventelo AS (Ventelo) and Barablu Mobile Norway Ltd<sup>4</sup> were designated as having significant market power and ordered to comply with specific obligations.
6. NPT has carried out a new analysis of all markets for voice call termination on mobile networks (Annex 1). In the analysis NPT concludes that Telenor, NetCom, Network Norway, Tele2, TDC and Ventelo have significant market power in their respective termination markets. On 26 March 2010 NPT circulated its notification of decisions on the designation of providers with significant market power and imposition of specific obligations for national comment.
7. NPT received responses to the consultation from the Norwegian Competition Authority, NetCom AS (NetCom), Network Norway AS (Network Norway), TDC AS (TDC), Telenor Norge AS (Telenor), Tele2 Norge AS (Tele2) and Ventelo AS (Ventelo). All contributions

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<sup>1</sup> EFTA Surveillance Authority Recommendation of 5 November 2008 on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation in accordance with the Act referred to at point 5cl of Annex XI to the EEA Agreement (Directive 2002/21/EC of the European Parliament and of the Council 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.

<sup>2</sup> ESA's new Recommendation on relevant markets for *ex ante* regulation entered into force on 5 November 2008. It replaces the Recommendation from 2004 which identified 18 markets for *ex ante* regulation. The new Recommendation reduces the number of markets to 7 in line with the corresponding recommendation from the European Commission. This means that the market for voice call termination on individual mobile networks is no longer market 16, but rather market 7. The definition of the market is unchanged.

<sup>3</sup> MTU Gruppen petitioned for bankruptcy at the end of November 2007.

<sup>4</sup> Since then the company has changed its name to Mundio Mobile Norway Ltd. The company's MVNO agreement with Telenor ended in December 2009. NPT has no knowledge that the company has entered into a new access agreement. For that reason the company is not included in the market analysis underlying this decision.

are published on the Authority's website. After the consultation deadline, Telenor has also commented on the consultation responses received. NPT has assessed the responses to the consultation (cf. Annex 2) and on the basis of them prepared a draft decision. On the basis of the national consultation process NPT has made certain adjustments to the decision, including adjusting the LRIC model from version 6 to version 7.1. This has led to a changed assessment of the total investment cost for the third mobile network being built by Tele2 and Network Norway. The documents have been translated into English and will be notified to the ESA, cf. Article 7 of the Framework Directive<sup>5</sup>.

### **1.1 Regulatory basis for regulation and selection of remedies**

8. The regulatory framework for electronic communication is based on five directives adopted by the European Union (EU).<sup>6</sup> The directives have been implemented in Norwegian law through the Electronic Communications Act and associated regulations, including the Regulations of 16 February 2004 relating to Electronic Communications Networks and Services (Ecom Regulations).

9. Pursuant to these rules the obligations for undertakings with significant market power are determined individually according to specific assessments on the basis of a market analysis and with a limited forward-looking time horizon<sup>7</sup>.

10. It ensues from Electronic Communications Act Section 3-4 first paragraph that providers with significant market power shall have one or more special obligations imposed on them pursuant to Sections 4-1, 4-4, 4-5, 4-6, 4-7, 4-8 and 4-9. Relevant obligations for the markets for voice call termination on mobile networks are:

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

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<sup>5</sup> Directive 2002/21/EC on a common regulatory framework for electronic communications networks and services (Framework Directive)

<sup>6</sup> 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 (the 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).

<sup>7</sup> See further details about the time horizon in the ESA guidelines for market analyses and assessment of significant market power, paragraph 20.

- Obligation of accounting separation, cf. Electronic Communications Act Section 4-8.

11. Pursuant to Electronic Communications Act Section 3-4 second paragraph, obligations may in special cases be imposed beyond what follows from these provisions. In such cases the consultation procedure under Electronic Communications Act Section 9-3 is to be followed.

12. In choosing specific obligations NPT has taken into account the assessments described in NPT's revised remedies document of 12 June 2009<sup>8</sup>. This document is based on "Revised ERG Common Position on the Approach to remedies in the ECNS regulatory framework", prepared by the European Regulators Group for electronic communications networks and services (ERG)<sup>9</sup>. The guidelines and principles embodied in the ERG remedies document are intended to stimulate the development of the single market for electronic communications networks and services as well as facilitate uniform and consistent regulatory practice in the various member states.

13. In its remedies document, NPT reviewed the principles that in general will guide the Authority in its choice of remedies:

**Principle 1** NRAs should produce reasoned decisions in line with their obligations under the Directives.

**Principle 2** The interests of consumers shall be protected when replication of infrastructure is not considered feasible.

**Principle 3** In markets where NPT considers it likely that replication of infrastructure may be attained over time, NPT will ensure that its use of remedies supports the transition to a market with sustainable competition.

**Principle 4** Remedies shall be designed to be incentive compatible.

14. In accordance with the general principles of administrative law and the proportionality principle in European Community law, any obligations NPT 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 intent of the Electronic Communications Act is laid down 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 stimulating industrial development and innovation."*

15. In addition to Section 1-1, a special preamble has been included in Section 3-4 third paragraph. The provision lays down requirements for the use of specific obligations:

*"Obligations in accordance with the first and second paragraphs that are imposed in the individual case shall be appropriate for promoting sustainable competition, as well as facilitating national and international development in the market. The Authority may amend obligations imposed."*

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<sup>8</sup> The document is published on NPT's website [www.npt.no](http://www.npt.no) under the menu selection "Markedsregulering (SMP)"

<sup>9</sup> This document was revised in May 2006 and is published on the ERG website: <http://www.erg.eu.int/>.

## **1.2 The structure of the document**

16. This draft decision consists of a main document containing directives to comply with specific obligations and the background and reasons for them, and three annexes: The analysis of the markets for voice call termination on mobile networks (Annex 1), result of the consultation on NPT's notification of decisions (Annex 2) and updated model documentation for the LRIC model (Annex 3). LRIC model version 7.1 with principles memo<sup>10</sup> and updated model documentation<sup>11</sup> is part of the decision.

17. Chapter 1 provides a brief overview of the regulatory framework for selecting remedies. In Chapter 2 of the main document providers with significant market power are designated on the basis of market analysis in Annex 1, while Chapter 3 provides an overview of the current special obligations related to termination on mobile networks. Chapter 4 provides a description and overview of potential competition problems in the relevant markets for voice call termination on mobile networks. Chapter 5 discusses some general circumstances surrounding the choice of remedies, including the possibility of the emergence of sustainable competition in the relevant markets and the requirement that the use of remedies shall be proportionate. Based on the preceding chapters and market analysis in the annex, NPT explains the selection of specific obligations in Chapter 6. Based on the assessments in Chapter 6 the imposition of specific obligations is formulated in Chapter 7. The relation to current obligations is discussed in Chapter 8, and information about appeals options is found in Chapter 9.

## **2 Designation of undertakings with significant market power**

18. On the basis of the analysis of markets for voice call termination on mobile networks, NPT designates pursuant to Electronic Communications Act Section 3-3 the following companies as undertakings with significant market power in the following respective markets:

- Telenor ASA: Voice call termination on Telenor ASA's mobile network.
- NetCom AS: Voice call termination on NetCom AS's mobile network.
- Network Norway AS: Voice call termination on Network Norway AS's mobile network.
- Tele2 Norge AS: Voice call termination on Tele2 Norge AS's mobile network.
- TDC AS: Voice call termination on TDC AS's mobile network.
- Ventelo AS: Voice call termination on Ventelo AS's mobile network.

19. For further specifics, NPT refers to the analyses in the Annex.

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<sup>10</sup> Conceptual approach for the upgraded incremental cost model for wholesale mobile voice call termination, 1 December 2009

<sup>11</sup> NPT's mobile cost model version 7.1 - Model documentation, 24 August 2010.

### 3 Current specific obligations

20. All of the providers covered by this decision are currently required to comply with specific obligations pursuant to Chapter 4 of the Electronic Communications Act.

21. Pursuant to NPT's decision of 8 May 2007, NPT's decision of 17 November 2008 and the Ministry of Transport and Communications' decision of 19 May 2009 the following specific obligations apply to Telenor, NetCom, Network Norway, Tele2, TDC and Ventelo, respectively:

***Telenor:***

- An obligation to meet any reasonable request for interconnection and to negotiate such agreements without undue delay, cf. Electronic Communications Act Sections 4-2 and 4-1.
- An obligation not to discriminate between external providers and to offer interconnection and access to other providers on the same or equivalent terms and of the same or equivalent quality as own operations, cf. Electronic Communications Act Section 4-7 first and second paragraphs.
- An obligation to prepare and publish a reference offer for interconnection, cf. Electronic Communications Act Section 4-6. The company shall also send NPT a copy of all negotiated agreements for voice call termination on mobile networks, cf. Electronic Communications Act Section 10-3.
- Maximum price of 50 øre per minute from <sup>12</sup>1 July 2010 for termination of voice calls on a provider's own network estimated from a weighted average of various price elements, cf. Electronic Communications Act Section 4-9.

***NetCom:***

- An obligation to meet any reasonable request for interconnection and to negotiate such agreements without undue delay, cf. Electronic Communications Act Sections 4-2 and 4-1.
- An obligation not to discriminate between external providers and to offer interconnection and access to other providers on the same or equivalent terms and of the same or equivalent quality as own operations, cf. Electronic Communications Act Section 4-7 first and second paragraphs.
- An obligation to prepare and publish a reference offer for interconnection, cf. Electronic Communications Act Section 4-6. The company shall also send NPT a copy of all negotiated agreements for voice call termination on mobile networks, cf. Electronic Communications Act Section 10-3.
- Maximum price of 50 øre per minute from <sup>13</sup>1 July 2010 for termination of voice calls on a provider's own network estimated from a weighted average of various price elements, cf. Electronic Communications Act Section 4-9.

***Network Norway:***

- An obligation to meet any reasonable request for interconnection and to negotiate such agreements without undue delay, cf. Electronic Communications Act Sections 4-2 and 4-1.
- An obligation not to discriminate between external providers and to offer interconnection and access to other providers on the same or equivalent terms

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<sup>12</sup> The price is adjusted for inflation.

<sup>13</sup> The price is adjusted for inflation.

and of the same or equivalent quality as own operations, cf. Electronic Communications Act Section 4-7 first and second paragraphs.

- An obligation to publish interconnection prices, cf. Electronic Communications Act Section 4-6. The company shall also send NPT a copy of all negotiated agreements for voice call termination on mobile networks, cf. Electronic Communications Act Section 10-3.
- An obligation of a “reasonable price”, cf. Electronic Communications Act Section 4-9. The requirement represents a maximum price of 90 øre per minute from 1 July 2010 for termination of voice calls on a provider’s own network estimated from a weighted average of various price elements.

***Tele2:***

- An obligation to meet any reasonable request for interconnection and to negotiate such agreements without undue delay, cf. Electronic Communications Act Sections 4-2 and 4-1.
- An obligation not to discriminate between external providers and to offer interconnection and access to other providers on the same or equivalent terms and of the same or equivalent quality as own operations, cf. Electronic Communications Act Section 4-7 first and second paragraphs.
- An obligation to prepare and publish a reference offer for interconnection, cf. Electronic Communications Act Section 4-6. The company shall also send NPT a copy of all negotiated agreements for voice call termination on mobile networks, cf. Electronic Communications Act Section 10-3.
- An obligation of a “reasonable price”, cf. Electronic Communications Act Section 4-9. The requirement represents a maximum price of 90 øre per minute from 1 July 2010 for termination of voice calls on a provider’s own network estimated from a weighted average of various price elements.

***TDC:***

- An obligation to meet any reasonable request for interconnection and to negotiate such agreements without undue delay, cf. Electronic Communications Act Sections 4-2 and 4-1.
- An obligation to publish interconnection prices, cf. Electronic Communications Act Section 4-6. The company shall also send NPT a copy of all negotiated agreements for voice call termination on mobile networks, cf. Electronic Communications Act Section 10-3.
- An obligation of a “reasonable price”, cf. Electronic Communications Act Section 4-9. The requirement represents a maximum price of 75 øre per minute from 1 July 2010 for termination of voice calls on a provider’s own network estimated from a weighted average of various price elements.

***Ventelo:***

- An obligation to meet any reasonable request for interconnection and to negotiate such agreements without undue delay, cf. Electronic Communications Act Sections 4-2 and 4-1.
- An obligation to publish interconnection prices, cf. Electronic Communications Act Section 4-6. The company shall also send NPT a copy of all negotiated agreements for voice call termination on mobile networks, cf. Electronic Communications Act Section 10-3.

- An obligation of a “reasonable price”, cf. Electronic Communications Act Section 4-9. The requirement represents a maximum price of 75 øre per minute from 1 July 2010 for termination of voice calls on a provider’s own network estimated from a weighted average of various price elements.

## 4 Competition problems

### 4.1 General – competition problems

22. A provider with significant market power would be able to exercise behaviour with the purpose or intention of driving competitors out of the market, preventing potential competitors from entering the market and/or exploiting consumers. Such behaviour is referred to as competition problems.

23. NPT’s remedies document gives a general description of potential competition problems within the relevant markets. Based on the practical experience of the national regulatory authorities in Europe,<sup>14</sup> the document identifies 27 standard competition problems.

24. Specific obligations imposed on undertakings designated as having significant market power are to be suited to remedying actual or potential competition problems in the relevant market. The imposition of specific obligations is not conditional on whether abuse of market power is actually taking place. It is sufficient that anti-competitive behaviour can potentially arise under given conditions.

25. This chapter discusses competition problems in connection with the markets for voice call termination on mobile networks. The point of departure for the assessment of competition problems is a “modified greenfield approach”, namely a requirement that the relevant market was not subject to *ex ante* regulation.

### 4.2 Denial to interconnect

26. In most cases an undertaking will likely have an incentive to offer interconnection in the form of termination. The utility of a network increases with the number of users connected to it, which suggests that mobile operators will want to enter into interconnection agreements with other providers.

27. Providers with few end users will normally consider themselves served by terminating calls from undertakings with large retail volumes. In this way more people will have the opportunity to contact the smaller provider’s end users, which makes the smaller provider’s service more attractive.

28. For larger providers, it may be less important to enter into an agreement on interconnection with small providers. There will be less appreciable loss of quality of their mobile service if the provider’s own end users cannot be called by the smaller provider’s customers. Such a denial to interconnect could represent a significant competitive problem since it will complicate, and potentially make it impossible for it or the affected competitors

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<sup>14</sup> See Revised ERG Common Position on the Approach to remedies in the ECNS regulatory framework”, formulated by the European Regulators Group for electronic communications networks and services (ERG) published on the ERG website: [www.erg.eu.int](http://www.erg.eu.int) (via the link “Documentation” and then “ERG documents”).

to engage in competitive activities. In addition, such behaviour might result in reduced consumer welfare in that the objective of end to end connectivity is not attained.

29. Electronic Communications Act Section 4-2 third paragraph requires undertakings with significant market power to meet reasonable requests for interconnection within the areas the provider has significant market power. The provision thus reduces the competition problems related to denial to interconnect, since all providers covered by this decision have an obligation to offer voice call termination their own network.

30. However, the obligation to enter into interconnection agreements under Electronic Communications Act Section 4-2 third paragraph includes only interconnection “*within those areas in which the provider has significant market power*”. Since market 7 is limited to voice call termination, the operators may have the opportunity and incentive to receive only voice calls, not SMS and MMS messages.

31. The obligation under Section 4-2 third paragraph for undertakings with significant market power in market 7 is also limited to pertain to agreements on voice call termination on their own network. The providers in question will also have the incentive to refuse to enter into an agreement to purchase termination from other providers.

32. Denial to interconnect in the form of not wanting to purchase termination from others and/or refusing to receive SMS and MMS messages could therefore potentially be used to harm smaller and equal-sized competitors. If fewer can communicate with their network the service becomes far less attractive to the customer. Such behaviour will also be in conflict with the goal of any-to-any communication.

33. An issue closely related to denial to interconnect is when an undertaking that does not have an incentive to conclude interconnection agreements makes the conclusion of such agreements difficult by resorting to various forms of delaying tactics. Typically such a practice may be resorted to where there is an obligation to meet reasonable requests for interconnection, but where nothing has been decided on how efficient the negotiations are to be time-wise. Thus, delaying tactics may represent a not unimportant competition problem, even if the access obligation is enshrined in law.

### **4.3 Excessive pricing**

34. Excessive pricing is the key competition problem in the relevant termination markets. The calling party or network owner with which the call originates has no control over which network the called end user is connected to. The network owner who originates the call has in reality no choice but to carry out the call and then pay the price the other network owner requires (the CPP principle<sup>15</sup>). This creates a monopoly situation for the receiving network owner whereby it may require an excessive or monopoly price for termination on its network. Undertakings with significant market power in the markets for voice call termination on mobile networks thus have the incentive and opportunity to set termination charges that are higher than those they could charge in a market with functioning competition. The incentive to set high termination charges is described further in the section on cross-subsidisation.

35. Telenor and NetCom are subject to a termination price cap of NOK 0.50 per minute. For both providers, the price ceiling is higher than the cost of termination calculated by NPT's updated and further developed LRAIC/LRIC model, cf. Chapter 6.

36. Other providers are subject to the reasonable price obligation, specified by price cap. The current price cap is NOK 0.90 for Tele2 and Network Norway, while the price cap for

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<sup>15</sup> The Calling Party Pays principle is further described in the market analysis (Annex 1) section 2.2.1.

TDC and Ventelo is NOK 0.75. These providers have all set standard termination charges on the same level as the price cap. In a market with competition, it is not likely that providers would have been able to sell their product if it was priced well above other established providers' comparable products. In the voice call termination markets, however, there is no competition in offering termination on the respective networks, and providers are therefore not forced to take such considerations. The fact that all providers subject to the obligation of reasonable prices have set their prices at the price cap level, regardless of the price level of the major providers (Telenor and NetCom), shows that providers have the ability to set prices above the level that would exist in a market with competition. For this reason, and from experience from the time before NPT specified the reasonable price level, NPT believes it is reasonable to assume that the termination charges of these providers probably would have been even higher without price cap regulation.

37. In markets where termination charges are set substantially higher than underlying efficient costs, pricing in the long term could have adverse consequences in terms of resource use. Excessive pricing of termination results in costs being shifted to other undertakings and ultimately their end users. For example, customers on fixed networks effectively subsidise customers on mobile networks. This may in turn lead to less fixed to mobile network traffic than desirable from an economic perspective. High and asymmetric prices among mobile providers can also lead to differentiated rates for calling between different mobile networks. In NPT's opinion, such a development is unfortunate in terms of transparency in the retail market, and also leads to the transfer of resources between customer groups in different mobile networks.

38. Excessive pricing by the established network owners can also create entry barriers for new and small network owners and MVNOs. Such providers usually have little customer volume in an early phase, and the bulk of the calls originated on their networks will be terminated on the networks of the established providers with far larger market shares. If the established providers require termination charges that exceed the efficient level, termination could be very costly for smaller players that have relatively little internal traffic.

39. On this basis, NPT believes the opportunity and incentive of Telenor, NetCom, Tele2, Network Norway, TDC and Ventelo to charge an excessive price for termination on mobile networks constitutes a significant competitive problem.

#### **4.4 Cross-subsidisation**

40. Excessive pricing enables cross-subsidisation in that additional income from termination on mobile networks can be used to subsidise a provider's own business in the market for access and origination on mobile networks (former market 15) or other business areas. Such additional income can for example be used to finance low retail prices in general or subsidise mobile phones.

41. Cross-subsidisation leads *inter alia* to distortion of competition for the benefit of providers that will have the opportunity to subsidise their own retail operations. In NPT's opinion such cross-subsidisation in the short term may be necessary to lower the entry barriers for new providers. However, if such practices become permanent or work for a long time, it will have adverse consequences. When some providers demand high and asymmetric termination charges, their costs are pushed over to the other providers who must pay the high termination rate. These increased costs could in turn lead to other providers having to increase their retail prices, with their end customers thus having to subsidise other mobile providers. In NPT's view this is an unfortunate distortion of competition.

42. On this basis NPT believes that persistent excessive pricing and cross-subsidisation are unfortunate in the long run for competition in the total mobile market. Permitting providers to engage in excessive pricing and cross-subsidisation over a long period can also facilitate persistent inefficient production, which is not desirable with respect to the use of economic resources.

#### **4.5 Price discrimination**

43. Providers of termination services may have an incentive to offer better prices to internal or certain external providers. For example, it is conceivable that the providers will offer a more advantageous price to companies in the same group or any prospective partner companies. Similarly, providers who pose a greater potential threat than other operations, could conceivably be charged a higher price than those who do not represent as great a threat.

44. Discrimination between undertakings may result in increased costs for some undertakings and may ultimately lead to exclusion from the market. Price discrimination between providers will therefore be a competitive problem.

#### **4.6 Non-price discrimination**

45. A provider with significant market power may have an incentive to discriminate between its own or related activities and the activities of others related also to factors other than price. This discrimination may apply to the interconnection services that are offered, the quality of technical interfaces, level of service, quality of information and so forth. It is also conceivable that incentives exist for providers to drag out interconnection negotiations and make undue demands linked to interconnection (guarantees, bundling etc.). NPT believes such discrimination could create distortion of competition, potentially posing a competitive problem in the analysed markets.

## **5 General – choice of remedies**

46. In the following NPT discusses certain issues of a general nature relating to the choice of remedies in the markets for voice call termination on mobile networks.

### **5.1 Feasibility of replication of infrastructure in the markets for voice call termination on mobile networks**

47. According to the presentation of Principles 2 and 3 in NPT's remedies document, key to the choice of remedies will be whether or not replication of the infrastructure in the relevant market is considered feasible (*i.e.* whether or not bringing about sustainable infrastructure competition is likely). If the market is covered by Principle 2, it will normally be necessary and legitimate to operate with a stricter set of regulatory obligations.<sup>16</sup>

48. Even though it may be possible to achieve infrastructure-based competition in the mobile market in the form of several competing mobile networks, this will still not remedy the relevant competition problems in the termination markets, cf. Chapter 4 in this decision. This is because it is impossible for anyone other than the undertaking that controls the physical or virtual network to offer termination to end users on that undertaking's network. Providers are therefore in a monopoly situation with absolute entry barriers in terms of

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<sup>16</sup> See further details about Principle 2 in NPT's remedies document dated 12 June 2009.

providing termination on other providers' networks. NPT believes on this basis that the markets for voice call termination on mobile networks shall in principle be regulated by Principle 2. Two considerations will therefore guide regulation. First, the Authority will seek to facilitate efficient use of the existing infrastructure to the greatest degree possible. Second, NPT will seek to facilitate sufficient earnings in the existing infrastructure, so that incentives are provided for necessary maintenance, upgrades and new investment in the network.

49. Meanwhile, NPT wishes to refer to earlier decisions in the markets for voice call termination on mobile networks, including the Authority's decision of 8 May 2007. This decision states that the authorities see the use of remedies in market 7 in connection with the desire to facilitate the replication of infrastructure and sustainable competition in the market for access and origination on mobile networks (former market 15). In the decisions in former market 15<sup>17</sup> NPT found that the three criteria<sup>18</sup> for *ex ante* regulation are still met for this market, including that the market does not tend towards effective competition and that, therefore, there is still a need for sector-specific *ex ante* regulation. This is also accepted by ESA.

50. To permit new providers to get a foothold in the market and eventually contribute to infrastructure competition, NPT, in its previous decisions in the termination markets, assumed softer regulation of termination charges for these providers. However, both NPT and the Ministry of Transport and Communications have been clear that such regulation is only applicable for a limited start-up period.

51. In this decision NPT continues the principle that regulation of the markets for voice call termination on mobile networks must be seen in connection with the objective of sustainable infrastructure competition in the market for access and origination on mobile networks. In Chapter 6 the Authority discusses how this should be taken into account and also how the period of asymmetry will be phased out for providers who no longer can be considered to be in a start-up phase.

## **5.2 General remarks on proportionality**

52. Furthermore, the proportionality principle is discussed in detail in Proposition No. 58 (2002-2003) to the Odelsting in the remarks on Electronic Communications Act Section 3-4.

*“The obligations imposed shall be proportionate, non-discriminatory, be 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 to be suited to compensating for a lack of sustainable competition and are to help to promote consumer interests and, if possible, contribute to national and international development. The burdens of the remedies imposed are to be proportionate to what they seek to achieve. This also permits the authorities to link the obligations to certain parts of the relevant market if appropriate.”*

53. The principle means that in choosing between several options that can promote the purpose just as effectively, NPT shall choose the least burdensome option. The content of the proportionality principle is described in more detail in NPT's remedies document. There it states that the principle of proportionality implies that measures that are supposed to be suited

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<sup>17</sup> NPT's decisions on designation of undertaking with significant market power and imposing specific obligations in the market for access and call origination on public mobile telephone networks (former market 15), 5th August 2010.

<sup>18</sup> The three-criteria test is the name of the test ESA applies so that relevant markets for electronic communication shall be entitled to *ex ante* regulation.

to realising the objective behind them, should not be more burdensome than necessary in the individual case and that the benefits of the intervention are to outweigh the burdens.

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

## **6 Explanation of the choice of specific obligations**

### **6.1 Interconnection obligations**

#### **6.1.1 Background and basis for imposition of obligations**

55. End users expect to be able to make calls to other end users regardless of which network they use. Being able to terminate traffic on other providers' networks is crucial for the competitiveness of mobile and fixed network providers. Interconnection is essential for enabling the end users of different providers to make calls to each other. Termination is thus demanded by players who want to meet their own end users' demand to be able to converse with users of other mobile networks.

56. Section 4.2 describes the competition problems denial to interconnect and delaying tactics. An obligation of interconnection/access obligations will remedy the identified competition problems.

57. The obligation of undertakings with significant market power to meet all reasonable requests for interconnection follows from Electronic Communications Act Section 4-2 third paragraph. The provision reads:

*“Within those areas in which the provider has significant market power, the provider shall meet any reasonable request to enter into or amend an agreement on interconnection. In the assessment of whether a request is reasonable, an evaluation shall be undertaken in accordance with Section 4-1, second paragraph. A provider with significant market power as regards the products shall document and justify rejection of a request for interconnection.”*

58. Since all providers that have been evaluated in these markets have significant market power in their own termination market, the obligation to offer access to termination of voice calls on their own networks follows directly from the Act. It is thus not necessary to impose interconnection separately. Termination is included as an element of interconnection. All providers covered by the analysis are therefore required to comply with reasonable requests for termination on their own mobile network.

#### **6.1.2 Content of the obligation**

59. A specific request for interconnection shall be complied with to the extent that the request is reasonable. Pursuant to Electronic Communications Act Section 4-2 third paragraph second sentence, the assessment of reasonability shall be the same as pursuant to Electronic Communications Act Section 4-1 second paragraph. This provision states:

*“In considering whether a request is reasonable an assessment shall be undertaken inter alia of the provider’s interest in control over his 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 developments in the market it is technically and commercially possible to install or use competing infrastructure. In the assessment of whether a request is reasonable account shall also be taken of:*

- 1. available capacity*
- 2. the provider’s investment in relation to the risk with which the investment has been associated*
- 3. sustainable competition*
- 4. the need to sustain the network’s integrity*
- 5. intellectual property rights*
- 6. establishment of pan-European services”*

60. To remove some of the basis for possible conflicts related to negotiations on termination, NPT made in its 8 May 2007 decision some general assessments of the elements in the assessment of reasonability pursuant to Electronic Communications Act Section 4-2 third paragraph second sentence, cf. Section 4-1 second paragraph. It was emphasised that the objective of achieving end to end connectivity normally had to weigh heavier than the providers’ interest in managing their own infrastructure. NPT believes the discussions in the decision still provide an adequate picture of NPT’s assessment of the elements to be included in the assessment of reasonability. Beyond this, NPT cites that assessments of reasonability must be made in relation to specific conditions.

61. As stated in the discussion about competition problems in section 4.2, mobile providers also can have an incentive to refuse to enter into interconnection agreements also for services outside the obligation in Electronic Communications Act Section 4-2 third paragraph. Providers covered by this decision are designated as having significant market power for terminating voice calls on their own networks. The obligation under Section 4-2 third paragraph therefore does not apply to receiving SMS and MMS traffic from other providers. Nor does the obligation apply to purchases of termination from other providers. Such forms of denial to interconnect could have a harmful effect on competition in the mobile market and may be in conflict with the objective of end to end connectivity.

62. In NPT’s decisions of 8 May 2007 and 17 November 2008, all providers of mobile termination pursuant to Electronic Communications Act Section 4-2 second paragraph were required to comply with interconnection obligations also for SMS and MMS, as well as the obligation to meet reasonable requests to purchase termination of voice calls from other providers. In connection with the assessment of an appeal from Telenor on NPT’s decision on purchasing obligations for providers of termination of voice calls on fixed networks, the Ministry in its 4 December 2008 decision concluded that Electronic Communications Act Section 4-2 second paragraph does not authorise the imposition of the purchasing obligations for termination on a general basis. The obligations which were imposed pursuant to Section 4-2 second paragraph in NPT’s decisions of 8 May 2007 and 17 November 2008 will therefore not be continued.

63. Electronic Communications Act Section 4-2 second paragraph authorises the imposition of interconnection obligations in specific cases when necessary to ensure end to

end connectivity. It follows further that in this case NPT may impose an obligation to enter into an agreement. This provision does not require the provider on whom obligations are imposed to be designated as having significant market power in the market to which the obligations relate. NPT has no knowledge of instances of denial to interconnect related to SMS and MMS traffic, but will in specific cases assess the use of Electronic Communications Act Section 4-2 second paragraph. The same applies to any cases where a mobile provider refuses to buy termination of voice calls on other networks.

64. In Chapter 4 delaying tactics are described as a potential competition problem in the relevant termination markets. NPT believes the objective of end to end connectivity would not have been adequately safeguarded if the interconnection obligations were not followed up by obligations to complete negotiations within a reasonable time. It is explicitly stated in Access Directive Article 12 no. 1 second paragraph that the national regulatory authority may impose such obligations on an operator. NPT believes that Electronic Communications Act Section 4-1 provides authority to establish rules on the time spent.

65. An obligation to counteract delaying tactics can be formulated in various ways. NPT believes that a general obligation that termination agreements shall be negotiated without undue delay is appropriate. In order to ensure compliance with the obligation, it should be combined with a requirement to account for time spent related to interconnection negotiations. Such documentation should be made available upon request to a provider who believes delaying tactics have been taking place. To prevent the obligation of documentation from being unnecessarily burdensome and give the party who believes they were subjected to delaying tactics the incentive to react relatively quickly, NPT believes the documentation requirement should be limited in time. The obligation to submit documentation must therefore be submitted within three months after the relevant negotiations were concluded. A copy of the documentation of the time spent shall in such a case be submitted to NPT without undue delay.

66. Because functional interconnection is of such great importance to competition in the retail market for mobile telephony, and to ensure end to end connectivity, NPT believes it is necessary to impose the above-mentioned interconnection obligations on providers.

67. NPT believes that the interconnection obligations are suited to compensating for the identified competition problems related to interconnection not addressed by Electronic Communications Act Section 4-2 third paragraph, and are thus suited to realising the goal of sustainable competition, cf. Electronic Communications Act Section 1-1. At the same time the interconnection obligations, in NPT's view, do not go further than necessary.

68. NPT believes that the public interest in imposing interconnection obligations exceeds the disadvantages this obligation represents for those providers. NPT can furthermore not see that there are less intrusive remedies that can sufficiently counteract the identified competition problems.

### ***Conclusion***

69. Since all providers covered by the analysis have been designated as undertakings with significant market power in the market for voice call termination on mobile networks, the providers have an obligation to meet all reasonable requests for interconnection, cf. Electronic Communications Act Section 4-2 third paragraph. Pursuant to Electronic Communications Act Section 4-1, the companies are directed to conclude negotiations on entering into or amending agreements on termination on their mobile networks without undue delay. At the request of the requesting party providers are required to document vis-à-vis the party the time spent in connection with the relevant contract negotiations. NPT shall receive a copy of the

relevant documentation. Nevertheless, the documentation obligation does not apply if the request was made later than three months after the relevant negotiations were concluded.

70. If access is denied, the party requesting access shall receive a documented and justified refusal of the request, cf. Electronic Communications Act Section 4-2 third paragraph last sentence. The justification must contain all information necessary for evaluating the basis for the refusal, such as e.g. the reason access is denied, with the necessary technical documentation.

## **6.2 Non-discrimination**

71. In Section 4.5 NPT identified discrimination between various internal and/or external providers in terms of price or other conditions as potential competition issues in the relevant market. The same applies to differences in termination charges for on-net and off-net calls.

72. Electronic Communications Act Section 4-7 authorises the imposition of the obligation of non-discrimination. The first and second paragraphs of the provision read:

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

*The Authority may order 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.”*

73. An obligation of non-discrimination may be imposed in two contexts. Under the first paragraph, the Authority may order a provider with significant market power not to discriminate between external providers. The provision’s second paragraph empowers the Authority to order the undertaking with significant market power to offer the same or equivalent quality and terms to competing undertakings as to its own or associated operations.

74. An obligation of non-discrimination could reduce the ability to exercise exclusionary behaviour and thus prevent the transfer of market power from the wholesale to the retail market. Exclusionary behaviour refers to conduct which has the purpose or effect of preventing access and/or foreclose competitors from markets by operating with prices and/or access conditions that favour their own operations. Methods to increase competitors’ costs and thereby reduce the demand for competitors’ products may be examples of such behaviour.

75. Price discrimination may to a certain extent be remedied through price obligations. Regulated maximum prices will ensure that the provider cannot demand higher prices than the regulated price for termination on its own network. There will still be a possibility of price discrimination if one or more providers are given lower prices than the regulated price.

76. With regard to any differences in termination charges between on-net and off-net calls, NPT believes that it would not be very appropriate to require the charge for terminating off-net calls to be equal to the implicit termination charge for on-net calls. The prerequisites for such discrimination will also be weakened when the prices for off-net calls are reduced to an efficient level. For this reason NPT believes the most appropriate and effective instrument for remedying the competition problem is to regulate the off-net price directly. In the further consideration of discriminatory behaviour any differences in termination charges for on-net and off-net calls are not discussed.

77. In NPT’s opinion, an obligation of non-discrimination, cf. Electronic Communications Act Section 4-7, is the only one of the available remedies that effectively addresses non-price discrimination.

78. The main point of a claim of non-discrimination is that similar situations are to be treated equally with regard to prices, information and other terms, regardless of the activity in question. Any differences in the terms should therefore be based on objective criteria.

79. NPT considers below whether an obligation of non-discrimination should be imposed on the providers covered by this decision, and what any obligation of non-discrimination should be aimed at.

### **6.2.1 Telenor, NetCom, Network Norway and Tele2**

80. An obligation of non-discrimination was imposed on Telenor, NetCom and Tele2 in NPT's 8 May 2007 decision. A similar obligation was imposed on Network Norway in a 17 November 2008 decision.

81. On the basis of customer volume, other providers will in practice be forced to purchase termination services from Telenor, NetCom, Tele2 and Network Norway to be able to offer a competitive service. If any of these favour certain purchasers of termination, situations where competition is distorted may therefore arise. As mentioned earlier, the price controls imposed in section 6.4 will to some extent remedy the competition problems related to price discrimination. Providers will still be able to have the incentive to provide more favourable prices and other terms to companies in the same group or to any future partner companies. Such discrimination is not addressed through price regulation. NPT also believes discrimination related to terms other than price becomes relevant in that price discrimination to some extent is prevented by the price obligations.

82. Telenor, NetCom, Tele2 and Network Norway account for significant percentages of the total mobile-terminated traffic, see the market analysis in Figure 1. Discriminatory behaviour by these could thus have a significant overall negative impact on the electronic communications market. Imposing a non-discrimination obligation will curtail opportunities to discriminate against undertakings, unless objective grounds so warrant.

83. To be sufficiently effective, NPT believes that an obligation of non-discrimination in connection with price and other terms must apply both between external operations (Electronic Communications Act Section 4-7 first paragraph) and between an undertaking's own and external operations (Electronic Communications Act Section 4-7 second paragraph). Nevertheless, this does not apply to any differences in termination charges for on-net and off-net calls, cf. the discussion on this topic above.

84. An obligation of non-discrimination implies a continuation of existing obligations for Telenor, Netcom, Network Norway and Tele2. In NPT's view, such an obligation is not disproportionate. The remedy can be viewed as a best terms doctrine in that the more favourable terms achieved by a provider will also be reflected in the terms offered other providers. In NPT's opinion, the disadvantages of such a curtailment of providers' scope of action is however less than the benefits of competition. Moreover, NPT cannot see that other means will be able in sufficient degree to remedy the relevant competition issues.

85. Discriminatory terms may involve abuse of dominance pursuant to Competition Act Section 11. To apply the provision to the discriminatory terms, the competition authorities must designate the relevant provider as dominant in the relevant market. Moreover, it must be established that discrimination has or is likely to produce anti-competitive effects, which will give the players a lesser degree of predictability. In NPT's view, the provision's implied prohibition against non-discrimination is insufficient protection against such behaviour. Sector-specific *ex ante* obligations will also permit frequent and quick intervention to a greater degree.

### **Conclusion**

86. Pursuant to the Electronic Communications Act Section 4-7 first and second paragraphs, NPT is imposing an obligation of non-discrimination in connection with termination on mobile networks on Telenor, NetCom, Tele2 and Network Norway. To be sufficiently effective, NPT believes that an obligation of non-discrimination must apply both between external operations (Electronic Communications Act Section 4-7 first paragraph) and between an undertaking's own and external operations (Electronic Communications Act Section 4-7 second paragraph). Nevertheless, the obligation not to discriminate does not apply to any differences in termination charges for on-net and off-net calls.

### **6.2.2 TDC and Ventelo**

87. TDC and Ventelo are currently not subject to an obligation of non-discrimination. Like Telenor, NetCom, Network Norway and Tele2, these providers may also have an incentive to grant more favourable prices and terms to selected operators. However, TDC and Ventelo have significantly less volume than the other providers concerning the termination of calls. The adverse impacts of any discriminatory behaviour by them, such as distortion of competition, will therefore be more limited in scope.

88. The capacity of these providers to discriminate on price will also be gradually reduced as asymmetric termination charges are phased out and prices are reduced to an efficient level. On this basis, NPT does not see that it is necessary or proportionate to narrow their scope of action by imposing such an obligation.

### **Conclusion**

89. NPT believes that it will not be necessary or proportionate to impose an obligation of non-discrimination on TDC and Ventelo.

## **6.3 Reference offers and publication**

90. Pursuant to Electronic Communications Act Section 4-6, specific obligations can be imposed on undertakings with significant market power to publish specified information and to prepare and publish standard offerings for electronic communications networks and services (reference offers). Such obligations are usually referred to as transparency obligations. Transparency in itself is rarely sufficient for remedying competition problems, but may however make other measures more effective.<sup>19</sup> For example, for access issues, it may help to simplify and streamline negotiations if the key terms for connection follow a reference offer that is publicly available. A transparency obligation will also make it easier for other undertakings and NPT to monitor compliance with non-discrimination obligations.

91. All operators will be subject to access obligations, see Section 6.1 above. This makes it necessary to consider an obligation of transparency in order to streamline the requirement to meet reasonable requests for termination. NPT is also imposing an obligation of non-discrimination on Telenor, NetCom, Network Norway and Tele2. An obligation of transparency could also streamline this obligation and further counter attempts at discriminatory behaviour.

92. One possible downside of transparency is that easily available information on prices may facilitate tacit collusion. Competition will be harmed if competitors adjust their prices to

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<sup>19</sup> See more about the connection between transparency obligations and other obligations in ERG's remedies document page 42 ff.

each other rather than fix them on a free basis. However, NPT cannot see that this issue is particularly relevant in relation to the termination markets in question. First, the market consists of few operators where the termination charges are already transparent. Through interconnection agreements the parties will gain knowledge about the other party's termination charges because providers depend on such information in order to invoice one another. The possibility of tacit collusion will also be limited by the imposition of price cap regulation on all providers by NPT, cf. section 6.4. NPT therefore believes that the potential harm of an obligation of transparency will be very limited.

### **6.3.1 Telenor and NetCom**

93. A reference offer obligation for interconnection with specific requirements for content will be able to streamline access obligations in that important details have already been determined before the negotiations start, thereby helping to create predictability for both parties. Furthermore, specific requirements for content will facilitate compliance with the non-discrimination requirement and make it easier to check whether the obligation is being complied with.

94. In NPT's 8 May 2007 decision, Telenor, NetCom and Tele2 were ordered to prepare a reference offer for interconnection with the company's mobile network. Other providers have in practice used Telenor's and NetCom's reference offer as a basis for interconnection negotiations.

95. NPT believes that the objective of streamlining interconnection negotiations and obligation of non-discrimination suggests that both Telenor and NetCom should still be directed to comply with an obligation of transparency in the form of reference offer.

96. In NPT's opinion, the reference offer should contain relatively detailed provisions on matters of importance to providers that wish to negotiate on interconnection. In light of this, NPT has decided that the agreement shall contain all information vital to the service to be provided, including information on:

- the interconnection service being offered,
- general contractual terms and conditions,
- termination charges,
- price elements and the services the individual price elements cover,
- any discounts and criteria for discounts,
- the methods for calculating any offerings without a fixed price,
- geographical supply area,
- any significant capacity limitations on delivery,
- characteristics of a technical and physical nature, including interfaces used at network termination points, as well as the standards that are used,
- points of interconnection,
- agreed quality level, and
- provisions regarding reasonable compensation for failure to meet the agreed quality level.

97. NPT will particularly emphasise the importance of requiring reasonable compensation in case of non-compliance with the agreed service levels, see Electronic Communications Act Section 4-6 first paragraph no. 5. Such an obligation must be considered as reducing incentives to discriminate regarding the quality of the call termination product. Such a

requirement will also be in accordance with Principle 4 in NPT's remedies document and is a continuation of a similar obligation laid down in NPT's decision of 8 May 2007.

98. To enable NPT to effectively oversee the changes in the agreement terms, in order to respond quickly when needed, it is appropriate that Telenor and NetCom shall be directed to submit all agreements related to voice call termination on mobile networks to NPT. In the event of changes it shall be made clear where in the agreement the changes have been made and what they consist of.

99. Changes to a provider's termination product could affect the competitive situation with other providers. Telenor and NetCom have admittedly limited opportunities to change the prices of the termination product to the detriment of other providers since said providers are subject to both price cap regulation and obligation of non-discrimination. Providers will still be able to fix the minute price and any start-up cost within the price ceiling as they wish, provided that a call of average length does not exceed the price ceiling. In order to give undertakings that purchase termination services from Telenor and NetCom sufficient time to take into account changes relating to the termination product of these providers in their own terms, NPT believes it is still necessary to impose an extension of the one-month general duty to provide information enshrined in Electronic Communications Act Section 2-4, second paragraph. Pursuant to the Electronic Communications Act Section 4-6 first, cf. fourth paragraph, NPT therefore believes that Telenor and NetCom must be ordered to give notice to other providers of any price increases and other disadvantageous changes to existing services, no later than two months before the change is implemented. Without such an extended duty to give notice, other undertakings will not have sufficient time to take the changes into account in their own retail agreements.

100. NPT believes that the transparency obligations are proportionate. For Telenor and NetCom the requirements are in their entirety a continuation of the obligations contained in NPT's 8 May 2007 decision. The work of preparing and publishing reference offers has already been done. However, there will be some administrative costs associated with keeping the agreements updated. These are considered to be relatively limited, so that the benefits of competition clearly exceed the disadvantages the requirement may entail for these providers.

101. NPT believes the provisions of the Competition Act will not be sufficient to safeguard the considerations noted above in favour of transparency obligations. The main reason for this is that the Competition Act will not be able to address the need for predictability to the same degree. With respect to transparency obligations, the intention is in part to facilitate the most efficient negotiations possible on interconnection. NPT believes in this context that it is crucial that the obligations can be imposed in advance of any negotiations. Since the competition rules assume that the dominant player must have used his position to the detriment of competition before the authorities can intervene, NPT believes these rules are less likely than *ex ante* regulation to protect the purpose of transparency obligations.

### **Conclusion**

102. Pursuant to Electronic Communications Act Section 4-6 third and fourth paragraphs, NPT is imposing an obligation on Telenor and NetCom to prepare and publish, as specified above, reference offers for interconnection on their mobile networks.

103. Publishing the reference offer on a provider's website is considered a satisfactory method of publication. The reference offer shall be adequately divided into individual elements with appurtenant terms based on the needs of the market, so that the other party is not forced to accept services, functions or benefits that are not requested, cf. Electronic

Communications Act Section 4-6 second paragraph. The agreement shall be regularly updated and shall contain all information important for the services that are offered.

104. Pursuant to the Electronic Communications Act Section 4-6 first, cf. fourth paragraph, NPT is imposing an obligation on Telenor and NetCom to give advance notice to other providers of any disadvantageous changes to existing services no later than two months before the changes are implemented.

105. Pursuant to Electronic Communications Act Section 10-3, NPT is imposing an obligation on Telenor and NetCom to send copies of all agreements on termination on mobile networks to NPT. A copy of negotiated individual agreements based on the reference offer and signed by both parties shall be sent. Submission to NPT shall take place without undue delay no later than two weeks after the signature date. Providers shall furthermore inform the Authority about changes in the agreements. The information must clearly state where the changes have been made in the agreement and what they consist of. NPT shall be informed about changes at least two months before they are implemented.

### **6.3.2 Tele2, Network Norway, TDC and Ventelo**

106. Tele2 was ordered to prepare and publish a reference offer for interconnection in NPT's 8 May 2007 decision. However, similar requirements were not imposed on Network Norway, TDC and Ventelo in the decisions dated 8 May 2007 and 17 November 2008. The Authority said such directives would be unnecessary as these players in practice have used Telenor's and NetCom's reference offers as a basis for the interconnection negotiations. Since the interconnection agreements currently in effect between these providers have been negotiated and few amendments are made, it does not seem to be particularly necessary for these providers to prepare and publish their own complete reference offers. In NPT's view, publication of termination rates will be sufficient for Network Norway, TDC and Ventelo. NPT believes such a requirement would also be sufficient for Tele2.

107. To ensure that the Authority is able to effectively supervise the obligations, Tele2, Network Norway, TDC and Ventelo are also ordered to inform NPT about signed and revised termination agreements within further stipulated deadlines. Since Telenor and NetCom are being directed to submit their interconnection agreements to NPT, it is not necessary for Tele2, Network Norway, TDC and Ventelo to submit the same agreements. The obligation is therefore limited to interconnection agreements entered into with providers other than these. In the event of changes to the interconnection agreement, the providers shall point out to NPT where the changes have been made in the agreement and what they consist of.

108. The price controls imposed in section 6.4 on Tele2, Network Norway, TDC and Ventelo will limit the providers' ability to make substantial changes in the prices of the termination product. However, NPT believes the objective of predictability for other providers must be given weight. In NPT's view, the predictability objective indicates that in regard to Tele2, Network Norway, TDC and Ventelo it is also necessary to expand the general notification requirement in Electronic Communications Act Section 2-4 second paragraph from one to two months by disadvantageous changes in the existing agreements on termination.

109. NPT believes that the transparency obligations being imposed on Tele2, Network Norway, TDC and Ventelo are proportionate. For Tele2 the requirements are milder than in the decision of 8 May 2007 since the company is not being directed to prepare and publish a reference offer. For the other providers the requirements in their entirety are a continuation of existing commitments in the decisions of 8 May 2007 and 17 November 2008. The Authority

cannot see that an obligation as outlined above will cause the companies to incur appreciable costs or inconveniences.

110. Furthermore, NPT believes as mentioned above that the provisions of the Competition Act will not be sufficient to safeguard the considerations behind the transparency obligations. Reference is made to the assessment in section 6.3.1 above.

### **Conclusion**

111. Pursuant to Electronic Communications Act Section 4-6 third and fourth paragraphs, NPT is imposing an obligation on Tele2, Network Norway, TDC and Ventelo to publish their prices for termination on mobile networks. Publishing on the providers' websites is regarded as a satisfactory method of publication. Standard rates and any discounts with related criteria shall be stated.

112. Pursuant to Electronic Communications Act Section 4-6 first, cf. fourth paragraph, NPT is imposing an obligation on Tele2, Network Norway, TDC and Ventelo to give advance notice to other providers of any disadvantageous changes in existing services no later than two months before the changes are implemented.

113. Pursuant to Electronic Communications Act Section 10-3, NPT is imposing an obligation on Tele2, Network Norway, TDC and Ventelo to send NPT any termination on mobile networks-related agreements with parties other than Telenor and NetCom. Submission to NPT shall take place without undue delay no later than two weeks after the signature date. Providers are furthermore obliged to inform the Authority about changes in the agreements. The information must clearly state where the changes have been made in the agreement and what they consist of. NPT shall be informed about termination-related changes in the interconnection agreement related no later than two months before they are implemented.

## **6.4 Price controls**

114. In Chapter 4 NPT reasoned that excessive pricing and cross-subsidisation are potential competition problems in the relevant market.

115. Pursuant to Electronic Communications Act Section 4-9, the authorities may impose price obligations for access and interconnection on undertakings with significant market power in cases where the undertaking can exploit its market power to the detriment of end users by sustaining a disproportionately high price level, or by subjecting competing providers to price squeezes.

116. Electronic Communications Act Section 4-9 sets no requirement that the regulated provider actually charges a disproportionately high price. It is sufficient that the undertaking with significant market power can potentially do it in the future. As stated in the description of the competition problem of excessive pricing, NPT believes the condition for price regulation of the relevant termination markets has been met.

117. In the Authority's opinion, remedies such as reference offers, publication and non-discrimination are insufficient to counteract competition problems related to excessive pricing. Price regulation is therefore necessary to remedy the competition problem of excessive pricing and thus prevent the unfortunate consequences mentioned in Chapter 4.

### **6.4.1 The basis for price controls**

118. Several factors are the basis for price regulation in this decision. Both NPT's and the Ministry of Transport and Communications' earlier decisions in the voice call termination markets contain principles that have a bearing on the design of price regulation in this decision. Furthermore, the European Commission's recommendation along with the overall objective of harmonisation has also been central to the design.

#### **6.4.1.1 NPT's decision of 8 May 2007 and 17 November 2008**

119. In NPT's 8 May 2007 decision, Telenor, NetCom, Tele2, TDC and MTU were designated as providers with significant market power and special obligations were imposed on them. Prior to the decision NPT did a thorough review of methods for termination of cost determination. The Authority concluded that the development and implementation of LRIC model would be appropriate in this market, which received the support of the Ministry of Transport and Communications, Norwegian Competition Authority and ESA. A detailed justification for the choice of cost method was given in the decision.

120. NPT assumed in the decision that the implementation of price regulation would be achieved through price controls which provided an opportunity for gradual reduction to efficient price. In this manner efficiency gains and consumer considerations resulting from lower prices could be balanced against the income decrease the regulated providers would experience. Price regulation was also seen as predictable for the players.

121. In the same decision NPT expressed that the objective of consumer welfare and efficient resource use indicated that the goal of price regulation in the long term should be that all providers offer call termination at efficient prices. However, NPT concluded that a period with an obligation of reasonable price would be appropriate for small and new providers, so they could gain a foothold in the market and eventually be able to contribute to infrastructure competition. At the same time, it was a goal that prices should not be set unreasonably high. Time in the market was set as the criterion for when providers had to expect an obligation of efficient prices. For providers with a national roaming agreement NPT indicated that a period of 5-10 years of exemption from the requirement of efficient prices would be reasonable, while the corresponding period for MVNOs was 3-4 years.

122. The principles for regulating small and new providers were followed in the additional decision of 17 November 2008. Network Norway, Ventelo and Mundio Mobile (Barablu Mobile) were designated as providers with significant market power and directed to comply with an obligation to offer reasonable prices. The level of reasonable price was specified by price controls which also would apply to Tele2, TDC, and MTU. Reference is made to section 3.3 of the market analysis for information about the specific price controls.

#### **6.4.1.2 Ministry of Transport and Communications 19 May 2009 decision**

123. NPT's additional decision of 17 November 2008 was appealed by all providers who were covered by the decision, and by Telenor and NetCom.

124. In its decision the Ministry clearly indicated that a third competing network would be important for the development of the Norwegian mobile market and a key telecommunications policy objective. Thus, the Ministry supported NPT's asymmetric regulation of termination charges for contributing to the development of a full-fledged third network.<sup>20</sup> At the same time it was stated that the longer-term goal of regulation of the

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<sup>20</sup> See for example the Ministry of Transport and Communications decision of 19 May 2009 following the appeal by Tele2, section 3.12.1.

markets for call termination on mobile networks should be that prices are set equal to the efficient price in the market, thereby achieving symmetry.

125. An appropriate target for price regulation of Tele2 and Network Norway would, according to the Ministry, be that additional income from termination should be equal to the investment cost for the new network owners by rolling out a mobile network that covers 75% of the population by the end of 2011. It would subsequently be reasonable for the termination charge to be reduced relatively quickly down to an efficient level, or down to the other providers' glide path.<sup>21</sup> The Ministry underlined in the decision that asymmetric regulation would only be appropriate for a limited period and that the period should be as short as possible, but as long as needed based on the purposes behind the use of the instrument.

126. The Ministry also decided at the same time that during the period of soft regulation Tele2 and Network Norway were to report half yearly to NPT about the progress of the development of the third mobile network.

#### 6.4.1.3 The European Commission's recommendation of 7 May 2009

127. On the basis of the need for a harmonised regulation of termination charges, the European Commission published its recommendation on the regulation of termination charges on fixed and mobile networks on 7 May 2009.<sup>22,23</sup> The Commission said the recommendation was important for, among other things, to create predictability for the operators, ensure proper incentives for potential investors and reduce the regulatory burden on providers that operate in several countries.

128. In the recommendation the Commission writes that cost orientation is considered the most appropriate instrument for remedying the competition problem of excessive pricing. Moreover, the Commission writes that the authorities shall establish termination charges based on costs for an efficient operator, which means that prices will also be symmetric, cf. Recommendation point 1. According to the Recommendation, this regulation will promote efficiency, sustainable competition and maximise consumer welfare. LRIC is recommended as a method for determining costs, cf. Recommendation point 2. Additional guidance provided related to the development of the recommended LRIC model (pure LRIC) will be discussed in section 6.4.3.

129. According to the Commission, only different frequency licenses can provide a basis for sustained asymmetric termination charges. Sustained asymmetry also implies that the frequencies are assigned directly without the use of market-based allocation mechanisms (e.g. auctions) and that there is not a functioning secondary market, cf. recital 16 and Recommendation point 9.

130. The Commission, however, takes into consideration that new providers may have higher unit costs in the initial phase before they achieve an effective volume ("minimum efficient scale"). In special cases, national regulatory authorities can permit new providers a transitional period of up to four years from launch to take into account the cost disadvantage due to scale disadvantages, cf. recital 17 and Recommendation point 10.

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<sup>21</sup> See for example the Ministry of Transport and Communications decision of 19 May 2009 following the appeal by Tele2, section 3.12.2.

<sup>22</sup> Commission's Recommendation see:

[http://ec.europa.eu/information\\_society/policy/ecomms/doc/implementation\\_enforcement/article\\_7/recom\\_term\\_rates\\_en.pdf](http://ec.europa.eu/information_society/policy/ecomms/doc/implementation_enforcement/article_7/recom_term_rates_en.pdf)

<sup>23</sup> ESA has not laid down a similar recommendation. ESA practice, however, coincides with the Commission's recommendations.

131. In the Recommendation, it is assumed that national regulatory authorities shall ensure that termination charges are set at a cost-effective symmetric level by 31 December 2012.<sup>24</sup>

6.4.1.4 *Harmonisation in Europe*

132. Termination charges in EEA countries have been substantially reduced in recent years. The trend will undoubtedly continue in coming years in part on the basis of the European Commission’s recommendation. The figure below shows planned rate reductions in other European countries until 31 December 2012.

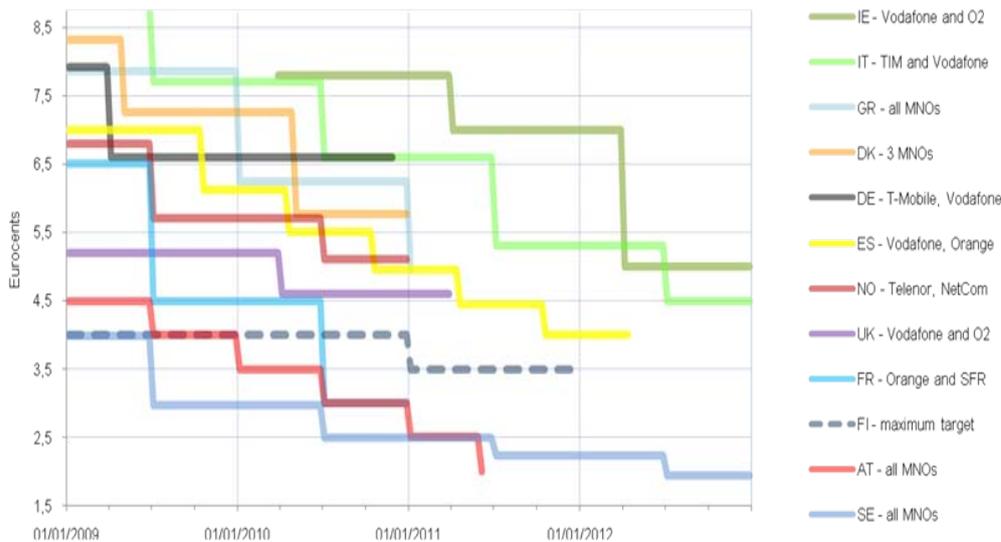


Figure 1: Termination charges from January 2009 to December 2012. Source: Cullen International<sup>25</sup>

133. For Norway the figure includes only Telenor and NetCom. If the termination charges of the other providers were also included, the graph would have shown a higher level of termination charges for each period. The latest comparison from BEREC<sup>26</sup> shows that the average termination charge in Norway (weighted average for all providers covered by this resolution) is just above the average of the 33 countries that were included in the survey.

134. In addition to the fact that termination charges in the EEA countries are falling, there is an increasing number of countries where prices are symmetrical or moving toward a symmetric level. Sweden, for example, has had symmetrical termination charges since 1 July 2007. In the period from 1 July 2009 to 30 June 2010 the price was 2.97 eurocents (NOK 0.24).<sup>27</sup> The price was then reduced to about 2.5 eurocents (NOK 0.20) from 1 July 2010 and will be reduced further to around 2.2 eurocents (NOK 0.18) from 1 July 2011.

135. In Denmark, the three largest providers, TDC, TeliaSonera and Telenor have had symmetrical rates of 7.26 eurocents (NOK 0.58) since 1 January 2010. Hi3G and Barablu have from the same date a termination charge of 10 eurocents (NOK 0.80). The Danish

<sup>24</sup> NPT considers the exemption made in point 12 of the Recommendation for regulatory authorities with limited resources as not very relevant for Norway’s part.

<sup>25</sup> [http://www.cullen-international.com/report/3358/t2564#Table\\_19](http://www.cullen-international.com/report/3358/t2564#Table_19)

<sup>26</sup> MTR Benchmark snapshot as of January 2010 is available at [http://berec.europa.eu/documents/berec\\_docs/index\\_en.htm](http://berec.europa.eu/documents/berec_docs/index_en.htm)

<sup>27</sup> Based on exchange rate of 8.0.

regulator, the National IT and Telecom Agency (ITST), has signalled that it will introduce symmetric prices in 2011.<sup>28</sup>

136. Finland is one of the few countries in the EEA that does not use a LRIC model for determining the maximum rates for termination. Termination charges in Finland are determined on the basis of commercial negotiations, taking historical costs into consideration. Current symmetric termination charges for the three network owners in Finland (TeliaSonera, Elisa and DNA) are from 1 December 2009 4.9 eurocents (NOK 0.39).

137. The Belgian authorities announced price controls based on pure LRIC on 1 February 2010. Prices shall according to the notification be reduced down to the symmetric level of 1.07 eurocents (about NOK 0.09) on 1 January 2013.

138. The Dutch authorities have notified symmetric termination charges based on pure LRIC from September 2012, and are notifying a price of 1.2 eurocents (about NOK 0.1). Reduction shall take place from the current prices of up to 8.1 eurocents.

139. In the UK, the Authority has notified a reduction in termination charges based on pure LRIC to a price of 0.5 pence (about NOK 0.05<sup>29</sup>) by 2015. The glide path is designed so that reduction occurs from the current prices of up to 4.6 pence.

#### **6.4.2 Selection of price regulation method**

140. NPT has assumed that the markets for voice call termination shall be governed by Principle 2, cf. section 5.1. This means as mentioned that the Authority shall facilitate to the greatest extent possible the efficient use of existing infrastructure, as well as facilitate a sufficient profit to provide incentives for necessary maintenance, upgrading and investment.

141. Moreover, the objective of price regulation in a market that is not characterised by effective competition is to facilitate optimal economic efficiency. It is common to distinguish between two types of economic efficiency: static efficiency and dynamic efficiency. Static efficiency may again be divided into allocative efficiency and productive efficiency. Allocative efficiency is achieved if the prices for a product are close to the costs of designing and delivering the product. In such a situation all consumers would value the product higher than the cost of buying the product. Productive efficiency means that production costs are equal or nearly equal to the marginal costs of producing and delivering the product. Dynamic efficiency implies that one can deviate from allocative and productive efficiency in the short term if it provides incentives for investment and innovation that can provide efficiency gains in the long term.

142. It can be challenging to choose a method of price regulation that protects all forms of economic efficiency. In practice, the regulatory authority must therefore find a balance between the different forms. Although the main focus in the termination markets should be on static efficiency, NPT shall simultaneously ensure incentives for investments in networks and new services. Some methods of price regulation will also be better able to achieve static efficiency than others. For example, an obligation of cost-oriented prices based on fully distributed historical costs could ensure allocative efficiency. On the other hand, such a way of following up cost orientation obligations will provide weak incentives to reduce costs for the regulated provider, thereby contributing little to productive efficiency. This is because any cost reductions will provide the basis for lower termination charges in the future. For NPT it

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<sup>28</sup> ERG: Termination rates for SMP market players: Action plan to achieve conformity with ERG Common Position, 19 November 2008

<sup>29</sup> Based on exchange rate of 9.5.

will therefore be a key consideration that a method of price regulation uses so-called normalised costs in addition to the regulated party's own costs. Similarly, if there is significant risk related to covering the costs of infrastructure investments or new services, static efficiency in the short term must not be at the expense of potential gains from increased investments and innovation in the long term. This suggests that NPT should choose a price regulation method that takes account of technology changes and new services, and facilitates sufficient profitability for mobile operators over a long time horizon.

143. In keeping with the purpose of the Electronic Communications Act, effective competition can best promote the various forms of economic efficiency. In the termination markets, where NPT believes that price controls are necessary to prevent excessive pricing, the Authority assumes that the regulated price should mimic prices that would have arisen in a market with effective competition. Such a price will give mobile operators incentives to produce the termination service at the lowest possible cost. Simultaneously, the same operators who have requested termination are given incentives to optimise their own investment decisions, as the situation would be if the subscribers had had the opportunity to choose between several competing networks to terminate a call. In this way price controls can contribute to efficient utilisation of social resources.

144. NPT considers that LRIC (Long Run Incremental Cost) is a recognised and well-documented method for calculating the costs on which the operators would have based pricing in a market with effective competition. The method is also recommended by the European Commission, cf. section 6.4.1.4.

### **6.4.3 Calculation of efficient cost**

#### **6.4.3.1 Selection of model for calculating efficient cost**

145. NPT developed the original LRIC model (version 4) in cooperation with the consulting firm Analysys Mason in 2006. During 2009 and 2010, the Authority updated and further developed the model. In contrast to version 4 the new LRIC model includes third-generation networks and services, and it calculates the cost of voice call termination on both 2G and 3G networks. The updated model is also able to calculate the cost of a new national network operator that eventually achieves a market share of 33%. Furthermore, the model can calculate production costs for MVNOs in Norway on the basis of their own equipment and their own traffic.

146. Version 6 of LRIC model was used as the basis of NPT's notification of decisions 26 March 2010. The model has been updated (version 7.1) on the basis of consultation comments received.

147. Version 7.1 of LRIC model can be split up into eight different variants that calculate LRIC results for the following mobile operators in Norway:

- Telenor and NetCom AS the actual network operators
- A third national network operator reflecting the costs of Tele2/Network Norway/Mobile Norway as a new integrated network operator
- Tele2, Network Norway, TDC and Ventelo as actual MVNOs
- A generic MVNO with 5% market share in the long term

148. The operator-specific variants of the LRIC model have been continued for Telenor and NetCom, while variables have been updated to reflect market developments and price trends since 2006.

149. NPT's starting point was that it would develop a similar operator-specific variant of the model for the Mobile Norway group. During the process, however, it became clear to the Authority that the limited scope of actual network and cost data would make it challenging to develop a robust, carrier-specific model for this group. Such a model must in any case have been based on projections of key variables. On this basis, and after input from the operators, NPT therefore initially elected to model the cost of a new national network operator using norms and averages instead of the actual network and cost data from the Mobile Norway group. After new input from operators the Authority has however now prepared a model that to a greater extent reflects the actual roll-out of Mobile Norway's network .

150. The variants of the LRIC model for the individual MVNOs calculates the cost of termination, given the network elements and activities that the MVNO itself is responsible for. NPT believes that it is relevant to compare the results for the different MVNOs with the costs network operators have by ensuring the same functions in the core network. This will reveal whether the MVNOs have higher costs due to lower traffic volume, i.e., whether there are significant economies of scale associated with the network elements that the MVNOs own.

151. To make the model more transparent, a variant of a generic MVNO has also been developed. This variant is not based on infrastructure or cost figures from any actual MVNO in Norway. The variant gives network operators the opportunity to find how the costs of the MVNOs are calculated in the model.

152. Given that the model produces results for all types of players that are present in the Norwegian market, NPT believes that version 7 of the LRIC model gives the Authority a very good tool to define the efficient cost in the upcoming regulatory period.

#### 6.4.3.2 Various methodical approaches in the LRIC model

153. Version 7.1 of the LRIC model has the capacity to calculate the long-term incremental costs for operators based on different methodological approaches. First, the model calculates the new results for Telenor and NetCom and for a third network operator based on the same principles used in the original version, i.e. LRAIC+++<sup>30</sup>. This result includes mark-ups for common costs in the network, costs related to localising handsets and administrative costs (business overhead).

154. However, in line with the Commission's Recommendation, pure LRIC disregards such a mark-up for common costs (as well as location costs and business overhead costs). The reason for this is that the market for mobile termination is a so-called double-sided or reciprocal market where both the subscriber who calls and initiates a call (origination) and the subscriber who receives the call (call termination) benefits from the occurrence of the call. It is thus not a given that all the costs associated with termination of a call should be covered through the termination charge charged to the operator that originates the call (the CPP principle). On the contrary, it can be argued that the subscriber receiving a call should help cover a portion of the costs of termination. On this basis it may be necessary to extract common costs etc. from the calculation of the termination cost, precisely to recognise that the market is twofold.

155. NPT finds further that if a mark-up for common costs, localising of handsets and business overhead costs in the termination charge is no longer allowed, operators will still be able to cover these costs in the retail market where prices are not regulated. It can be argued

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<sup>30</sup> Long Run Average Incremental Cost

that removing such mark-ups from the regulated termination charge will provide efficiency incentives if these costs instead must be covered in the retail market where there is competition. The operators will then have incentives to reduce these costs to the greatest extent possible in order to be competitive on price to end customers.

156. The distribution of common costs etc. to a regulated wholesale product is also associated with uncertainty, and there are different opinions about the allocation principles that achieve the best welfare effects. NPT's opinion is that an allocation principle based on the EPMU (Equal proportionate mark-up) is more appropriate compared to using, for example, the Ramsey principle. In a situation where neither retail nor wholesale prices to originate a call are subject to the obligation of cost-oriented prices, the Authority nevertheless sees that it can reduce uncertainty related to determining the level of the mark-up if there is an implicit requirement that these costs are to be covered through other products.

157. Based on the discussions above, NPT finds that mark-ups for common costs, localising of handsets and business overhead costs shall not be included in the calculation of efficient price.

158. Furthermore, the Commission's Recommendation assumes that only traffic-driven costs should be included. In practice this means that the LRIC model is run twice to calculate LRIC for an operator that offers more services with and without the termination service included. The difference between these two cost results is pure LRIC or the avoidable cost for termination.

159. However, there are many indications that the results based on a pure LRIC approach are relatively low in Norway compared with other countries in the EU. This is because Norway has a large land area with scattered settlements and therefore relatively high coverage costs compared with, for example Belgium or Denmark. Because rollout here is more driven by coverage than traffic, and only traffic-driven costs are relevant in a pure LRIC context, the results for Norway are correspondingly lower. For this reason, NPT believes more time should be used in Norway to phase in rates based on pure LRIC than the Commission's Recommendation implies (by the end of 2012).

160. NPT has therefore concluded that LRAIC without mark-up of common costs, etc. should be phased in to form the basis for the regulated termination charges during the next regulatory period. PT believes that this approach is relevant for Norwegian providers in part because pure LRIC based on a strict interpretation of the Commission's Recommendation may involve disproportionately low costs for termination in a market like Norway's. NPT's experience is also that the results from a pure LRIC model for Norwegian providers as currently defined by the Commission will not be very robust.

161. NPT will make a new calculation based on pure LRIC by the end of 2013. In the course of the next regulatory period, NPT will also do a more detailed impact assessment by only including traffic-related costs and exclude all coverage costs from the LRIC calculation in Norway. Since LRIC model uses conservative estimates for traffic growth and development of equipment costs, etc., NPT deems using LRIC as a basis for price regulation in the next period will not pose any likely risk of undercoverage. If NPT were to find it appropriate to introduce pure LRIC after 2013, these results would likely be considerably lower than the present results based on LRAIC.

162. In further discussion of price regulation NPT will denote the chosen methodological approach for calculating the efficient price (LRAIC without mark-up for common costs, costs for localising handsets and business overhead costs) as LRIC.

#### 6.4.3.3 Selection of operators for determining efficient price

163. Version 7.1 of LRIC model calculates as mentioned the cost for termination on both Telenor's and NetCom's networks, a third national network operator and MVNO providers. In this version, the difference between the operator with the highest and lowest result based on LRIC is about the same level as the difference between NetCom and Telenor in version 4 of the LRIC model. In the 8 May 2007 decision NPT found that such a cost differential was insufficient for justifying asymmetric termination charges. Nor does NPT consider that the updated LRIC model provides a basis for asymmetric termination charges over time.

164. The LRIC models of the two established networks, and a third hypothetical network does not provide indications that some of the modelled networks are inefficient. Basing the symmetric price of LRIC-cost to the providers of the highest estimated LRIC cost, ensures the regulated providers to cover all relevant costs over time. NPT believes such a solution best matches the assumptions in the preparatory works for the Electronic Communications Act that the chosen method of price regulation will give providers an opportunity to get a reasonable return on capital employed<sup>31</sup>. NPT believes that it is most appropriate to determine the efficient cost based on the player with the highest LRIC-cost in the next regulatory period. This is consistent with the basis for price regulation in previous decisions in the markets for voice call termination on mobile networks. From the Authority's perspective this is also the most appropriate way to meet the objective of symmetric prices as long as there are no significant cost differences between operators.

#### 6.4.3.4 Efficient price in 2013

165. Based on the assessments and the choices that are described in this chapter, the efficient price for termination of voice calls on mobile networks totals NOK 0.15 (2009 kroner value) in 2013.

### **6.4.4 Price controls for Telenor and NetCom**

166. Telenor's and NetCom's regulated termination charge is currently based on the player with the highest cost in line with NPT's LRIC model version 4.0 (LRAIC +++). In NPT's updated LRIC model (version 7.1) the corresponding calculation for 2011 is NOK 0.30 per minute (LRAIC +++), and NOK 0.17 without the mark-ups. The LRIC model calculates the corresponding costs based on the two principles of each year and thus gives NPT the necessary information to decide the appropriate glide paths. Not until 2013 will costs be as low as 0.15 NOK, thus NPT cannot fix a price-cap at this level before. NPT believes the results from the updated model should be implemented as quickly as possible for both providers and that there is no basis for a new period of reduction to the same calculation basis with the mark-ups.

167. The prices should be further reduced down to an efficient price, based on the updated principles for calculating efficient cost, ref. section 6.4.3. The prices will then reflect efficient costs, based on LRIC and not as before on LRAIC +++. The reduction must balance the economic benefits of reduced termination charges for Telenor and NetCom and commercial interests of the regulated operators that suggest that they should be given a certain time for adaptation. The termination rates for Telenor and NetCom must also be regarded in connection to the termination rates for Network Norway and Tele2, who are allowed a additional income from termination until this equals the investment costs of building a third mobile network, ref. section 6.4.5.

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<sup>31</sup> Proposition No. 58 (2002-2003) to the Odelsting, page 107.

168. Against this background NPT has set maximum rates for Telenor and NetCom AS indicated in the table below.

	Current price at the end of 2010	1 January 2011 - 30 June 2011	1 July 2011 – 31 December 2011	1 January 2012 - 30 June 2012	1 July 2012 – 31 December 2012	1 January 2013 – 31 December 2013
Telenor	0.50	0.30	0.30	0.30	0.20	0.15
NetCom	0.50	0.30	0.30	0.30	0.20	0.15

**Table 2: Maximum price per minute for voice call termination on Telenor’s and NetCom’s mobile networks in the period 1 January 2011 - 31 December 2013. All prices are in NOK (excluding VAT).**

169. The price cap applies to the termination of voice calls, regardless of whether termination takes place on GSM or UMTS networks. Further, the prices for termination of voice mail services may not exceed the prices in the table above.

170. NPT assumes that the charges will be the same for calls from all external networks. It follows from the non-discrimination obligation, cf. section 6.2.1, that any differences must be explained in objective differences.

171. NPT aims to make new decisions on price regulation by the end of this price cap period. Until a new decision is made, Telenor’s and NetCom’s termination charges shall not exceed NOK 0.15 per minute (inflation-adjusted).

#### **6.4.5 Price controls for Network Norway and Tele2**

172. Ministry of Transport and Communications assumed the following target for regulation of Network Norway and Tele2 in the decision of 19 May 2009<sup>32</sup>:

*“ [...]It is appropriate to establish as a target that additional income for the new network developers in principle should equal the investment costs of building a third mobile network. The Ministry assumes a mobile network that will cover 75% of the population by the end of 2011, as noted in Mobile Norway’s business plan and that the companies have referred to in their appeals. The Ministry believes it is appropriate to allow Tele2 and Network Norway softer regulation until the cumulative additional income is equivalent to the investment cost.”*

173. The target means that a position must be taken on several factors, including how the investment cost and the so-called additional income should be calculated, and over which period the additional income should be calculated.

##### **6.4.5.1 Relevant investment cost**

174. The investment cost that the Ministry assumes is from the business plan for Network Norway and Tele2 and totals Exempt from public disclosure NOK [REDACTED]. NPT did an assessment of reasonability of the investment cost related to the 17 November 2008 decision and then assumed that there was no significant difference between the investment cost according to the business plan and the cost of similar network investments in NPT’s LRIC model (version 4.0).

<sup>32</sup> See the Ministry of Transport and Communications decision of 19 May 2009 directed at Tele2, page 25, and the decision of the same date directed at Network Norway, page 24.

175. NPT assumes that the Ministry's decision means that Network Norway and Tele2 are to individually meet their share of the relevant investment costs.

176. Based on the network architecture presented in the business plan for Network Norway and Tele2, NPT in version 7.1 of the LRIC model modelled a network that is more reflective of the Mobile Norway Group's actual rollout. Through such a more operator-specific network model calculations of costs will be presented for an operator with a profile that is close to the rollout plan that Network Norway and Tele2 have submitted to the Ministry. The results of the model show that the investment cost for such an operator is slightly above the cost estimates from Network Norway and Tele2. NPT therefore believes that it is appropriate to use the updated LRIC model (version 7.1) for calculating the investment cost.

177. NPT considers on this basis that the relevant investment cost that should be assumed is approximately NOK 2 billion.

#### 6.4.5.2 Method for calculating additional income

178. In its decision, the Ministry of Transport and Communications calculates the additional income of Tele2 and Network Norway by multiplying the difference between the regulated maximum price and the efficient termination rate with the number of terminated minutes. In the Ministry's decision the efficient termination charge is equivalent to the inflation-adjusted LRIC cost for Telenor and NetCom in 2010, i.e. NOK 0.50 per minute.<sup>33</sup>

179. However, there are different ways of calculating so-called additional income. NPT does not interpret the Ministry's decision as meaning that it specifies an absolute principle for calculating additional income. Results from version 7.1 of the LRIC model are much lower than the results from the previous version. It thus makes little sense to utilise NOK 0.50 as a basis for efficient price for a calculation of additional income in the upcoming regulatory period. Moreover, NPT is of the opinion that in a situation where all the players in the market have set a higher termination charge than efficient price, it is most relevant to look at the size of the asymmetry between the different players. As long as the traffic between providers is reasonably balanced, the providers' payments to each other for termination will in practice be an exchange of funds where any extra profit is achieved by providers with higher (asymmetric) termination charges than the other.

180. Taking the above in consideration the Authority believes that Tele2's and Network Norway's additional income from termination should be calculated based on the difference in the fixed termination charge between the different players.

#### 6.4.5.3 Period of time for calculating additional income

181. In its decisions the Ministry of Transport and Communications estimated additional income for Tele2 and Network Norway based on the then regulatory period from 1 February 2009 to 31 December 2010. For Tele2, however, the Ministry decided it was relevant to take into consideration the additional income the company already had in the period from when the company was subject to special price controls, i.e. from 1 October 2007 according to the Ministry.

182. On 13 February 2008 the Ministry of Transport and Communications revoked NPT's decision on price controls for Tele2 from 1 October 2007 but stipulated a price cap at the same level as Tele2's then termination charge. The reason for this was that Tele2 and

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<sup>33</sup> NPT's LRIC model that was developed in 2006 for Telenor and NetCom showed a termination cost of NOK 0.45 per minute based on providers with the highest costs and measured in 2005 kroner. Inflation adjustment until January 2010 yields a real cost for termination of NOK 0.50 per minute.

Network Norway at this time launched plans to build a third mobile network in Norway. Tele2 would then climb on the investment ladder. In NPT's view, it is therefore natural to include traffic from 1 October 2007, since it already from this date entails adjusted regulation to facilitate infrastructure construction.

183. Network Norway launched services as a provider with a national roaming agreement in the spring of 2007 and its prices were first regulated on 1 February 2009. Their termination rate since launch has followed Tele2's price level. NPT accordingly finds it reasonable to calculate additional income for Network Norway from 1 February 2009.

6.4.5.4 NPT's calculation of additional income in the period 1 October 2007 to 31 December 2010

184. Given the assumptions above, NPT estimated additional income for Tele2 in the period 1 October 2007 to 31 December 2010 and for Network Norway in the period 1 February 2009 to 31 December 2010. The calculations are based on traffic figures from NPT statistics for 2007, 2008 and 2009. For 2010, traffic forecasts from the LRIC model are used. The forecasts from the LRIC model include, however, actual traffic figures for the first five months of 2010.

185. The calculations show that Tele2 at the end of 2010 will achieve additional income from termination of just under NOK 1 billion. Similarly, Network Norway will achieve additional income of around NOK 420 million at the same time. This gives total additional income of approximately NOK 1.4 billion.<sup>34</sup> Given an estimated investment cost equivalent to NOK approximately 2 billion to build the third mobile network, it means that Tele2 will be able to recoup almost its total share of the investment cost by the end of 2010. Network Norway, however, will need additional income from termination equivalent to approximately NOK 580 million in the next regulatory period to recoup its share (50%) of the total investment cost.

6.4.5.5 Specific price controls for Network Norway

186. Network Norway launched commercial services in February 2007. By reducing to efficient cost for Network Norway NPT has taken into account that more than NOK 580 million still has to be recouped by termination revenue in the period after 1 January 2011, cf. the Ministry's targets.

187. Against this background NPT has set the maximum price for Network Norway as indicated in the table below. This glide path gives Network Norway the opportunity to recoup its share of the relevant investment cost, while symmetry is achieved as quickly as possible after the start-up period of mild regulation.

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<sup>34</sup> NPT is aware that Tele2 and Network Norway have to pay higher termination charges for outbound traffic that does not terminate at Telenor or NetCom. The difference between Telenor/NetCom's termination charge and the prices of the other players in the market multiplied by the volume of traffic that terminates at the individual player can be regarded as a form of additional cost for Tele2 and Network Norway. This additional cost will reduce Tele2's and Network Norway's net additional income from termination somewhat. This is taken into consideration in the design of the glide paths for the two companies.

	Current price at the end of 2010	1 January 2011 - 30 June 2011	1 July 2011 – 31 December 2011	1 January 2012 - 30 June 2012	1 July 2012 – 31 December 2012	1 January 2013 – 31 December 2013
<b>Network Norway</b>	<b>0.90</b>	<b>0.90</b>	<b>0.80</b>	<b>0.65</b>	<b>0.20</b>	<b>0.15</b>

**Table 4: Maximum price per minute for voice call termination on Network Norway’s mobile network in the period 1 January 2011 - 31 December 2013. All prices are in NOK (excluding VAT).**

188. The price cap to be notified for Network Norway means a symmetric and efficient price from 1 January 2013.

189. The price cap applies to the termination of voice calls, regardless of whether termination takes place on GSM or UMTS networks. Further, prices for termination of voice mail services may not exceed the prices in the table above.

190. NPT assumes that the charges will be the same for calls from all external networks. It follows from the non-discrimination obligation, cf. section 6.2.1, that any differences must be explained in objective differences.

191. NPT aims to make new decisions on price regulation by the end of this price cap period. Until a new decision is made, Network Norway’s termination charge shall not exceed NOK 0.15 per minute (inflation-adjusted).

**6.4.5.6 Specific price controls for Tele2**

192. Since the relevant investment cost for Tele2’s part is covered by the end of 2010, the symmetric rates based on LRIC should be introduced as soon as possible for Tele2. The glide path for Tele2 is therefore designed with the intent of giving the player a certain period of adjustment to rebalance prices and adapt business operations. Against this background NPT has set the maximum price for Tele2 as indicated in the table below.

	Current price at the end of 2010	1 January 2011 - 30 June 2011	1 July 2011 – 31 December 2011	1 January 2012 - 30 June 2012	1 July 2012 – 31 December 2012	1 January 2013 – 31 December 2013
<b>Tele2</b>	<b>0.90</b>	<b>0.50</b>	<b>0.30</b>	<b>0.30</b>	<b>0.20</b>	<b>0.15</b>

**Table 5: Maximum price per minute for voice call termination on Tele2’s mobile network in the period 1 January 2011 - 31 December 2013. All prices are in NOK (excluding VAT).**

193. The price cap applies to the termination of voice calls, regardless of whether termination takes place on GSM or UMTS networks. Further, prices for termination of voice mail services may not exceed the prices in the table above.

194. NPT assumes that the charges will be the same for calls from all external networks. It follows from the non-discrimination obligation, cf. section 6.2.1, that any differences must be explained in objective differences.

195. NPT aims to make new decisions on price regulation by the end of this price cap period. Until a new decision is made, Tele2’s termination charge shall not exceed NOK 0.15 per minute (inflation-adjusted).

#### **6.4.5.7 Further details of the price regulation of Network Norway og Tele2**

196. As stated above, Network Norway and Tele2 are allowed to continue to take a higher termination charges than they otherwise could have done, because the companies have committed that they will build a third mobile network through the company Mobile Norway AS. The higher the price the companies are allowed to take for termination in their network is thus based on certain assumptions and made to serve a particular purpose. It is Authority's perception that it is of great importance to ensure that companies meet the assumptions underlying the milder regulation.

197. The higher termination charges that Network Norway and Tele2 are allowed to take leads to increased costs for purchasers of such termination. The increased costs could entail a disadvantage that may be likely to influence the competitive situation in the associated end-user markets. As pointed out above both the NPT and the Ministry have stated that such regulation is justified in order to achieve sustainable competition in the adjacent mobile markets. Also on this basis NPT finds it extremely important to ensure that the conditions for price regulation of Network Norway and Tele2 is compliance with the given prerequisites. NPT has in this resolution specified the method that should be the basis for calculating the additional income, including relevant period and amount of additional income. The specifications could form the basis for the assessment of claims for reimbursement if it turns out that companies do not show the ability and willingness to implement the actions that are the basis for the milder the regulation, which the companies have committed to do.

#### **6.4.5.8 Reporting requirements for network rollout**

198. In the Ministry of Transport and Communications 19 May 2009 decision Network Norway and Tele2 were required to report on the progress of the rollout of the third mobile network on a half-yearly basis, as of 1 January with a 15 January deadline and as of 1 July with a 15 July deadline. This requirement will still apply. Maximum prices may be changed to the detriment of the companies if NPT finds that the development of the third mobile network does not adequately meet the conditions for the development pace and coverage. NPT finds it appropriate that both companies continue this reporting until the preconditions for the more gentle regulation are met, ie when the network covers 75% of the population.

### **6.4.6 Price controls for MVNOs**

199. There are three options for how an efficient price for an MVNO can be set:

- The LRIC result for the network operator that the MVNO has an access agreement with can be implemented in full. In practice this means that the costs the MVNO has by offering termination shall be identical with the costs of the network operator.
- The efficient costs that the MVNO has linked to the functions that the operator itself provides, can be calculated, ref the operator-specific model for MVNO providers mentioned in section 6.4.3.1. The efficient costs that the network operator has above this are then added, i.e., the efficient costs of the services to which the MVNO buys access. Such an approach will reveal whether the MVNOs have higher costs due to lower traffic volume, i.e., whether there are significant economies of scale associated with the network elements that the MVNOs manage.
- The efficient costs the MVNO has linked to its own network elements and activities can be calculated. The actual access charge in the MVNO agreement with the network operator is then added.

200. In NPT’s view, it is not appropriate to include commercially negotiated access prices in the relevant termination cost. In connection with updating the LRIC model NPT examined whether the MVNOs have such cost disadvantages vis-à-vis the network operator as mentioned in the second option above. The Authority has been unable to detect higher costs when the MVNO with its traffic volume accounts for the relevant MVNO activities compared to when the network operator is responsible for the same activities. NPT believes on this basis that the MVNOs should be regulated the same way as the underlying networks they use, based on the network operator with the highest LRIC result.

**6.4.6.1 *Specific price controls for TDC and Ventelo***

201. Providers with MVNO access were in NPT’s 8 May 2007 decision told to expect a period of three to four years of exemption from efficient prices. TDC and Ventelo signed an MVNO agreement with Telenor in the autumn of 2005, and launched their services based on MVNO-access March 2006 and March 2007 respectively. Both providers have therefore had to expect that the period of mild regulation is to be phased out relatively quickly in this decision period.

202. Against this background NPT has set maximum rates for TDC and Ventelo as indicated in the table below.

	Current price at the end of 2010	1 January 2011 - 30 June 2011	1 July 2011 – 31 December 2011	1 January 2012 - 30 June 2012	1 July 2012 – 31 December 2012	1 January 2013 – 31 December 2013
TDC	0.75	0.40	0.30	0.30	0.20	0.15
Ventelo	0.75	0.40	0.30	0.30	0.20	0.15

**Table 6: Maximum price per minute for voice call termination on TDC’s and Ventelo’s mobile networks in the period 1 January 2011 - 31 December 2013. All prices are in NOK (excluding VAT).**

203. Since the initial phase with exemption from the efficient prices may be deemed to run out early in this decision period for both TDC and Ventelo, the glide path for these providers is designed with the intent to achieve symmetric and efficient prices as quickly as possible, while the players are given a certain period of adjustment to rebalance prices and adapt business operations.

204. The price cap applies to the termination of voice calls, regardless of whether termination takes place on GSM or UMTS networks. Further, prices for termination of voice mail services may not exceed the prices in the table above.

205. NPT aims to make new decisions on price regulation by the end of this price cap period. Until a new decision is made, TDC’s and Ventelo’s termination charges shall not exceed NOK 0.15 per minute (inflation-adjusted).

**6.4.7 *Approval of prices and inflation adjustment***

206. If a provider wants to use price elements other than price per minute (price per call, price per minute at peak and off peak, etc.), the company shall at least three months before the price change put forward proposals for new prices and weights that the prices are to be based on. The chosen weights will be documented with statistics from previous years. NPT will then assess the proposals. If necessary, the Authority may require changes to the submitted

proposal prior to approval if NPT does not find substantiation that the proposal is within the maximum price.

207. The results of the LRIC model are calculated in real prices based on the value of the krone in 2009. Maximum prices are stated in current prices until 1 January 2013. NPT believes it is justifiable to use current prices in this period, partly because there is such a huge discrepancy between prices and the estimated LRIC costs. The maximum prices from 1 January 2013 will be adjusted for inflation. No later than three months before this last price change NPT will specify the adjustment factor.

#### **6.4.8 Interconnection charges (traffic capacity and other charges)**

208. In principle, charges for interconnection (traffic capacity and other charges) are set according to commercial negotiations between the parties. Providers covered by this decision have both the incentive and opportunity to charge excessive prices for these types of products. NPT therefore sees a need for the regulation of these prices too and is imposing an obligation on Telenor, Netcom, Network Norway, Tele2, TDC and Ventelo to charge reasonable prices for interconnection.

209. What can be regarded as a reasonable price will have to be decided on a case-by-case basis. If necessary, for example should cases arise in the future where negotiations are unsuccessful or NPT receives complaints, NPT will assess whether the specific price is reasonable. Actual costs related to interconnection will be key in such an assessment.

#### **6.4.9 Further details on assumed impacts of the use of remedies**

210. In this chapter, an assessment is made of the overall consequences for respectively existing providers, new providers and end users in the mobile and fixed telephony market.

211. An assessment of economic consequences for providers and end users must be based on certain preconditions. In the following calculations NPT has assumed traffic forecasts from the LRIC model. The projections reflect the expected development in the mobile market in the coming years. When it comes to traffic to and from fixed networks, actual volume figures for 2009 are assumed. Moreover, NPT has assumed the real price reduction that will be imposed on Telenor, NetCom, Tele2, Network Norway, TDC and Ventelo from 2011 to 2013 (inflation adjustment for 2013, ref section 6.4.7 is not taken into account).

212. The traffic flows between providers covered by this resolution are reasonably balanced, which means that symmetry will eventually offset cost and income differences associated with termination. By phasing in symmetric prices the economic consequences will nevertheless be different for providers.

##### **6.4.9.1 Assumed consequences for existing providers of mobile and fixed telephony**

###### ***Tele2***

213. The decision means that Tele2's termination charge will be reduced by 75 øre per minute from 2010 to 2013. This entails an overall reduction in Tele2's termination revenues of approximately NOK 1.8 billion, representing an average annual revenue reduction of about NOK 600 million over the next three years.

214. The reduction in Telenor's, NetCom's, Network Norway's, Ventelo's and TDC's termination charges mean reduced external cost of goods for Tele2. The total cost savings for Tele2 will be approximately NOK 800 million. This represents an annual cost reduction of about NOK 270 million over the next three years.

215. This means that the total net income reduction for Tele2 in the period 2011 to 2013 will be about NOK 1 billion. The fact that Tele2 in this regulatory period will lose the advantage of being able to charge a high termination rate and is being regulated down to a symmetric cost-effective level, will thus in isolation have a negative effect on results for Tele2.

216. However, NPT finds reason to point out that although the price adjustment implies a substantial income reduction, it must be viewed in the context of the fact that for several years Tele2 has benefited from mild regulation. As stated in section 6.4.5.4, from 1 October 2007 to the end of 2010 Tele2 obtained additional income from termination that nearly equals Tele2's share of the relevant investment cost by building a third mobile network with 75 percent population coverage.

#### ***Network Norway***

217. For Network Norway a reduction in the termination charge of 75 øre per minute from 2010 to 2013 represents a total reduction in revenues for the company of just under NOK 1.2 billion. This represents an annual average income reduction of just under NOK 400 million over the next three years.

218. Similarly, reduced external cost of goods as a result of a reduction of Telenor's, NetCom's, Tele2's, Ventelo's and TDC's termination charges account for about NOK 900 million for Network Norway, which corresponds with an average annual cost savings of NOK 300 million.

219. Overall, net income reduction for Network Norway in the period 2011 to 2013 will be close to NOK 300 million. The fact that Network Norway, like Tele2, will lose in this regulatory period the advantage of being able to charge a high termination rate and is being regulated down to a symmetric cost-effective level, will thus in isolation have a negative effect on the company's results.

220. However, the substantial reduction of income must be seen in conjunction with the fact that Network Norway, like Tele2, has obtained additional income from mild regulation due, among other things, to the company's decision to establish itself as a network owner in the Norwegian mobile market. As mentioned in section 6.4.5.4, Network Norway has, in the period from 1 February 2009 to 31 December 2010 obtained additional income of approximately NOK 420 million from termination. This is less than half of Network Norway's share of the relevant investment cost to build a third mobile network covering 75 per cent of the population. The Authority's proposed regulation for the period 1 January 2011 to 31 December 2013 ensures that Network Norway will recoup the remaining part of the relevant investment cost through additional income from termination.

#### ***Telenor***

221. The decision means that Telenor's termination charge will be reduced by 35 øre per minute from 2010 to 2013. This gives an overall reduction of about NOK 1.9 billion in Telenor's termination revenue. Meanwhile, the reduction in NetCom's, Tele2's, Network Norway's, Ventelo's and TDC's termination charges will reduce the external cost of goods for Telenor's mobile operations by approximately NOK 1.85 billion. This indicates an overall negative effect on Telenor's mobile operations of approximately NOK 50 million.

222. Telenor's fixed telephony operations will also be affected by the regulation of mobile termination charges in the form of reduced external cost of goods. NPT assumes that this cost reduction will most likely benefit fixed telephony customers in the form of reduced retail prices for calls from fixed networks to mobile networks, and that the net effect on Telenor's fixed telephony operations will therefore be almost nil. Experience shows that retail prices for

calling from fixed network to mobile network go down when mobile termination charges are reduced.

***NetCom***

223. For Netcom a reduction in the termination charge of 35 øre per minute represents a total reduction in revenues for the company at about NOK 1.65 billion for the period 2011 to 2013. Similarly, the reduced external cost of goods resulting from the reduction of Telenor's, Tele2's, Network Norway's, Ventelo's and TDC's termination charges amount to about NOK 1.8 billion for NetCom. This means an overall positive effect of approximately NOK 150 million on NetCom's result.

***Ventelo***

224. The decision means that Ventelo's termination charge will be reduced by 60 øre per minute from 2010 to 2013. This means that Ventelo's income from termination during the period will be reduced by about NOK 435 million. Meanwhile, the reduction in Telenor's, NetCom's, Tele2's, Network Norway's and TDC's termination charges will give Ventelo reduced external cost of goods of just under NOK 375 million.

225. For Ventelo, the proposed regulation for the period 2011 to 2013 will thus have a net negative effect of about NOK 60 million on results.

***TDC***

226. For TDC a 60 øre reduction in the termination charge represents a total reduction in revenues of just under NOK 80 million for the period 2011 to 2013. Similarly, the reduced external cost of goods as a result of the reduction of Telenor's, NetCom's, Tele2's, Network Norway's and Ventelo's termination charges amounts to about NOK 100 million.

227. For TDC, the proposed regulation for the period 2011 to 2013 will thus have a net positive effect of about NOK 20 million on results.

**6.4.9.2 Assumed consequences for potential new providers of mobile telephony**

228. Obligations of interconnection, non-discrimination, publication and reference offer reduce entry barriers in electronic communications markets by ensuring new providers interconnection without too high transaction costs and on non-discriminatory terms in relation to already established providers.

229. Price regulation for Telenor, NetCom, Tele2, Network Norway, Ventelo and TDC will help to reduce the entry barriers for other new providers in the mobile market because they will have lower cost of goods for external termination.

**6.4.9.3 Assumed consequences for the market for access and call origination on public mobile telephone networks (former Market 15)**

230. In the market for access and call origination in public mobile communications networks (former Market 15), Telenor as a result of NPT's decision 5 August 2010 are obliged to provide access on non-discriminatory terms, and they are required to report half yearly accounting separation for the regulated forms of access for voice call / SMS and data. The decision indicates the principles for reporting of accounting separation, including that only Telenor's termination rates can be used in the indication of interconnection revenues. As a result of telenor's lower termination rates NPT expects that the relevant access prices will be reduced and that this will contribute to increased competition and thereby increasing consumer welfare.

#### 6.4.9.4 Assumed consequences for end users

231. Price controls in this decision will lead to more efficient use of resources and greater consumer welfare, particularly as a result of the opportunities for reduced retail prices for calls from fixed networks (including VoIP) to mobile networks. NPT expects Telenor and other providers of fixed telephony to lower their retail prices for calls to mobile networks as a result of the reductions in termination charges, cf. discussion of the effects for Telenor and other providers of fixed telephony in section 6.4.9.1 above.

232. If retail prices for calling from fixed to mobile networks are similarly lowered to the level indicated by the reduction in the individual mobile operators' termination charges, it would mean in excess of NOK 550 million in cost savings per year for end users. This estimate excludes value added tax.

233. NPT has collected information on price reductions in the retail market that Telenor has previously made in connection with the reductions in termination charges for the mobile operator. For example, the company has made the following reductions in prices for fixed-to-mobile traffic in its basic subscription:

- By the reduction in termination charges on 1 October 2007 from 65 øre to 60 øre for Telenor and from 91 øre to 70 øre for NetCom, fixed-to-mobile charges in Telenor's basic subscription were reduced as follows: to Telenor from NOK 1.16 to NOK 1.14, to NetCom from NOK 1.57 to NOK 1.30, to Tele2 from NOK 1.85 to NOK 1.82.
- By establishing a symmetric level of 60 øre for both Telenor and NetCom, the fixed-to-mobile rates in Telenor's basic subscription were reduced as follows on 1 July 2008: to NetCom from NOK 1.30 to NOK 1.14.
- On 1 February 2009 Tele2, Network Norway, TDC, Ventelo and Barablu reduced their termination charges to NOK 1.00. With this price change Telenor reduced the fixed-to-mobile rates in its basic subscription to Network Norway, TDC, Ventelo and Barablu from NOK 1.85 to NOK 1.82.

234. There is great uncertainty associated with the effect the decision will have on the development of retail prices for calls between the different mobile networks. When the revenues from mobile termination are reduced, the regulated providers can choose to rebalance their retail prices to compensate part of the revenue loss on the termination side. Such rebalancing is often referred to as the "*waterbed effect*" and is discussed *inter alia* in the Explanatory Note to the Commission's Recommendation.<sup>35</sup>

235. NPT would point out that a rebalancing of retail prices in which the different types of calls between mobile and fixed networks and between different mobile networks largely reflect underlying costs, would yield more economically efficient pricing even though it would not necessarily entail price reductions for all end users.

#### 6.4.9.5 Overall assessment of assumed impacts

236. The objective of economic efficiency dictates in NPT's opinion that asymmetric termination charges for operators covered by this decision must be phased out during the regulatory period in order to prevent undesirable distortion of competition and inefficiency in the long term.

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<sup>35</sup> For the Explanatory Note to the Commission's Recommendation, see: <http://intug.org/wp-content/uploads/2009/03/recommendation-on-the-regulatory-treatment-of-fts-and-mtrs-in-the-eu-explanatory-note.pdf>

237. In this decision the Authority balanced the guidelines following from the European Commission's recommendation of 7 May 2009 and SDS's decision of 19 May 2009. The achievement of efficient pricing was sought as quickly as possible, while providers were given time for adaptation and new network owners were granted adequate additional income for the construction of new infrastructure. NPT therefore believes that the decision also facilitates sustainable competition, which in turn can ensure good services to end users in terms of service quality, innovation and prices for mobile services.

238. On the basis of the above, NPT concludes that the assumed consequences of the decision are in accordance with both the objective behind the regulation of market 7 (i.e., Principle 2 that efficient use of resources and interests of consumers shall be protected when replication of infrastructure is not considered feasible), and with the overall objective of sustainable competition in the mobile market.

### **6.5 Price control of new providers**

239. To the extent that it would come to new providers of call termination on mobile networks NPT will have to consider whether and to what extent a provider would be allowed a so-called grace period. Among other considerations the need of regulatory predictability gives NPT the reason already at this stage to give some signals about future regulation. NPT refers in this respect that the Commission's recommendation for termination as a clear starting point requires that the termination shall be symmetrical, see Article 1. Furthermore, NPT refers to the Commission's setting stringent requirements for new providers during a transition period to cover any higher unit costs for termination by higher termination, see Article 10. Among other factors the Commission give instructions that such a grace period presupposes the existence of start-up and expansion barriers. A grace period in the form of exemptions from the requirement of symmetrical rates will thus serve a specific purpose. In the NPT's view, it is not given that the the Authority also in the future will find it appropriate or consistent with the Commission's recommendation for termination to allow new providers additional income from the termination.

### **6.6 Assessment of the overall effect of the specific obligations**

240. As part of the proportionality assessments NPT undertakes an assessment of the overall effect of the specific commitments notified for providers with significant market power.

#### **6.6.1 Telenor and NetCom**

241. NPT is imposing obligations similar to the 8 May 2007 decision on Telenor and NetCom. However, the price controls have been tightened in that the prices are to be reduced to a level equivalent to LRAIC without mark-up for common costs according to NPT's updated LRIC model. On the other hand, symmetric termination charges for all operators will be attained from 1 July 2012, which will have a positive effect on Telenor and NetCom.

242. The obligations being imposed on Telenor and NetCom could in NPT's view represent a relatively heavy regulatory burden in the aggregate. Nevertheless, NPT believes that it will be proportionate to impose all of these obligations. Telenor is the largest provider of termination followed by NetCom. To prevent exploitation of market power and to facilitate efficient use of existing resources, including ensuring end to end connectivity, efficient interconnection negotiations and efficient pricing, NPT believes that all of the proposed obligations must be put into effect. As long as there are no alternative forms of regulation

better suited to producing a satisfactory outcome, the fact that the overall effect will be relatively burdensome on Telenor and NetCom cannot be accorded decisive weight. NPT has not been able to identify such conditions and thus believes that the overall effect of the remedies cannot be considered disproportionate.

### **6.6.2 Tele2**

243. NPT is imposing obligations on Tele2 similar to the 8 May 2007 decision, with the exception of price controls and that the company will not be required to prepare reference offers. NPT is imposing an obligation on Tele2 to reduce its prices to an efficient and symmetric level during this decision period. This is because the company is no longer regarded as a provider in the start-up phase. NPT has further described how Tele2 recouped its investments associated with taking the step up to becoming a network owner through asymmetric termination charges in the period between 1 October 2007 to 30 June 2011.

244. In NPT's view the obligations could represent a relatively heavy regulatory burden as a whole. Even so NPT believes it will be proportionate to impose all of these obligations to ensure the effective use of resources and prevent undesirable distortion of competition over time. As described above, the Authority also emphasises ensuring sufficient profits for Tele2 to facilitate investment in infrastructure.

245. As long as there are no alternative forms of regulation better suited to producing a satisfactory outcome, the fact that the overall effect will be relatively burdensome on Tele2 cannot be accorded decisive weight. NPT has not been able to identify such conditions and thus believes that the overall effect of the remedies cannot be considered disproportionate.

### **6.6.3 Network Norway**

246. With the exception of price regulation, NPT is imposing obligations similar to the decision of 17 November 2008 on Network Norway. NPT is imposing an obligation on Network Norway to reduce its prices to an efficient and symmetric level during this decision period. This is because the company is no longer regarded as a provider in the start-up phase. NPT has further described how Network Norway recouped its investments associated with becoming established as a network owner through asymmetric termination charges in the period 1 February 2009 to 30 June 2012.

247. In NPT's view the obligations could represent a relatively heavy regulatory burden as a whole. Even so NPT believes it will be proportionate to impose all of these obligations to ensure the effective use of resources and prevent undesirable distortion of competition over time. As described above, the Authority also emphasises ensuring sufficient profits for Network Norway to facilitate investment in infrastructure.

248. As long as there are no alternative forms of regulation better suited to producing a satisfactory outcome, the fact that the overall effect will be relatively burdensome on Network Norway cannot be accorded decisive weight. NPT has not been able to identify such conditions and thus believes that the overall effect of the remedies cannot be considered disproportionate.

### **6.6.4 TDC and Ventelo**

249. With the exception of price regulation, NPT is imposing obligations on TCD similar to the 8 May 2007 decision and additional decision of 17 November 2008. With the exception of price regulation, the same obligations as in the decision of 17 November 2008 are being

imposed on Ventelo. NPT is imposing an obligation on said providers to reduce their termination charges to an efficient and symmetric level during this decision period. This is because the companies are no longer considered to be in a start-up phase.

250. Overall, NPT is imposing fewer obligations on TDC and Ventelo than other providers. However, in NPT's view, price regulation means that obligations could represent a relatively heavy regulatory burden. Even so NPT believes it will be proportionate to impose all of these obligations to ensure the effective use of resources and prevent undesirable distortion of competition over time.

251. As long as there are no alternative forms of regulation better suited to producing a satisfactory outcome, the fact that the overall effect will be relatively burdensome on TDC and Ventelo cannot be accorded decisive weight. NPT has not been able to identify such conditions and thus believes that the overall effect of the remedies cannot be considered disproportionate.

## **7 Decisions on the imposition of specific obligations**

252. Against the background of the review above, NPT has concluded that undertakings with significant market power in the markets for voice call termination on mobile networks should be subject to several specific obligations. In this chapter, the specific content of these obligations will be specified.

### **7.1 Telenor ASA**

253. NPT is imposing the following specific obligations on Telenor ASA in the market for voice call termination on its mobile network:

#### **7.1.1 Interconnection**

254. Since Telenor ASA has been designated as an undertaking with significant market power in the market for voice call termination on mobile networks, the company has an obligation to meet all reasonable requests for interconnection, cf. Electronic Communications Act Section 4-2 third paragraph.

255. Pursuant to Electronic Communications Act Section 4-1, NPT is imposing an obligation on Telenor ASA to conclude negotiations on entering into or amending agreements on termination on its mobile networks without undue delay. At the request of the requesting party Telenor is required to document vis-à-vis the party the time spent in connection with the relevant contract negotiations. NPT shall receive a copy of the relevant documentation. Nevertheless, the documentation obligation does not apply if the request was made later than three months after the relevant negotiations were concluded.

256. If access is denied, the party requesting access shall receive a documented and justified refusal of the request, cf. Electronic Communications Act Section 4-2 third paragraph last sentence. The justification must contain all information necessary for evaluating the basis for the refusal, such as e.g. the reason access is denied, with the necessary technical documentation.

### **7.1.2 Non-discrimination**

257. Pursuant to Electronic Communications Act Section 4-7 first and second paragraphs, NPT is imposing an obligation of non-discrimination in connection with termination on Telenor ASA's mobile network. To be sufficiently effective, NPT believes that an obligation of non-discrimination must apply both between external operations (Electronic Communications Act Section 4-7 first paragraph) and between an undertaking's own and external operations (Electronic Communications Act Section 4-7 second paragraph). Nevertheless, the obligation not to discriminate does not apply to any differences in termination charges for on-net and off-net calls.

### **7.1.3 Reference offers and publication**

258. Pursuant to Electronic Communications Act Section 4-6 third and fourth paragraphs, NPT is imposing an obligation on Telenor ASA to prepare and publish a reference offer for interconnection. Publishing the agreement on the company's own website is regarded as a satisfactory means of publication. The reference offer shall be adequately divided into individual elements with appurtenant terms and conditions based on the needs of the market, so that the other party is not forced to accept services, functions or benefits that are not requested. The reference offer shall be kept updated and contain all information vital to the service to be provided, including information on:

- the interconnection service being offered,
- general contractual terms and conditions,
- termination charges,
- price elements and the services the individual price elements cover,
- any discounts and criteria for discounts,
- the methods for calculating any offerings without a fixed price,
- geographical supply area,
- any significant capacity limitations on delivery,
- characteristics of a technical and physical nature, including interfaces used at network termination points, as well as the standards that are used,
- points of interconnection,
- agreed quality level, and
- provisions regarding reasonable compensation for failure to meet the agreed quality level.

259. Pursuant to Electronic Communications Act Section 4-6 first, cf. fourth paragraph, NPT will impose an obligation on Telenor ASA to give advance notice to other providers of any changes to existing interconnection services for mobile telephony no later than two months before they are implemented.

260. Pursuant to Electronic Communications Act Section 10-3, Telenor ASA is being directed to send copies of all agreements related to termination of voice calls on mobile networks to NPT. A copy of negotiated individual agreements based on the reference offer and signed by both parties shall be submitted. The submission to NPT shall take place without undue delay no later than two weeks after the signature date. Telenor ASA is furthermore obliged to notify NPT of any changes to agreements relating to voice call termination on mobile networks. The information must clearly state where the changes have been made in the agreement and what they consist of. NPT shall be informed about changes at least two months before they are implemented.

### 7.1.4 Price controls

261. Pursuant to Electronic Communications Act Section 4-9, Telenor ASA is being directed to set charges for voice call termination on mobile networks in accordance with the table below.

	Current price at the end of 2010	1 January 2011 - 30 June 2011	1 July 2011 – 31 December 2011	1 January 2012 - 30 June 2012	1 July 2012 – 31 December 2012	1 January 2013 – 31 December 2013
Telenor	0.50	0.30	0.30	0.30	0.20	0.15

**Table 7: Maximum price per minute for voice call termination on Telenor ASA’s mobile network in the period 1 January 2011 to 31 December 2013. All prices are given in NOK (excluding VAT).**

262. Prices apply to voice call termination regardless of whether termination takes place on the GSM or UMTS networks, and voice mail service connected with Telenor ASA’s mobile network.

263. Maximum prices are stated in current prices until 1 January 2013. The maximum prices from 1 January 2013 will be adjusted for inflation. No later than three months before this last price change NPT will specify the adjustment factor.

264. The maximum price applies per minute. Telenor has the opportunity to establish its termination charge based on various price elements (price per call, price per minute peak and off-peak and so on), assuming a weighted average of the various price elements do not exceed the maximum price per minute.

265. If Telenor ASA chooses to set its termination charges based on elements other than price per minute, NPT will pursuant to Electronic Communications Act Section 10-3 impose an obligation on Telenor ASA to inform the Authority at least three months before the price change about proposals for new prices and weights on which they will be based. The weights shall be based on actual call volume and patterns in the previous year. Documentation for the weights shall follow the proposal.

266. Such proposals must be approved in advance by NPT before price changes can be implemented. NPT may require changes to the submitted proposal prior to approval if NPT does not find it substantiated that the proposal is within the maximum price.

267. NPT will be able to issue new decisions on price controls at the end of the price cap period, or decide to withdraw price controls. Until a new decision is made, the price shall not exceed NOK 0.15 per minute (inflation-adjusted).

268. Pursuant to Electronic Communications Act Section 4-9, NPT is imposing an obligation on Telenor ASA to have reasonable prices for interconnection to mobile networks.

## 7.2 NetCom AS

269. NPT is imposing the following specific obligations on NetCom AS in the market for voice call termination on its mobile network:

### 7.2.1 Interconnection

270. Since NetCom AS has been designated as an undertaking with significant market power in the market for voice call termination on mobile networks, the company has an

obligation to meet all reasonable requests for interconnection, cf. Electronic Communications Act Section 4-2 third paragraph.

271. Pursuant to Electronic Communications Act Section 4-1, NPT is imposing an obligation on NetCom AS to conclude negotiations on entering into or amending agreements on termination on its mobile networks without undue delay. At the request of the requesting party NetCom is required to document vis-à-vis the party the time spent in connection with the relevant contract negotiations. NPT shall receive a copy of the relevant documentation. Nevertheless, the documentation obligation does not apply if the request was made later than three months after the relevant negotiations were concluded.

272. If access is denied, the party requesting access shall receive a documented and justified refusal of the request, cf. Electronic Communications Act Section 4-2 third paragraph last sentence. The justification must contain all information necessary for evaluating the basis for the refusal, such as e.g. the reason access is denied, with the necessary technical documentation.

### **7.2.2 Non-discrimination**

273. Pursuant to Electronic Communications Act Section 4-7 first and second paragraphs, NPT is imposing an obligation of non-discrimination in connection with termination on NetCom AS's mobile network. To be sufficiently effective, NPT believes that an obligation of non-discrimination must apply both between external operations (Electronic Communications Act Section 4-7 first paragraph) and between an undertaking's own and external operations (Electronic Communications Act Section 4-7 second paragraph). Nevertheless, the obligation not to discriminate does not apply to any differences in termination charges for on-net and off-net calls.

### **7.2.3 Reference offers and publication**

274. Pursuant to Electronic Communications Act Section 4-6 third and fourth paragraphs, NPT is imposing an obligation on NetCom AS to prepare and publish a reference offer for interconnection. Publishing the agreement on the company's own website is regarded as a satisfactory means of publication. The reference offer shall be adequately divided into individual elements with appurtenant terms and conditions based on the needs of the market, so that the other party is not forced to accept services, functions or benefits that are not requested. The reference offer shall be kept updated and contain all information vital to the service to be provided, including information on:

- the interconnection service being offered,
- general contractual terms and conditions,
- termination charges,
- price elements and the services the individual price elements cover,
- any discounts and criteria for discounts,
- the methods for calculating any offerings without a fixed price,
- geographical supply area,
- any significant capacity limitations on delivery,
- characteristics of a technical and physical nature, including interfaces used at network termination points, as well as the standards that are used,
- points of interconnection,
- agreed quality level, and

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

275. Pursuant to Electronic Communications Act Section 4-6 first, cf. fourth paragraph, NPT is imposing an obligation on NetCom AS to give advance notice to other providers of any changes to existing interconnection services for mobile telephony no later than two months before they are implemented.

276. Pursuant to Electronic Communications Act Section 10-3, NetCom AS is being directed to send copies of all agreements related to termination of voice calls on mobile networks to NPT. A copy of negotiated individual agreements based on the reference offer and signed by both parties shall be submitted. The submission to NPT shall take place without undue delay no later than two weeks after the signature date. NetCom AS is furthermore obliged to notify NPT of any changes to agreements relating to voice call termination on mobile networks. The information must clearly state where the changes have been made in the agreement and what they consist of. NPT shall be informed about changes at least two months before they are implemented.

#### 7.2.4 Price controls

277. Pursuant to Electronic Communications Act Section 4-9, NetCom AS is being directed to set charges for voice call termination on mobile networks in accordance with the table below.

	Current price at the end of 2010	1 January 2011 - 30 June 2011	1 July 2011 – 31 December 2011	1 January 2012 - 30 June 2012	1 July 2012 – 31 December 2012	1 January 2013 – 31 December 2013
NetCom	0.50	0.30	0.30	0.30	0.20	0.15

**Table 8: Maximum price per minute for voice call termination on NetCom AS's mobile network in the period 1 January 2011 to 31 December 2013. All prices are given in NOK (excluding VAT).**

278. The prices apply to voice call termination regardless of whether termination takes place on the GSM or UMTS networks, and voice mail service connected with NetCom AS's mobile network.

279. Maximum prices are stated in current prices until 1 January 2013. The maximum prices from 1 January 2013 will be adjusted for inflation. No later than three months before this last price change NPT will specify the adjustment factor.

280. The maximum price applies per minute. NetCom AS has the opportunity to establish its termination charge based on various price elements (price per call, price per minute peak and off-peak and so on), assuming a weighted average of the various price elements do not exceed the maximum price per minute.

281. If NetCom AS chooses to set its termination charges based on elements other than price per minute, NPT will pursuant to Electronic Communications Act Section 10-3 impose an obligation on NetCom AS to inform the Authority at least three months before the price change about proposals for new prices and weights on which they will be based. The weights shall be based on actual call volume and patterns in the previous year. Documentation for the weights shall follow the proposal.

282. Such proposals must be approved in advance by NPT before price changes can be implemented. NPT may require changes to the submitted proposal prior to approval if NPT does not find it substantiated that the proposal is within the maximum price.

283. NPT will be able to issue new decisions on price controls at the end of the price cap period, or decide to withdraw price controls. Until a new decision is made, the price shall not exceed NOK 0.15 per minute (inflation-adjusted).

284. Pursuant to Electronic Communications Act Section 4-9, NPT is imposing an obligation on NetCom AS to have reasonable prices for interconnection to mobile networks.

### **7.3 Tele2 Norge AS**

285. NPT is imposing the following specific obligations on Tele2 Norge AS in the market for voice call termination on Tele2 Norge AS's mobile network:

#### **7.3.1 Interconnection**

286. Since Tele2 Norge AS has been designated as an undertaking with significant market power in the market for voice call termination on mobile networks, the company has an obligation to meet all reasonable requests for interconnection, cf. Electronic Communications Act Section 4-2 third paragraph.

287. Pursuant to Electronic Communications Act Section 4-1, NPT is imposing an obligation on Tele2 Norge AS to conclude negotiations on entering into or amending agreements on termination on its mobile networks without undue delay. At the request of the requesting party Tele2 is required to document vis-à-vis the party the time spent in connection with the relevant contract negotiations. NPT shall receive a copy of the relevant documentation. Nevertheless, the documentation obligation does not apply if the request was made later than three months after the relevant negotiations were concluded.

288. If access is denied, the party requesting access shall receive a documented and justified refusal of the request, cf. Electronic Communications Act Section 4-2 third paragraph last sentence. The justification must contain all information necessary for evaluating the basis for the refusal, such as e.g. the reason access is denied, with the necessary technical documentation.

#### **7.3.2 Non-discrimination**

289. Pursuant to Electronic Communications Act Section 4-7 first and second paragraphs, NPT is imposing an obligation of non-discrimination in connection with termination on Tele2 Norge AS's mobile network. To be sufficiently effective, NPT believes that an obligation of non-discrimination must apply both between external operations (Electronic Communications Act Section 4-7 first paragraph) and between an undertaking's own and external operations (Electronic Communications Act Section 4-7 second paragraph). Nevertheless, the obligation not to discriminate does not apply to any differences in termination charges for on-net and off-net calls.

#### **7.3.3 Publication**

290. Pursuant to Electronic Communications Act Section 4-6 third and fourth paragraphs, NPT is imposing an obligation on Tele2 Norge AS to publish its prices for termination on mobile networks. Publishing on the company's own website is regarded as a satisfactory method of publication. Standard rates and any discounts with related criteria shall be stated.

291. Pursuant to the Electronic Communications Act Section 4-6 first, cf. fourth paragraph, an obligation is being imposed on Tele2 Norge AS to give advance notice to other providers of any changes to existing services no later than two months before they are implemented.

292. Pursuant to Electronic Communications Act Section 10-3 an obligation is being imposed on Tele2 Norge AS to send NPT copies of agreements with parties other than Telenor ASA and NetCom AS related to termination on mobile networks. Submission to NPT shall take place without undue delay no later than two weeks after the signature date. Tele2 Norge AS is furthermore obliged to inform NPT about changes in the agreements. The information must clearly state where the changes have been made in the agreement and what they consist of. NPT shall be informed about changes in the interconnection agreement related to termination no later than two months before they are implemented.

### 7.3.4 Price controls

293. Pursuant to Electronic Communications Act Section 4-9, an obligation is being imposed on Tele2 Norge AS to set charges for voice call termination on mobile networks in accordance with the table below.

	Current price at the end of 2010	1 January 2011 - 30 June 2011	1 July 2011 – 31 December 2011	1 January 2012 - 30 June 2012	1 July 2012 – 31 December 2012	1 January 2013 – 31 December 2013
Tele2	0.90	0.50	0.30	0.30	0.20	0.15

**Table 9: Maximum price per minute for voice call termination on Tele2 Norge AS’s mobile network in the period 1 January 2011 to 31 December 2013. All prices are given in NOK (excluding VAT).**

294. The prices apply to voice call termination regardless of whether termination takes place on the GSM or UMTS networks, and voice mail service connected with Tele2 Norge AS’s mobile network.

295. Maximum prices are stated in current prices until 1 January 2013. The maximum prices from 1 January 2013 will be adjusted for inflation. No later than three months before this last price change NPT will specify the adjustment factor.

296. The maximum price applies per minute. Tele2 Norge AS has the opportunity to establish its termination charge based on various price elements (price per call, price per minute peak and off-peak and so on), assuming a weighted average of the various price elements do not exceed the maximum price per minute.

297. The maximum price can be changed to the detriment of the company if the rollout conditions are not sufficiently met.

298. If Tele2 Norge AS chooses to set its termination charges based on elements other than price per minute, NPT will pursuant to Electronic Communications Act Section 10-3 impose an obligation on Tele2 Norge AS to inform the Authority at least three months before the price change about proposals for new prices and weights on which they will be based. The weights shall be based on actual call volume and patterns in the previous year. Documentation for the weights shall follow the proposal.

299. Such proposals must be approved in advance by NPT before price changes can be implemented. NPT may require changes to the submitted proposal prior to approval if NPT does not find it substantiated that the proposal is within the maximum price.

300. NPT will be able to issue new decisions on price controls at the end of the price cap period, or decide to withdraw price controls. Until a new decision is made, the price shall not exceed NOK 0.15 per minute (inflation-adjusted).

301. Pursuant to Electronic Communications Act Section 4-9, NPT is imposing an obligation on Tele2 Norge AS to have reasonable prices for interconnection to mobile networks.

### **7.3.5 Reporting**

302. Pursuant to Electronic Communications Act Section 10-3 Tele2 Norge AS is being directed to report on the progress of the rollout of Mobile Norway's mobile network on a half-yearly basis, as of 1 January with a deadline of 15 January and as of 1 July with a deadline of 15 July.

## **7.4 Network Norway AS**

303. NPT is imposing the following specific obligations on Network Norway AS in the market for voice call termination on Network Norway AS's mobile network:

### **7.4.1 Interconnection**

304. Since Network Norway AS has been designated as an undertaking with significant market power in the market for voice call termination on mobile networks, the company has an obligation to meet all reasonable requests for interconnection, cf. Electronic Communications Act Section 4-2 third paragraph.

305. Pursuant to Electronic Communications Act Section 4-1, NPT is imposing an obligation on Network Norway AS to conclude negotiations on entering into or amending agreements on termination on its mobile networks without undue delay. At the request of the requesting party Network Norway is required to document vis-à-vis the party the time spent in connection with the relevant contract negotiations. NPT shall receive a copy of the relevant documentation. Nevertheless, the documentation obligation does not apply if the request was made later than three months after the relevant negotiations were concluded.

306. If access is denied, the party requesting access shall receive a documented and justified refusal of the request, cf. Electronic Communications Act Section 4-2 third paragraph last sentence. The justification must contain all information necessary for evaluating the basis for the refusal, such as e.g. the reason access is denied, with the necessary technical documentation.

### **7.4.2 Non-discrimination**

307. Pursuant to Electronic Communications Act Section 4-7 first and second paragraphs, NPT is imposing an obligation of non-discrimination in connection with termination on Network Norway AS's mobile network. To be sufficiently effective, NPT believes that an obligation of non-discrimination must apply both between external operations (Electronic Communications Act Section 4-7 first paragraph) and between an undertaking's own and external operations (Electronic Communications Act Section 4-7 second paragraph). Nevertheless, the obligation not to discriminate does not apply to any differences in termination charges for on-net and off-net calls.

### 7.4.3 Publication

308. Pursuant to Electronic Communications Act Section 4-6 third and fourth paragraphs, NPT is imposing an obligation on Network Norway AS to publish its prices for termination on mobile networks. Publishing on the company's own website is regarded as a satisfactory method of publication. Standard rates and any discounts with related criteria shall be stated.

309. Pursuant to the Electronic Communications Act Section 4-6 first, cf. fourth paragraph, NPT is imposing an obligation on Network Norway AS to give advance notice to other providers of any changes to existing services no later than two months before they are implemented.

310. Pursuant to Electronic Communications Act Section 10-3 an obligation is being imposed on Network Norway AS to send NPT copies of agreements with parties other than Telenor ASA and NetCom AS related to termination on mobile networks. Submission to NPT shall take place without undue delay no later than two weeks after the signature date. Network Norway AS is furthermore obliged to inform NPT about changes in the agreements. The information must clearly state where the changes have been made in the agreement and what they consist of. NPT shall be informed about changes in the interconnection agreement related to termination no later than two months before they are implemented.

### 7.4.4 Price controls

311. Pursuant to Electronic Communications Act Section 4-9, Network Norway AS is being directed to set charges for voice call termination on mobile networks in accordance with the table below.

	Current price at the end of 2010	1 January 2011 - 30 June 2011	1 July 2011 – 31 December 2011	1 January 2012 - 30 June 2012	1 July 2012 – 31 December 2012	1 January 2013 – 31 December 2013
<b>Network Norway</b>	<b>0.90</b>	<b>0.90</b>	<b>0.80</b>	<b>0.65</b>	<b>0.20</b>	<b>0.15</b>

**Table 10: Maximum price per minute for voice call termination on Network Norway AS's mobile network in the period 1 January 2011 to 31 December 2013. All prices are given in NOK (excluding VAT).**

312. The prices apply to voice call termination regardless of whether termination takes place on the GSM or UMTS networks, and voice mail service connected with Network Norway AS's mobile network.

313. Maximum prices are stated in current prices until 1 January 2013. The maximum prices from 1 January 2013 will be adjusted for inflation. No later than three months before this last price change NPT will specify the adjustment factor.

314. The maximum price applies per minute. Network Norway AS has the opportunity to establish its termination charge based on various price elements (price per call, price per minute peak and off-peak and so on), assuming a weighted average of the various price elements do not exceed the maximum price per minute.

315. The maximum price can be changed to the detriment of the company if the rollout conditions are not sufficiently met.

316. Electronic Communications Act Section 3-4 authorises changes in regulatory duties. This may be relevant if the actual traffic development or actual investment costs is substantially different from the assumptions of traffic growth and investment that is used to

ensure sufficient profits for Network Norway to facilitate investment in infrastructure, see discussion under section 6.5.

317. If Network Norway AS chooses to set its termination charges based on elements other than price per minute, NPT will pursuant to Electronic Communications Act Section 10-3 impose an obligation on Network Norway AS to inform the Authority at least three months before the price change about proposals for new prices and weights on which they will be based. The weights shall be based on actual call volume and patterns in the previous year. Documentation for the weights shall follow the proposal.

318. Such proposals must be approved in advance by NPT before price changes can be implemented. NPT may require changes to the submitted proposal prior to approval if NPT does not find it substantiated that the proposal is within the maximum price.

319. NPT will be able to issue new decisions on price controls at the end of the price cap period, or decide to withdraw price controls. Until a new decision is made, the price shall not exceed NOK 0.15 per minute (inflation-adjusted).

320. Pursuant to Electronic Communications Act Section 4-9, NPT is imposing an obligation on Network Norway AS to have reasonable prices for interconnection to mobile networks.

#### **7.4.5 Reporting**

321. Pursuant to Electronic Communications Act Section 10-3 Network Norway AS is being directed to report on the progress of the rollout of Mobile Norway's mobile network on a half-yearly basis, as of 1 January with a deadline of 15 January and as of 1 July with a deadline of 15 July.

### **7.5 Ventelo AS**

322. NPT is imposing the following specific obligations on Ventelo AS in the market for voice call termination on Ventelo AS's mobile network:

#### **7.5.1 Interconnection**

323. Since Ventelo AS has been designated as an undertaking with significant market power in the market for voice call termination on mobile networks, the company will have an obligation to meet all reasonable requests for interconnection, cf. Electronic Communications Act Section 4-2 third paragraph.

324. Pursuant to Electronic Communications Act Section 4-1, NPT is imposing an obligation on Ventelo AS to conclude negotiations on entering into or amending agreements on termination on its mobile network without undue delay. At the request of the requesting party Ventelo AS is required to document vis-à-vis the party the time spent in connection with the relevant contract negotiations. NPT shall receive a copy of the relevant documentation. Nevertheless, the documentation obligation does not apply if the request was made later than three months after the relevant negotiations were concluded.

325. If access is denied, the party requesting access shall receive a documented and justified refusal of the request, cf. Electronic Communications Act Section 4-2 third paragraph last sentence. The justification must contain all information necessary for evaluating the basis for the refusal, such as e.g. the reason access is denied, with the necessary technical documentation.

## 7.5.2 Publication

326. Pursuant to Electronic Communications Act Section 4-6 third and fourth paragraphs, NPT is imposing an obligation on Ventelo AS to publish its prices for termination on mobile networks. Publishing on the company's own website is regarded as a satisfactory method of publication. Standard rates and any discounts with related criteria shall be stated.

327. Pursuant to the Electronic Communications Act Section 4-6 first, cf. fourth paragraph, NPT is imposing an obligation on Ventelo AS to give advance notice to other providers of any changes to existing services no later than two months before they are implemented.

328. Pursuant to Electronic Communications Act Section 10-3 an obligation is being imposed on Ventelo AS to send NPT copies of agreements with parties other than Telenor ASA and NetCom AS related to termination on mobile networks. Submission to NPT shall take place without undue delay no later than two weeks after the signature date. Ventelo AS is furthermore obliged to inform NPT about changes in the agreements. The information must clearly state where the changes have been made in the agreement and what they consist of. NPT shall be informed about changes in the interconnection agreement related to termination no later than two months before they are implemented.

## 7.5.3 Price controls

329. Pursuant to Electronic Communications Act Section 4-9, Ventelo AS is being directed to set charges for voice call termination on mobile networks in accordance with the table below.

	Current price at the end of 2010	1 January 2011 - 30 June 2011	1 July 2011 – 31 December 2011	1 January 2012 - 30 June 2012	1 July 2012 – 31 December 2012	1 January 2013 – 31 December 2013
Ventelo	0.75	0.40	0.30	0.30	0.20	0.15

**Table 11: Maximum price per minute for voice call termination on Ventelo AS's mobile network in the period 1 January 2011 to 31 December 2013. All prices are given in NOK (excluding VAT).**

330. The prices apply to voice call termination regardless of whether termination takes place on the GSM or UMTS networks, and voice mail service connected with Ventelo AS's mobile network.

331. Maximum prices are stated in current prices until 1 January 2013. The maximum prices from 1 January 2013 will be adjusted for inflation. No later than three months before this last price change NPT will specify the adjustment factor.

332. The maximum price applies per minute. Ventelo AS has the opportunity to establish its termination charge based on various price elements (price per call, price per minute peak and off-peak and so on), assuming a weighted average of the various price elements do not exceed the maximum price per minute.

333. If Ventelo AS chooses to set its termination charges based on elements other than price per minute, NPT will pursuant to Electronic Communications Act Section 10-3 impose an obligation on Ventelo AS to inform the Authority at least three months before the price change about proposals for new prices and weights on which they will be based. The weights shall be based on actual call volume and patterns in the previous year. Documentation for the weights shall follow the proposal.

334. Such proposals must be approved in advance by NPT before price changes can be implemented. NPT may require changes to the submitted proposal prior to approval if NPT does not find it substantiated that the proposal is within the maximum price.

335. NPT will be able to issue new decisions on price controls at the end of the price cap period, or decide to withdraw price controls. Until a new decision is made, the price shall not exceed NOK 0.15 per minute (inflation-adjusted).

336. Pursuant to Electronic Communications Act Section 4-9, NPT is imposing an obligation on Ventelo AS to have reasonable prices for interconnection to mobile networks.

## **7.6 TDC AS**

### **7.6.1 Interconnection**

337. Since TDC AS has been designated as an undertaking with significant market power in the market for voice call termination on mobile networks, the company will have an obligation to meet all reasonable requests for interconnection, cf. Electronic Communications Act Section 4-2 third paragraph.

338. Pursuant to Electronic Communications Act Section 4-1, NPT is imposing an obligation on TDC AS to conclude negotiations on entering into or amending agreements on termination on its mobile networks without undue delay. At the request of the requesting party TDC AS is required to document vis-à-vis the party the time spent in connection with the relevant contract negotiations. NPT shall receive a copy of the relevant documentation. Nevertheless, the documentation obligation does not apply if the request was made later than three months after the relevant negotiations were concluded.

339. If access is denied, the party requesting access shall receive a documented and justified refusal of the request, cf. Electronic Communications Act Section 4-2 third paragraph last sentence. The justification must contain all information necessary for evaluating the basis for the refusal, such as e.g. the reason access is denied, with the necessary technical documentation.

### **7.6.2 Publication**

340. Pursuant to Electronic Communications Act Section 4-6 third and fourth paragraph, NPT is imposing an obligation on TDC AS to publish its prices for termination on mobile networks. Publishing on the company's own website is regarded as a satisfactory method of publication. Standard rates and any discounts with related criteria shall be stated.

341. Pursuant to the Electronic Communications Act Section 4-6 first, cf. fourth paragraph, NPT is imposing an obligation on TDC AS to give advance notice to other providers of any changes to existing services no later than two months before they are implemented.

342. Pursuant to Electronic Communications Act Section 10-3 an obligation is being imposed on TDC AS to send NPT copies of agreements with parties other than Telenor ASA and NetCom AS related to termination on mobile networks. Submission to NPT shall take place without undue delay no later than two weeks after the signature date. TDC AS is furthermore obliged to inform NPT about changes in the agreements. The information must clearly state where the changes have been made in the agreement and what they consist of. NPT shall be informed about changes in the interconnection agreement related to termination no later than two months before they are implemented.

### 7.6.3 Price controls

343. Pursuant to Electronic Communications Act Section 4-9, TDC AS is being directed to set charges for voice call termination on mobile networks in accordance with the table below.

	Current price at the end of 2010	1 January 2011 - 30 June 2011	1 July 2011 – 31 December 2011	1 January 2012 - 30 June 2012	1 July 2012 – 31 December 2012	1 January 2013 – 31 December 2013
TDC	0.75	0.40	0.30	0.30	0.20	0.15

**Table 12: Maximum price per minute for voice call termination on TDC AS's mobile network in the period 1 January 2011 to 31 December 2013. All prices are given in NOK (excluding VAT).**

344. The prices apply to voice call termination regardless of whether termination takes place on the GSM or UMTS networks, and voice mail service connected with TDC AS's mobile network.

345. Maximum prices are stated in current prices until 1 January 2013. The maximum prices from 1 January 2013 will be adjusted for inflation. No later than three months before this last price change NPT will specify the adjustment factor.

346. The maximum price applies per minute. TDC AS has the opportunity to establish its termination charge based on various price elements (price per call, price per minute peak and off-peak and so on), assuming a weighted average of the various price elements do not exceed the maximum price per minute.

347. If TDC AS chooses to set its termination charges based on elements other than price per minute, NPT will pursuant to Electronic Communications Act Section 10-3 impose an obligation on TDC AS to inform the Authority at least three months before the price change about proposals for new prices and weights on which they will be based. The weights shall be based on actual call volume and patterns in the previous year. Documentation for the weights shall follow the proposal.

348. Such proposals must be approved in advance by NPT before price changes can be implemented. NPT may require changes to the submitted proposal prior to approval if NPT does not find it substantiated that the proposal is within the maximum price.

349. NPT will be able to issue new decisions on price controls at the end of the price cap period, or decide to withdraw price controls. Until a new decision is made, the price shall not exceed NOK 0.15 per minute (inflation-adjusted).

350. Pursuant to Electronic Communications Act Section 4-9, NPT is imposing an obligation on TDC AS to have reasonable prices for interconnection to mobile networks (registration charge, primary system access and other charges).

## 8 Relationship to current decisions

351. The current obligations for Telenor in the market for access and call origination on public mobile telephone networks, cf. chapter 4, will be withdrawn when this decision enters into force. However, this does not apply to the obligation in the decision of 23 January 2006 to report accounting separation for MVNO access. Final submission of such reporting to NPT will be by 1 July 2011 for the financial year 2010.

## **9 The decision's date of effect, right of appeal etc.**

352. The decision, and appurtenant obligations in the markets for access and call origination on public mobile telephone networks, enters into effect immediately.

353. The decision may be appealed within three weeks from the date it is received, cf. Electronic Communications Act § 11-6 and Public Administration Act § 29. The appeal shall be directed to the Ministry of Transport and Communications and be sent to the Norwegian Post and Telecommunications Authority.

354. Only the Ministry of Transport and Communications may accept requests to postpone implementation of the decision, cf. Electronic Communications Act § 11-6 fourth paragraph, cf. Public Administration Act § 42.