

GOVERNMENT DECREE ON RADIO SPECTRUM AUCTIONS

1. PRINCIPAL CONTENT OF THE PROPOSAL

Purpose of the decree

The decree is intended to provide for certain details in the process of auctioning off the 700 MHz spectrum of radio frequencies. The decree is to provide for the number of frequencies to be allocated, the maximum number of frequencies to be allocated per enterprise, the auction procedure to be used, the opening price of the frequencies being auctioned, the auction entry fee and the licence fee payment schedule.

The 700 MHz spectrum (703–733 MHz and 758–788 MHz) was allocated to wireless broadband as of 1 January 2017 in section 9 of the Government Decree on Radio Frequency Usage and the Frequency Plan (1246/2014). It is proposed that the Government Frequency Decree be amended simultaneously so as to specify in more detail the frequencies being auctioned off.

This spectrum may be used for cost-effective building of 4G networks. The spectrum is also well suited for building wireless broadband networks in sparsely populated areas. Commercial introduction of the spectrum as of the beginning of 2017 requires licences to be issued during 2016.

Under section 6 of the Information Society Code (917/2014), a licence is required to provide a network service that uses radio frequencies in a digital terrestrial mass communications network or in a mobile network practising public telecommunications. Under section 8 of the Code, licences for new frequency bands in mobile networks may be issued either through a comparative procedure or by auction. The Ministry of Transport and Communications decided on 18 February 2016 that licences for commercial operations in the 700 MHz spectrum will be auctioned off. FICORA will auction off the spectrum at the end of 2016.

Chapter 3 of the Information Society Code provides for the issuing of a licence through an auction process. Section 11 of the Code provides for issuing licences through an auction process. Under subsection 1, the Government shall grant a licence to an enterprise, organisation or association that has made the highest valid bid for the frequency band or frequency pair in the auction, unless the licencing authority has especially weighty reasons to suspect that granting the licence to the applicant in question would apparently risk national security. Under subsection 2, the practical arrangements of the auction are the responsibility of FICORA. The auction shall be unbiased, clear, open, non-discriminatory and technology and service neutral. Under subsection 4, the auction may be conducted using an electronic auction system. The auction may include one or more rounds with ascending bids. All bids submitted in the auction are binding until the end of the auction. Under subsection 5, FICORA announces the auction concluded after a bidding round during which no new bids have been placed for any frequency pair or frequency band. Under subsection 6, the highest valid bid placed for each frequency pair or frequency band at the conclusion of the auction wins the auction.

However, the Code specifies that certain details of the auction process shall be provided for by Government Decree. Under section 11(3) of the Code, provisions regarding the number

of frequency bands and frequency pairs to be granted, the maximum number of frequencies to be allocated to an enterprise and organisation, the auction model to be used and the starting bids for the frequencies to be auctioned shall be given by Government Decree. Moreover, provisions will be given by Government Decree on the auction participation fee and the payment schedule of the licence fee, pursuant to sections 286 and 287 of the Code, respectively.

The aforementioned details to be provided for by Government Decree are details that depend on the number of frequency bands being auctioned off, the goals of any individual auction and the competitive situation on the market. Also, section 12 of the Code provides for further regulations concerning the auction process that may be issued by FICORA.

In addition to provisions concerning the auction procedure, the Information Society Code contains provisions on participation in the auction (section 13), openness of information in the auction process (section 14), rejection of auction bids (section 15), auction participation fees (section 286) and licence fees (section 287).

The Decree will apply to the auction of the 700 MHz spectrum in mainland Finland. These frequencies (2 x 30 MHz) will be auctioned off as 2 x 5 MHz frequency pairs, i.e. the auction will involve a total of six frequency pairs of 5 MHz each. No more than two 2 x 5 MHz frequency pairs will be allocated to any individual enterprise or organisation. All frequency pairs are to be auctioned off at once through multiple rounds of bidding with ascending bids. The proposed starting price in the auction is EUR 15 million per each 5 MHz frequency pair. The licence fee is to be paid in five equal annual instalments as of the issuing of the licence. In order to cover the administrative costs of FICORA in arranging the auction, enterprises signing up for the auction are required to pay an entry fee of EUR 50,000.

Goals

The purpose of the auction is to ensure effective use of the spectrum. In the auction, the value of the frequency bands, i.e. the licence fee, will be determined on a market-driven basis. The key benefit of the market-driven model is that the process is transparent and simple. Another aim is to improve the nationwide availability, quality and capacity of high-speed wireless broadband connections in Finland. Allocating more frequency bands to wireless broadband will increase wireless broadband capacity and help ensure the continued availability of high-quality wireless broadband throughout Finland.

The key principles of the auction, as provided for in section 11 of the Information Society Code, are that it must be unbiased, clear, open, non-discriminatory and technology and service neutral.

Impacts

Auctions were previously conducted in Finland in 2009 (for the 2.5 GHz spectrum) and in 2013 (for the 800 MHz spectrum). Spectrum auctions in Finland have not had an impact on the market structure or competition situation in mobile communications services or wireless broadband. Spectrum auctions have also not led to a decline in telecom operators' other business investments. Auctions are a market-driven means for allocating frequencies while generating revenue for the government and being a transparent procedure.

The introduction of the 800 MHz spectrum auctioned off in 2013 has improved the quality and availability of high-speed wireless broadband connections throughout Finland, particularly in sparsely populated areas. Mobile communications prices have not

significantly changed following the auctions. In practice, therefore, consumers have received more and better services than before for the same price.

The three established telecom operators have used the 800 MHz spectrum auctioned off in 2013 to build 4G networks that enable high-speed wireless data transfer. The building and introduction of these networks have progressed rapidly. At the moment, the networks cover about 97% of the population of mainland Finland. The introduction of the 700 MHz spectrum now to be auctioned off from the beginning of 2017 will further improve the availability, quality and speed of wireless broadband connections.

If all the frequencies are sold, the revenue generated for the government will be at least EUR 90 million. However, this amounts to only about one tenth of 1% of the annual turnover of the telecom operators, factored over the entire licence period.

2. DETAILED CONTENT OF THE DECREE

Section 1. Scope of application

This section provides for the scope of application of the Decree. The Decree will apply to the auction of the 703–733 MHz and 758–788 MHz spectrum in mainland Finland. The scope of application of Decree is limited to this specific spectrum, because the purpose of the Decree pursuant to section 11 of the Information Society Code is to provide for certain details such as the starting price for frequency bands and the number of frequency bands to be auctioned off. Provisions applying universally to all spectrum auctions are contained in the Information Society Code.

Section 2. Number of frequency bands

The frequency bands to be auctioned off will be grouped in frequency pair in such a way as to ensure maximum efficiency in usage. This section specifies how many frequency pairs are to be auctioned and how many frequency pairs may be allocated to any individual enterprise.

Under subsection 1, a total of six 5 MHz frequency pairs are to be auctioned off in the 703–733 MHz and 758–788 MHz spectrum. A ‘frequency pair’ comprises two separate and equal frequency bands within the spectrum in question, to be used for duplex communications – one for transmission and the other for reception.

The frequency bands will be auctioned off in 2 x 5 MHz frequency pairs so that the enterprise submitting the highest accepted bid for a particular frequency pair in the auction will be allocated that frequency pair, provided that the total number of frequency pairs allocated to that individual enterprise does not exceed the maximum specified in subsection 2. Therefore these frequency bands may theoretically be allocated to a maximum of six operators. However, acquiring such a small portion of the spectrum would probably not be technically advantageous for enterprises. Thus, the outcome of the auction, i.e. the number of licences to be issued, will depend on whether the auction participants desire to acquire as large a portion of the spectrum as possible. It would be more cost-effective for the established nationwide telecom operators, given their existing network coverage, to build a network in the 700 MHz spectrum than it would be for enterprises that do not control any other 4G frequency bands, such as those auctioned off in the 800 MHz spectrum in 2013.

Under subsection 2, no more than two 2 x 5 MHz frequency pairs will be allocated to any individual enterprise or organisation. The purpose of this provision is to avoid competition

restrictions and centralisation of frequency band control by ensuring that no individual enterprise can acquire a disproportionate number of frequency bands. There are thus sufficient frequency pairs for at least three enterprises. This would secure the future frequency needs of the currently existing national mobile communications networks, particularly outside urban areas. It is probable that the frequencies now being auctioned off will be used to augment existing mobile communications networks, increasing their capacity and speed. An enterprise may efficiently leverage a 2 x 10 MHz frequency pair for this purpose.

Section 3. Auction procedure

This section provides for the auction procedure to be used. Under subsection 11 of the Information Society Code, the practical arrangements of the auction are the responsibility of FICORA. The auction shall be unbiased, clear, open, non-discriminatory and technology and service neutral. Under the provisions of the Code, the auction may be conducted using an electronic auction system. The auction may include one or more rounds with ascending bids, and all bids submitted in the auction are valid until the end of the auction. The auction procedure to be used is to be provided for by Government Decree.

FICORA will conduct the auction over the public Internet using electronic software acquired through an international competitive tender.

Under this section, all frequency pairs are to be auctioned off at once through multiple rounds of bidding with ascending bids. Therefore the plan is to conduct the auction as a simultaneous ascending auction applying the Simultaneous Multiple Round Auction (SMRA) model. Bidding will be opened at the starting price specified in section 4 of this Decree. Detailed provisions on the auction procedure will be issued in a FICORA regulation as per section 12 of the Information Society Code.

The Simultaneous Multiple Round Auction model is particularly well suited to the auctioning off of the 700 MHz spectrum. The frequency pairs being sold off are unequal in their applicability, because some have more geographical restrictions on their use in areas close to the national border. The selected auction procedure allows operators to evaluate each frequency pair separately. Moreover, this auction procedure was used in the previous spectrum auctions held in Finland, which means that both FICORA and the enterprises that are likely to participate in the auction have practical experience of how it works.

Section 4. Starting price for frequency bands

This section provides for the starting price for the frequency bands in the auction. The proposed starting price in the auction is EUR 15 million per each 5 MHz frequency pair. Therefore, if all frequencies are sold, the auction should return revenue of at least EUR 90 million.

The revenue from the auction is impossible to predict accurately. The price of the frequency bands is affected among other things by demand. In Finland, the market is highly competitive, and entry into the sector is difficult. It is likely that the 700 MHz frequency bands to be auctioned off will mainly be used to augment existing mobile communications networks. However, the spectrum does have high commercial value. The spectrum is well suited for building wireless broadband networks in sparsely populated areas. Pricing in the auction will probably also be affected by the provisions of section 2 concerning the maximum number of frequency bands to be allocated per enterprise, which ensure that at

least three enterprises will be allocated frequency bands. Therefore, setting the starting price for the auction as close to the actual value of the frequency bands as possible ensures that even if there is no significant competition for acquiring frequency bands in the auction, the government will nevertheless receive fair compensation for this limited and valuable commodity. The purpose of the starting price is to ensure that no operator may acquire frequency bands at a cost significantly lower than their actual market value. The starting price was set taking into account parameters such as the estimated economic value of the frequencies, the usability of the frequencies in view of the restrictions caused by usage in neighbouring countries, and the length of the licence period.

The starting price was set with reference to hammer prices in auctions of similar spectra (700 MHz and 800 MHz) elsewhere in Europe. In European 700 MHz and 800 MHz spectrum auctions, the average hammer price has been EUR 0.51 per MHz per person in the country's population. Applying this average gives a starting price of EUR 28 million for one frequency pair in Finland.

Current restrictions on use caused by Russian usage of the frequencies as described above reduce the current economical value of the frequencies in Finland. Russian TV broadcasts impose restrictions on the use of this spectrum in Finland. The scope of these restrictions cannot yet be unambiguously defined, because there is no certainty as to the extent to which Russia will be using the spectrum for TV broadcasts.

The aforementioned restrictions and the uncertainty in the timetable of the spectrum becoming available were taken into account in determining the starting price for the auction. The proposed starting price in the auction is thus EUR 15 million per frequency pair.

The revenue from the auction will be recognised in a separate revenue item in the central government budget.

Section 5. Participation fee

This section provides for the fee payable by any enterprise wishing to participate in the auction. The purpose of the participation fee is to cover the costs of the auction.

Signing up for the auction entails liability for the participation fee. Under section 286 of the Information Society Code, enterprises signing up for the auction shall pay a participation fee to cover the administrative costs that will accrue to FICORA for arranging the auction. The Code specifies that the participation fee is non-refundable, even if the enterprise or organisation does not bid in the auction. FICORA will issue a decision for payment of the fee. The amount of the participation fee is to be provided for by Government Decree.

FICORA incurs administrative costs for arranging the auction. These include the cost of procuring the auction system and the personnel costs directly associated with the auction. FICORA will incur an estimated EUR 150,000 in non-recurring administrative costs for arranging the auction.

Under this section, enterprises signing up for the auction shall pay a participation fee of EUR 50,000 to cover the administrative costs that will accrue to FICORA for arranging the auction.

Section 6. Licence fee

Under section 287 of the Information Society Code, a telecommunications operator that has been granted a network licence shall pay a licence fee to the licensing authority. The licence fee is the highest valid bid in the auction. The licence fee is payable in instalments over the licence period. The payment schedule is to be provided for by Government Decree. FICORA will issue a decision for payment of the fee.

Under this section, the licence fee is to be paid in five equal annual instalments as of the issuing of the licence. Dividing the fee into equal instalments avoids the typically front-loaded cost structure of an auction process.

Section 7. Entry into force

This Decree will enter into force on xx month 2016.

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Preparation

On 2 February 2016, the Ministry of Transport and Communications held a hearing for the sector concerning the usage of the 700 MHz spectrum and the issuing of licences. At this hearing, telecom operators and other interested parties were invited to express their views as to the feasible distribution of these frequency bands. Enterprises have also presented their views to the Ministry at one-on-one meetings.

The Ministry of Transport and Communications requested statements on the draft Decree from ...

Proposal

The Ministry of Transport and Communications hereby proposes that the Government adopt a Decree on Radio Frequency Auctions as specified above.