Bundesnetzagentur

Decision

Of the

President's Chamber of the Federal Network Agency for Electricity, Gas, Telecommunications, Post and Railways (Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen)

On the arrangement and selection of an award procedure For the award of spectrum in the 1.8 GHz, 2 GHz and 2.6 GHz bands for digital cellular mobile communications

Dated 19th June 2007

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Cf. Order 34/2007 page 3115 ff

General Order

Decisions of the President's Chamber of the Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen (BNA / Federal Network Agency for Electricity, Gas, Telecommunications, Post and Railways) dated 19th June 2007 on the order for and choice of proceedings for the award of spectrum in the 1.8 GHz, 2 GHz and 2.6 GHz bands for digital cellular mobile communications in accordance with section 55(9), section 61(1) and (2), section 132(1) and (3) of the TKG (Telecommunications Act)

- File reference: BK 1- 07/003

The BNA shall issue via the President's Chamber, by virtue of section 55(9), section 61(1) and (2), section 132 (1) and (3) of the TKG dated 22.06.04 (BGBl. I p. 1190 [BundesGesetzBlatt / Federal Law Gazette]) the following decisions on the award of spectrum for digital cellular mobile communications in the 1.8 GHz, 2.0 GHz and 2.6 GHz bands:

I. Order for the award procedure

File reference: BK 1- 07/003-1

It is ordered in accordance with Section 55 (9) TKG that an award procedure in accordance with Section 61 TKG is to precede the allocation of spectrum for digital cellular mobile communications in the 1.8 GHz, 2.0 GHz and 2.6 GHz bands.

II. Choice of award procedure

File reference: BK 1- 07/003-2

The procedure under section 61 (1) TKG shall be conducted as an auction procedure in accordance with section 61 (4) and (5) TKG.

Reasons

A. Initial situation

The 2.6 GHz frequency band (the so-called UMTS extension band) shall be available from 01.01.2008 for mobile communications as a result of Europe-wide harmonisation. After frequencies allocated in the so-called UMTS core band have been handed back or revoked, more spectrum for digital cellular mobile communications can also be provided in the 2 GHz band. In addition, the opening up of the so-called E-GSM frequencies for civilian uses has had the effect of making frequencies in the 1.8 GHz range available for allocation to digital cellular mobile communications.

The development of digital cellular mobile communications started in the early 90s in Germany. At that time it was possible to open up the market for digital cellular communications gradually to competition using a bidding procedure. At that time too mobile communications was the first market to be opened up to competition (so-called "peripheral competition in the monopoly") from the then monopoly of the Federal Post Office (voice telephone service monopoly and telecommunications systems monopoly).

In the early 90s, it was initially Deutsche Telekom Mobilfunk GmbH, now T-Mobile Deutschland GmbH, (D1 Network) and Mannesmann Mobilfunk GmbH, now Vodafone D2 GmbH, (D2 Network) that obtained the right by virtue of Section 2 of the Fernmeldeanlagengesetz (FAG/Telecommunications Systems Act) to operate mobile communications networks (cf Communication 2007/1991, Amtsblatt (ABl.) (Official Gazette (OG)) of the Federal Minister for Post and Telecommunications 37/1991, page 1680 ff). At the time both companies were assigned a spectrum of 2 x 12.4 MHz in total from the 900 MHz band.

E-Plus Mobilfunk GmbH (E1 Network) was licensed in 1993 in accordance with Section 2 of the FAG (cf order 26/1993, OG of the Federal Ministry of Post and Telecommunications (BMPT) 11/1993, page 229 ff).

In 1997 E2 Mobilfunk GmbH & Co. KG, now O_2 Germany GmbH & Co. OHG, (E2 Network), was the fourth GSM mobile telephone network operator to receive a licence on the basis of the TKG – now no longer in force – dated 25.07.96 (TKG 1996) (cf Order 128/1997, OG BMPT 14/1997, page 679 ff).

The E-network operators licensed after the D-network operators – since there was no longer any spectrum left at 900 MHz at that point – received spectrum from the 1800 MHz band that had also been harmonised for GSM in the intervening time, and were each assigned 2 x 22.4 MHz.

In 1999 additional spectrum from the 1800 MHz band was made available as an extension spectrum (complementary spectrum) to the GSM network operators for existing networks (cf Order 70/1999, ABl. Regulierungsbehörde für Telekommunikation und Post (Official Gazette of the Regulatory Authority for Telecommunications and Post / OG Reg TP) 11/1999, page 1751 ff). Within the framework of the auction procedure held in October 1999, these frequencies were bought by the D network operators in almost equal portions. Since then, T-Mobile Deutschland GmbH has a spectrum of 2 x 17.4 MHz and Vodafone D2 GmbH has 2 x 17.8 MHz in the GSM band, allowing both companies to use both the 900 MHz and the 1800 MHz bands.

In summer 2000 licences for UMTS/IMT-2000 mobile communications were awarded. The award procedure was based on three decisions of the President's Chamber. With the decision on the procedure to award UMTS licences dated 10.05.1999 it was decided that the award should take place as an auction (Order 51/1999, OG Reg TP No. 9/1999, page 1519 ff). On 18.02.2000 the President's Chamber passed a ruling on the one hand on the award conditions along with the specimen licence and frequency usage conditions (order 13/2000, OG Reg TP No. 4/2000, page 516 ff) and, on the other, set the auction rules (order 14/200, OG Reg TP No. 4/2000, page 564 ff).

A total of 2 x 60 MHz (paired) and 25 MHz (unpaired) were available in the so-called UMTS core band (in the band between 1900 MHz and 2170 MHz). Since there were not enough frequencies available given the market demand for frequency allocations, the regulatory authority conducted the auction procedure provided for by law. Six bidders were awarded the contract as part of the auction procedure. These were the following businesses: E-Plus 3G Luxemburg S.a.r.l., Mobilcom Multimedia GmbH, O_2 Germany GmbH & Co. OHG, Quam GmbH, T-Mobile Deutschland GmbH and Vodafone D2 GmbH. In accordance with the contract decisions, the six businesses were issued licences (cf communication 597/2000, OG Reg TP 20/2000, page 3435 ff) and each assigned 2 x 10 MHz frequencies (paired) as the minimum set of frequencies required to operate a UMTS/IMT-2000 mobile communications network. E-Plus 3G Luxemburg S.a.r.l., Mobilcom Multimedia GmbH, Quam GmbH, T-Mobile Deutschland GmbH, Vodafone D2 GmbH each bought an additional 5 MHz frequency block (unpaired) at the auction.

In late 2003 Mobilcom Multimedia GmbH had given up its rights arising from the UMTS/-IMT-2000-licence and the frequency assignments. In a press release dated 23.12.2003 the Reg TP announced Mobilcom Multimedia GmbH's relinquishment of its UMTS/IMT-2000

frequency usage rights and pointed out that the frequencies would be re-allocated in an open and transparent procedure.

The audit of the coverage obligation of the UMTS/IMT-2000 licences conducted in 2004 showed that only the network operators E-Plus 3G Luxemburg S.a.r.l., O_2 Germany GmbH & Co. OHG, T-Mobile Deutschland GmbH and Vodafone D2 GmbH were using their frequencies for UMTS/IMT-2000 mobile communications. The BNA revoked Quam GmbH's unused UMTS/IMT-2000 frequency allocations. Quam GmbH instituted proceedings against this, but this was rejected by the Cologne Administrative Court as the court of first instance in its decision dated 25.04.2007.

In addition, frequencies in the 1.8 GHz band are still available for award for digital cellular mobile communications. After the Federal Ministry of Defence abandoned the military use of its frequencies in the 880 MHz to 890 MHz and 925 MHz to 935 MHz bands (so-called E-GSM band), the BNA, in accordance with the concept of the award, defined further spectrum for digital cellular mobile communications below 1.9 GHz (GSM concept) dated 21 November 2005 (order 88/2005, OG BNA 23/2005, page 1852) such that a part of the frequency usages of the E network operators in the 1.8 GHz band was shifted into the E-GSM band. It was then possible to offer to the market, in a manner that was commensurate with requirements and non-discriminatory, the spectrum that became free after abandonment by the E network operators following the completed migration.

Against this background the availability of the frequencies can be illustrated as follows:

After implementation of the initial raft of actions relating to the GSM concept, at 1.8 GHz 2 x 5 MHz (paired) were now available in the frequency bands 1730.1 MHz to 1735.1 MHz (lower band) and 1825.1 MHz to 1830.1 MHz (upper band) as well as in the frequency bands 1758.1 MHz to 1763.1 MHz (lower band) and 1853.1 MHz to 1858.1 MHz (upper band).

At 2 GHz, after revocation of the frequencies owned by Quam GmbH, frequency blocks of 2 x 9.9 MHz (paired) were available in the frequency bands 1930.2 MHz to 1940.1 MHz (lower band) and 2120.2 MHz to 2130.1 MHz (upper band), and 5 MHz (unpaired) in the frequency band 1900.1 MHz to 1905.1 MHz. In addition, the 2 x 9.9 MHz (paired) frequencies in the bands 1950.0 MHz to 1959.9 MHZ (lower band) and 2140.0 MHz to 2149.9 MHz (upper band) plus 5 MHz (unpaired) in the 1905.1 MHz to 1910.1 MHZ returned by Mobilcom Multimedia GmbH could now be made available.

The frequencies in the 2010.5 MHz to 2019.7 MHz band reserved originally at international level for so-called Self-Provided Applications (SPA) were no longer provided for these types of applications following the decision of the Electronic Communications Committee (ECC) of the Conférence Européenne des Administrations des Postes et des Télécommunications (CEPT) dated 24 March 2006 (ECC/DEC/(06)01). Consequently, the frequencies were also made available for digital cellular mobile communications.

The 2500 MHz to 2690 MHz frequency band encompasses a total spectrum of 190 MHz and will be available from 01 January 2008 onwards. This band, which is currently assigned in the frequency band assignment plan and in the frequency usage plan to fixed radio service until it expires on 31 December 2007, is to be allocated to digital cellular mobile communications from 01 January 2008 onwards. But it should be pointed out that frequency bands of up to 56 MHz have already been assigned in some regions. These frequency assignments have a time limit of 31 December 2007, but the assignee applied for an extension of the assignments for the fixed radio service; however, this was rejected by the BNA with reference to the expiry of the time limit on the allocation of the frequency band to the fixed radio service by 31.12.2007. An appeal was lodged against this rejection. Although a large part of the spectrum in the 2.6 GHz band is not used at present, the fact that regionally allocated frequencies are in litigation is affecting almost all frequency blocks that can be assigned throughout Federal territory.

To smooth the path for more transparency and planning certainty, in May 2005 the BNA opened a hearing during which the frequency requirement was outlined and opinions

obtained on the initial core thinking (order 33/2005, OG BNA 8/2005, page 782 ff). At this hearing the key points were submitted for discussion, and the subject of this discussion was to provide frequencies - shared, commensurate with requirements and as early as possible - for UMTS/IMT-2000 mobile communications from the frequency bands of the so-called UMTS core band and the so-called UMTS extension band. The BNA's aim was to avoid as far as possible regulatory induced shortages of frequencies.

The assessment of the comments on the above-mentioned key points reflected a high demand for available spectrum for an equally complex and extremely divergent positioning of interests in the market. The BNA held an informal hearing on 27 October 2005 to obtain initial views of the positioning of interests arising from the comments and to facilitate a discussion of regulatory conclusions.

After the informal hearing the BNA published a summary of the various interests (order 89/2005, OG BNA 24/2005, page 1909 (1910 ff)). The existing UMTS/IMT-2000 network operators jointly outlined a requirement for additional frequencies that includes the available capacities in the 2.0 GHz and 2.6 GHz bands. Furthermore, companies announced that they intended to set up their own mobile communications network as new arrivals on the market and to acquire their own frequency usage rights as a result. Finally, potential BWA network operators and manufacturers of WiMAX system engineering also announced their interest in using the frequencies in the 2.6 GHz band to deploy BWA systems for mobile data transmission.

Furthermore the BNA presented its initial regulatory estimates and possible award scenarios for discussion (order 89/2005, OG BNA 24/2005, page 1909 (1919 ff)).

In communication 308/2006 (OG BNA 18/2006, page 2972) it was announced that the first decisions on the award of additional spectrum in the 2 GHz and 2.6 GHz frequency bands would be presented to a hearing.

Under section 55(9) of the Telecommunications Act (TKG) the Agency can issue an order for frequency assignment to be preceded by an award procedure as per section 61 TKG if sufficient numbers of frequencies are not available for assignment. Such an arrangement requires a decision by the President's Chamber as set out in section 55(9) in conjunction with section 132(3) TKG. Also required under section 61(1) in conjunction with section 132(3) TKG is a decision by the President's Chamber on the choice of award procedure.

The specific definitions and rules required by the TKG for an auction (award conditions) as per section 61(4) sentence 2 of the TKG and the rules for conducting the auction procedure (auction rules) as per section 61(5) TKG will be determined by decisions published at a later date. The decision in accordance with section 61(4) Sentence 2 Nos. 2 and 4 TKG shall be taken in accordance with section 132(3) Sentence 3 TKG in consultation with the Agency's Advisory Council.

To accelerate the procedure, the decision on arranging an award procedure in accordance with section 55(9) TKG is to be taken at the same time as the decision on the choice of award procedure in accordance with Section 61(1) TKG, with the two procedural steps thus being taken simultaneously. The decision on the award conditions in accordance with Section 61 (4) TKG and the decision on the auction rules in accordance with Section 61 (5) TKG shall be issued at a later date.

The groups affected were given the opportunity to express their opinions on the draft decisions and the considerations on the award conditions with the publication in the BNA's OG dated 04.04.2007 (Communication 219/2007, OG BNA 7/2007, p. 1113) and on the BNA's internet homepage (www.bundesnetzagentur.de) in accordance with Section 55 (9) Sentence 2 and Section 61 (1) sentence 2 TKG. The draft decisions contained arguments about the justification, including the reasons for the arrangement and selection of the award procedure. The deadline for submitting views ended on 04.05.2007.

36 views were received. The existing GSM/UMTS network operators among others, possible new mobile communication network operators, operators of radio networks for broadband

wireless network access (BWA), providers of industrial / trunking, fixed network operators, service providers, system manufacturers and associations responded.

The chamber took account only of the views on the draft decisions about the arrangement and choice of the award procedure. The comments referring to the initial considerations made as comments to the award conditions will be taken into account when drafting the draft decisions on the award rules in detail in accordance with Section 61 (4) sentence 2 TKG and the auction rules in accordance with Section 61 (5) TKG; these decisions will be issued at a later date.

B. Justification in detail

The chamber preceded the justification of the decisions with conceptual considerations.

The following was argued on this point:

The flexible approach was welcomed by the majority of the commentators. Both quicker access to the frequencies and competition will be enhanced, including in the infrastructure, by this approach. This was also demonstrated by the experience in the USA. The principle of technological neutrality is supported in principle. But it is stressed that the IMT-2000 framework has already taken account of this principle.

It is also pointed out that wireless broadband operators cannot be prevented from offering fixed or mobile services if they need to. The term digital mobile communications needed to be clarified especially in relation to WiMAX. Any use for purposes other than mobile applications had not been planned. This was not compatible either in terms of demand or with the European standards on making frequency regulation more flexible. Affordable broadband offers based on innovative, alternative infrastructures would be prevented from the outset by the targeted exclusion of offers of fixed radio services that are limited to fixed or roaming uses.

Some commentators argued that the definition of digital cellular mobile communications did not go far enough to guarantee real technology neutrality in the meaning of the principles of WAPECS. The definition stated that networks had to be mobile and not just wireless. The WiMAX technology would make possible a combination of mobile, portable and fixed wireless uses for example. If only one mobile use was allowed, this would restrict the possibilities for potential WiMAX operators from using the spectrum efficiently. But efficient usage of the frequencies was stated in the target standards of Section 2 (2) No. 7 TKG. The definition of digital cellular mobile communications and/or broadband wireless network access is proposed using this thinking as the starting point.

A complete technology-neutral award of the 2.6 GHz band is demanded by other parties. Complete technology neutrality would leave it to the market to determine optimum usage of the frequencies. The market would be able to estimate earlier and more flexibly the suitable technology and power based on costs, efficiency, demand and a series of other factors. Service providers would also be able to introduce more affordable and improved systems and applications in this way. The market conditions for new entrants to the market would be equalised and innovative companies would be more willing to develop improved and more affordable technologies. The technology-neutral approach would also correspond to the communication of the EU Commission (COM 2006, 50 final). In it the Commission proposed a flexible, non-restrictive approach to frequency usage, which also included technology and service neutrality as general rules. The Commission stressed the special interest in the provision of the 2.6 GHz band for uses other than IMT-2000/UMTS, such as WiMAX for example. In addition, the Commission also called on Member States to lift any restrictions as far as possible in order to promote flexibility, fast access to frequencies and competition. This was also to be taken into account by the BNA in the change announced to the frequency usage plan.

Other commentators pointed out that the current award of the 2.6 GHz band was not in line with the developments in neighbouring states. A national independent initiative would lead more to a fragmentation of the market for system technology and thus to higher costs when introducing 3G technologies. Any technology-neutral award of frequencies to be used alongside GSM and UMTS ought to take into account possible interference in existing technologies. For this reason, the corresponding interference studies should be submitted and confirmed to the CEPT prior to every case of a technology-neutral award.

The chamber ruled as follows on this point:

The decisions of the President's Chamber are based in detail on the following considerations:

the previous system of assigning at Frequency Usage Plan level is characterised by the definition and delimitation of various usage purposes in the frequency order. This means that in the mobile communications sector for instance, a distinction will be made between GSM and UMTS/ITM-2000, narrow band and broadband trunking, and radio paging. In addition, there are various fixed radio service applications, such as radio relay transmission for instance.

This demarcation was done in the past using the available technologies since there was usually only one technology with which certain applications could be offered in a certain frequency band. This is no longer possible today. On the one hand, because of the continuing technical development of new technologies, various services can be used. On the other hand, the widest range of technologies can be used for one and the same service. A convergent development can also be detected in services that were different until now.

The rising number of mobile communication users, and the increased use of data and added value services resulting from this, are increasing the demand for frequency spectrum. Also, technological progress in increasingly shorter innovation cycles and the increasing convergence of technologies and uses are opening up new possibilities in terms of the use of frequencies (e.g. mobile television, interactive multimedia services). The aim is not to obstruct these developments by restrictive regulatory definitions, like the previous strict separation of applications in the respective frequency bands. The aim is rather to provide the greatest possible freedom for all those involved. Stipulating certain technologies or standards and excessively narrow definitions in terms of the use of frequencies are no longer envisaged.

To take account of these developments, the previous regulatory practice is to be re-aligned to provide a more flexible overall concept. This includes in particular a broad definition of the purpose of use of assignments in order not to obstruct possible applications and service provisions or their continuing development. With the wide shaping of the purpose of use of frequencies for broadband wireless network access (BWA) in the 3.5 GHz band without reference to the use of certain technologies and standards, the BNA made allowances for these developments and approaches in a first case (order 42/2006, OG BNA 20/2006, page 3051 (3085)).

These considerations are in line with international developments. The EU Commission's Radio Spectrum Policy Group (RSPG) developed a correspondingly flexible approach in 2005 with its policies on wireless access for electronic communication services (WAPECS). According to this concept, all frequency usages are to be offered with all technologies, provided this is technically feasible, in the frequency bands that were identified in the opinion expressed on 23 November 2005 (RSPG05-102 final) and that include the frequency bands being discussed here.

The allocations of frequency bands for certain radio services that are provided by the International Telecommunication Union (ITU) and that are implemented at national level in the order governing the frequency band assignment plan are not affected by this.

The regulatory authorities are to define only the absolutely necessary usage conditions in order to ensure efficient and interference-free frequency usage. Member States have agreed to introduce the WAPECS concept.

Communication 308/2006 (OG BNA 18/2006, page 2972) in particular, with which the BNA informed the public about the findings of the hearing on 21 December 2005 on the award of additional spectrum in the 2.0 GHz and 2.6 GHz frequency bands, must be seen against the background of the WAPECS concept. This communication states the following:

> “The evaluation of the comments and the conclusions to be drawn by the BNA from this will need to be based on the need for making frequency regulation flexible. On 23.11.05 the Radio Spectrum Policy Group accepted an “Opinion on Wireless Access Policy for Electronic Communications Services (WAPECS)”. The Member States have agreed to its implementation. Accordingly, in addition to other frequency bands, the UMTS bands shall also belong to the bands included in the WAPECS concept (Point 3.3 “Mobile bands” stated in the opinion).”

The EU Commission also picked up on this concept in its communication (2007)50 dated 08 February 2007 on the subject of “fast access to frequencies for wireless electronic communication services through more flexibility”, and urged Member States to clarify urgently their existing (technical and non-technical) approval conditions and to remove any restrictions as far as possible in order to promote flexibility, fast access to frequencies and competition in the communications infrastructure.

In the frequency band assignment plan, the 1.8 GHz, 2.0 GHz and 2.6 GHz frequency bands that are up for award have been assigned to the mobile communications service. The current Frequency Usage Plan, which was drawn up on the basis of the frequency band assignment plan, specifies the frequency usages for mobile communications in these frequency bands. In the 1.8 GHz band, mobile communications use has been reserved for digital cellular mobile communications in accordance with the GSM standard and its further developments. In the 2.0 GHz band, the uses have been based on digital cellular mobile communications using UMTS/IMT-2000. For the 2.6 GHz band, there is a reference in the current Frequency Usage Plan that the 2500 MHz to 2690 MHz band is reserved for terrestrial IMT mobile communications applications from 01.01.2008 onwards.

Given the above mentioned considerations on a more flexible design of the frequency regulation, the BNA intends to extend these allocations and in general terms, and without naming a standard, to define “digital cellular mobile communications” as the standard frequency usage in these frequency bands. The procedure for a corresponding modification of the Frequency Usage sub-plans in accordance with the Frequency Usage Plan establishment order (FreqNPAV) dated 26 April 2001 (BGBl I, page 827) has already been set in motion.

If some commentators argue that the definition of digital cellular mobile communications does not go far enough, especially in the 2.6 GHz band, to ensure real technology neutrality in the meaning of the WAPECS principles, then it must be pointed out that the WAPECS concept leaves explicitly intact the assignments of frequency bands for certain radio services, provided by the ITU, and their national implementation in the frequency assignment planning order (see above).

Provision 5.384A of the ITU’s enforcement order for the radio service (VO Funk; Radio Regulations in English) goes as follows: “The bands, or portions of the bands, 1 710-1 885 MHz and 2 500-2 690 MHz, are identified for use by administrations wishing to implement International Mobile Telecommunications-2000 (IMT-2000) in accordance with Resolution 223 (WRC-2000). This identification does not preclude the use of these bands by any application of the services to which they are allocated and does not establish priority in the Radio Regulations (WRC-2000).”

The Radio Regulations is an international set of rules that is valid in almost all countries of the globe. Certain radio services among other things are allocated to frequency bands in

these rules. These are – as indicated - not obligatory standards to allow assignments, but rather authority to do so. The background to this authority are the differences in the countries that form the ITU in relation to geography, population density and their demand behaviour.

The Radio Regulations do not allow for complete exclusion of the fixed radio service from the 2.6 GHz band from 2008 onwards. It is truer to say that the frequency band is allocated primarily to the fixed radio service, mobile communications and satellite-based broadcasting. But this allocation in the Radio Regulations does not mean that all national administrations absolutely must assign this frequency band to all these radio services. It is more the case that the Radio Regulations offer different assignment alternatives, and national administrations can decide on which in accordance with their national requirements. National administrations can decide if they want to assign the existing frequency band to mobile communications and the fixed radio service in parallel, or to mobile communications only, as is the case in Germany. This flexibility is necessary because the countries combined into one region under the Radio Regulations are totally different as regards their infrastructures, markets and economic situations.

Regulation 5.384A identified the 2.6 GHz band for IMT-2000 mobile communication systems. The regulation and decision 223 of the ITU's WRC-2000 also contained the information that all administrations could decide at national level how much spectrum they wanted to make available for IMT-2000 from the identified band. In addition, it should be possible for all administrations to use the bands identified for IMT-2000 with all the services for which an allocation exists in these bands.

The usage provision D384A was incorporated into the frequency assignment planning order to implement Radio Regulations provision 5.384A. This provision is worded as follows: "Frequency bands 1710 to 1885 MHz and 2500 to 2690 MHz are intended for public IMT-2000 mobile communication systems as extension frequency bands. Use does not exclude the use of these frequency bands by other radio services to which these frequency bands have been allocated".

Under usage provision 27 in the frequency assignment planning order, the Federal government ruled that the allocation of the 2520 MHz to 2690 MHz frequency band for the fixed radio service would be valid only until 31st December 2007. As a result, this frequency band will be allocated from 01.01.2008 onwards, in the meaning of usage provision D384A, only to mobile communications (and band 2655 MHZ to 2690 MHz also to the radio-astronomy communication service on a secondary basis). So use of the frequency for the fixed radio service will no longer be possible from 01.01.2008 onwards as regards the frequency band assignment plan.

As a result of Germany's high population density and the big demand for mobile communication services, the whole spectrum that had been available until now for public digital cellular mobile communications has already been awarded. Only the frequencies released in the 1.8 GHz band and the frequencies in the 2 GHz band that were handed back or revoked are still available for mobile communications in addition to the 2.6 GHz band. These frequencies are to be allocated to "digital cellular mobile communications" in accordance with the guidelines of the frequency band assignment plan in the frequency usage plan in accordance with Section 54 TKG. The allocation of the frequencies to digital cellular mobile communications is also in line with the WAPECS concept. According to this concept, all frequency usages in the frequency bands identified for WAPECS can be offered in principle with all technologies provided this is technically feasible. This stipulation of fundamental technology neutrality is met by this allocation provision since this allocation does not limit any technologies or standards.

This project is based on the following considerations:

In contrast to the fixed radio service, mobile communication applications require frequencies that are characterised by good propagation conditions. For physical reasons, lower frequencies demonstrate better propagation conditions for certain radio services – such as mobile communications – or for broadcasting – than higher frequencies. For this reason, the

frequencies below 3 GHz are particularly suitable for mobile communications. This has been recognised by both the ITU and the CEPT. The 1.8 GHz, 2 GHz and 2.6 GHz frequency bands up for award should therefore be allocated only to mobile communications in principle.

As a result of the development of mobile broadband radio services and the ever increasing demand for spectrum accompanying them, the chamber assumes that the frequency bands below 3 GHz that are technically pre-destined for mobile communications and earmarked in the frequency assignment plan for them are required entirely for mobile communications in the medium and long-term in any case.

To take account of the requirements of Section 52 (1) and Section 2 (2) TKG, the fixed radio service is to be excluded completely from the 2.6 GHz band from 2008 onwards. This exclusion underlines in concrete terms the guarantee of efficient frequency usage in accordance with Section 52 TKG and the preservation of the user and consumer interests and the promotion of efficient infrastructure investments (Section 2 (2) Nos. 1 and 3 TKG).

This approach also corresponds to the EU Commission's communication (2007)50 in which the Commission proposes a flexible approach towards frequency usage that also includes technology and service neutrality as general rules. The Commission calls on Member States to lift restrictions **as far as possible** (note: emphasis here only) to promote fast access to frequencies and competition. The BNA shall try to lift as far as possible the restrictions originally contained in the frequency usage plan by means of the intended allocation of the frequencies to digital cellular mobile communications without laying down certain technologies and standards. This means that all frequency usages can be offered in principle with all available technologies as part of the allocation to mobile communications.

The BNA shall put up for award the entire spectrum available for digital cellular mobile communications at one and the same time. This is intended to avoid regulatory-induced shortage of frequencies. As a result, the BNA did not immediately make the frequencies handed back by Mobilcom Multimedia GmbH in 2003 available to the market, but instead included them in the overall planning for the so-called UMTS core band and the so-called UMTS extension band as well as the so-called GSM bands (mobile communications overall plan). This had already been referred to in order 33/2005 dated 04 May 2005 (OG Reg TP 8/2005, page 782 ff.). It states the following on this subject:

> "The Regulatory Authority shall also use the above mentioned regulatory criteria for the development of the UMTS concept as far as this is possible today. To provide the market with the most comprehensive overview possible and hence transparency of the possible awards of frequency spectrum in the future, it shall also hold simultaneously and in the same official gazette as the subsequent hearing on the award of mobile communications spectrum for UMTS/IMT-2000-services a hearing on possible awards of mobile communications spectrum below 1.9 GHz. With the simultaneous hearing on possible awards in various frequency bands, the regulatory authority is trying to prevent as far as it possibly can regulatory-induced shortages of frequencies as a result of partial awards.
>
> The regulatory authority established the following key points as a basis for the first draft for awarding frequencies for UMTS mobile communications. The subject of the key points is the provision – to meet requirements and to be shared at the earliest possible moment - of frequencies for UMTS/IMT-2000 mobile communications from the frequency bands of the so-called UMTS core band and the UMTS extension band. Through its public consultation, the regulatory authority is giving interested groups the possibility of putting forward their requirements in terms of use of frequencies for UMTS/IMT-2000 mobile communications, and of expressing their opinion on the intended provision of the so-called UMTS core band and the UMTS extension band for UMTS/IMT-2000 mobile communications".

The GSM concept also follows these considerations. In the GSM concept the following was stated (order 88/2005, OG BNA 23/2005, page 1852 ff):

> “In addition to questions to do with the technical aspects of frequency regulation, the competitive aspects must also be taken into account as particular importance can be attached to them when awarding frequencies. Among other things, the amount of spectrum made available or to be made available can influence the question of shortage of frequencies (section 55(9), section 61 TKG), and hence the type of award procedure, and, last but not least, the costs of acquiring the resource called “frequency”. On the other hand, communication applications (like GSM and UMTS/IMT-2000 mobile communications for instance) can only be successful in competitive terms if they have enough spectrum and optimum technical framework conditions available. Consequently, those sub-concepts currently being discussed, like those for GSM and UMTS, as well as the future overall concept “Communication-based access facilities” are to be developed with the aim of avoiding frequency shortage as much as possible and of facilitating fast, transparent and unbureaucratic procedures on frequency award.
>
> It is planned to carry forward the GSM concept after implementation of the described raft of actions with a view to linking up later with other concepts, like the UMTS concept, in order to achieve in the final analysis a comprehensive combination of communication markets and their regulatory framework conditions”.

The flexible approach pursued here is in line with the conclusions published by the EU Commission in its communication (2007)50 dated 08 February 2007 on the subject of “fast access to frequencies for wireless electronic communication services through more flexibility”.

This approach to (frequency) award means that only the definitions that are absolutely necessary for an efficient and interference-free use of frequencies shall be made. This also includes – a point noted by some commentators – definitions relating to neighbouring countries and adjacent frequency usages within national territory, such as GSM and UMTS for example.

Restrictions on certain standards and technologies in particular will no longer be applied. A simple, fast and appropriate procedure is assured, and brings with it a maximum amount of flexibility and planning certainty, by simultaneously awarding the total amount of spectrum that is currently available for cellular digital mobile communications.

As regards the remarks made by commentators that wireless broadband operators should not be prevented from offering fixed or mobile services if needed and that the term digital cellular mobile communications needs to be clarified, especially as in relation to WiMAX, the following should be pointed out:

the frequency bands in question have been allocated to mobile communications in the frequency band assignment plan. In Section 4 (22) of the FreqBZPV (Frequency Band Assignment Planning Order), mobile communications is identified as a radio service between mobile and static sites or between mobile communication sites. In addition to the mobile communication service, the 2.6 GHz band has also been allocated to the fixed radio service. But usage provision 27 of the frequency assignment plan orders that the allocation of the 2520 MHz to 2690 MHz frequency band to the fixed radio service is valid only until 31st December 2007. So it is intended to allocate the 1.8, 2 and 2.6 GHz bands uniformly for digital cellular mobile communications in the frequency usage plan. Digital cellular mobile communications are to be used to connect predominantly mobile terminal equipment to digital communication networks via static base stations that cover one or more communication cells (sectors). The switch to other communication cells will be done without interrupting the communication links.

It is intended not to impose any restriction on certain standards and system technologies of mobile communications and to allow a largely technology-neutral use of the frequencies. It is neither necessary nor appropriate to name explicitly specified technologies with which a mobile communication network can be operated, or to exclude other technologies. So a mobile communication network operator will be able to provide to his customers, in line with demand, all services that can be provided on the basis of the mobile communications

technology chosen by him. So there will be no restriction of services to mobile “applications” – as noted by commentators.

On I. (Arrangement of the award procedure):

In accordance with section 55(9) TKG, an award procedure under section 61 TKG is to precede the allocation of frequencies for digital cellular mobile communications in the 1.8 GHz, 2.0 GHz and 2.6 GHz bands.

In accordance with section 55(9) first sentence TKG, notwithstanding section 55(5) TKG, it can be ordered that an award procedure based on the conditions to be set by the BNA in accordance with section 61 TKG is to precede the allocations. An award procedure can be arranged if there is not enough spectrum available to be allocated or several applications have been submitted for certain frequencies. This arrangement in accordance with section 55(9) TKG is at the discretion of the BNA.

There are not enough frequencies available for allocation for digital cellular mobile communications in the 1.8 GHz, 2.0 GHz and 2.6 GHz bands.

This finding is based on a forecast decision of the BNA. Under section 55(9), the Telecommunications Act (TKG) provides for this possibility of the BNA determining that a shortage exists. According to the legal justification, this is then the case when the BNA is of the opinion that there are not enough frequencies available for frequency allocations (see official justification on section 53(9) of the government draft, BR-Drs 755/03, page 109). The BNA has considerable latitude for assessment when performing tasks to do with the frequency order and especially when determining shortage in accordance with section 55(9) TKG since valuations and weightings have to be applied to the planning and executive decisions about the frequency order in order to compensate for some contradictory interests on the one hand and to weigh up the regulatory goals on the other. In this process, the BNA must start with assumptions that both correspond to the current level of knowledge and experience, and are also comprehensible, and that take the regulatory goals into account.

1. Timing of the arrangement decision

The following was argued on this point:

It is explicitly welcomed on the one hand that the planning of the award of frequencies in the UMTS extension spectrum has started. In addition, the award timetable submitted is considered as reasonable in principle. It is also suggested that the timetable for the award process and the availability should be coordinated with the national regulatory authorities of other countries since the bands have been identified for global use for terrestrial IMT-2000.

On the other hand, different views relating to the time sequence of the award procedure and the timing of the award are also addressed.

The view was expressed that CEPT interference studies on new technologies in these frequency bands, similar to those studies already completed on GSM/UMTS (ECC Reports 82 and 96) are urgently required before any allocation for interference-free usage can be allowed. Definitions of frequency usage conditions such as frequency masks, guard separations, FDD/TDD freedom from interference, are urgently required prior to the award of frequencies in order to be able to estimate the value of the respective frequencies. Appropriate technical studies on GSM and UMTS only are available so far. More international and national studies to avoid interference would also be essential for possible new frequency users and also for existing users of adjacent frequency bands in order to assess in advance the effects of the award of frequencies.

Against the background that the timing of the award should be aligned with the availability of the technology and terminal equipment, it is requested that awarding frequencies should not start before 2009. This would affect the award of the 2.6 GHz extension band in particular.

It is requested that an award of spectrum should not take place before reviewing the frequency usage plan for all frequency bands for mobile communications, mobile terrestrial communications and the fixed radio services in order to ensure uniform and equivalently weighted treatment.

It is argued that the method of using frequencies must be done in an open-ended planning procedure and should not be laid down – as is planned by the BNA – when introducing the award procedure, especially as the planned award of frequencies for mobile communications takes for granted a change in the allocation of the frequencies in the 1.8 and 2.6 GHz bands. During the frequency award for BWA in December 2006 for example, mobile use was initially not allowed in the frequency usage conditions, but was considered only for later after appropriate changes to basic aspects of the frequency plan.

It was added that the simultaneous implementation of the award procedure and the procedure to amend the frequency usage plan would involve procedural risks. If the latter procedure had not been completed, then a frequency award would not make any sense since the value of the frequencies would be largely determined by the usage conditions stipulated in the frequency usage plan. The likelihood would also increase that there would be delays in the current award procedure since frequencies could not be awarded under Section 55 (5) sentence 1 TKG until they had been earmarked for the planned usage in the frequency usage plan. These procedural delays should be avoided in terms of planning certainty and efficient frequency usage.

It was also requested that the timing of the award was aligned with the development of the market for broadband mobile communication services. Since the 2.6 GHz spectrum in particular was to be the only spectrum in the mean term (for the next three to five years) that would be available with large, connected broadband spectra below 3 GHz, it was of vital importance for future communication applications. The requirement could be analysed at a new hearing in the course of 2008 and a decision taken on the award of frequency bands in line with market development.

Another commentator shares and supports the view of the BNA as regards the anticipated growth of data volume and the requirement arising from it for additional spectrum for digital cellular mobile communication applications.

Moreover, it is also regarded as incumbent on the BNA, before it decides against a regional award of frequencies, to determine the actual interest in regional frequency allocations.

Furthermore, the view is expressed that the introduction of the award procedure must be preceded by an assessment of requirement that is current and aimed at mobile communications in terms of the spectrum being discussed here.

The need for a current demand assessment is justified by one of the commentators by the fact that the UMTS extension band had already been provided for capacity expansions of third generation digital cellular mobile communications as early as the UMTS auction and that the BNA had based its shortage forecast on the demand inquiries of 2005; the developments that have taken place since that time, especially the award of the BWA spectrum in the 3.5 GHz band, were omitted.

Also, arranging an upstream procedure to determine the concrete demand for spectrum is regarded as advisable since it will only be possible to establish on the basis of this demand requirement if and to what extent the disputed frequency bands should be an integral part of the award procedure.

In addition, it is argued in this context that the award procedure is already seriously flawed since the BNA failed to carry out any demand requirement procedure at all for the 1.8 GHz spectrum. The fact that the BNA decided on the auction procedure for the 1.8 GHz band without a prior hearing infringes Section 55 (9) sentence 2 TKG that stipulates that the affected parties are to be heard before a decision is taken.

As regards the auctioning of frequencies still in litigation the view has been expressed that this is indeed problematic, but the outcome is unavoidable. Despite the legal uncertainty created by the fact that individual frequencies are in litigation, the fact that they can be auctioned in concrete frequency blocks has been welcomed.

On the other hand, the new award of spectrum, as long as and if it is in litigation, will be seen as unlawful.

Hence the view is expressed that an award procedure for frequencies “formerly” in litigation should not be allowed until a final and absolute ruling, made in a court of last instance, has been made on the corresponding proceedings.

In contrast, other commentators regard it as sufficient if the auctioning of the frequencies in question were delayed only until the outcome of the proceedings in the first legal process.

As for the justification for “putting off” the award procedure, it is argued that the new award would unlawfully prejudice and restrict the discretion in the revocation proceedings against the “new allocation holder” in the event of reversal of the official decision against the “old allocation holder” by the court since the interests of the new network operator and the interests of users supplied by him must be taken into account.

The frequencies would then become an object of pure speculation. The bidders would make reductions in their bids for the frequencies in litigation to take account of the risk of a premature loss of the frequencies in the future. If the “old allocation holder” were to lose in court, the “new allocation holder” would get the frequencies at a much more favourable contract price than he would at an auction for frequencies not (no longer) in litigation. This would be to distort competition and would infringe Section 2 (2) No. 1 TKG and Art. 8 (2) letter b of EEC directive 2002/21/EEC (outline directive). In addition, the implementation of an award procedure prior to conclusion of the legal proceedings would lead not only to legal uncertainty, but would also breach the principle of effective frequency management arising from Art. 8 (2) letter d, 9 (1) of the EEC directive 2002/21/EEC (outline directive).

In this context reference was made to a case in the United States of America in which the US regulatory authority, the Federal Communications Commission (FCC) had initially allocated frequencies to a company only to revoke them later noting that the company had not paid the full amount of the frequency allocation fee. The revoked frequencies were subsequently awarded to a third party by the FCC. The company then took legal action with reference to protection under US insolvency law. In January 2003 the case came before the Supreme Court, the highest court of law in the USA. The court decided that the FCC had withdrawn more than 200 frequency allocations unlawfully. The FCC was then forced to reimburse the frequency allocation fees.

As regards the justification that an auction of frequencies in litigation should not take place, it was also argued by one of the commentators that an allocation in unclear legal conditions and with possible corrections after award has been made could lead to the fact that parties interested in principle would behave very conservatively and reservedly.

Also, one of the commentators expressed the view that business models and technologies linked to low investments were preferred by the award of spectrum in litigation. There are also doubts about whether these technologies are automatically economically efficient technologies (maximisation of welfare) or not. Promoting economically sub-optimal technologies in this way would be considered a breach of the requirement for efficient and interference-free frequency usage in accordance with Section 2 (2) TKG and Section 55 (1) No. 4 TKG (provision of an efficient and fault-free usage as condition of allocation). In fact, the goal of the most comprehensive population cover possible would be undermined in particular since it is the building of comprehensive networks that is very investment intensive. And it would be especially difficult for bidders to win investors for the usage rights with an uncertain risk attached. This way, large companies with high equity capital would be preferred de facto.

Another commentator brought up the general question of whether the award of the frequencies in litigation should not be put back to later because of the lack of clarity surrounding the timing of use, the payment obligation and possible handback and the compensation associated with this.

It is requested that the previous GSM spectrum is made more flexible ("refarmed") before implementation of the procedure for 5 MHz systems. The award would affect frequency bands that are currently being used either for digital cellular mobile communications using the GSM standard or the UMTS standard. The technology-neutral award for digital cellular mobile communications would of necessity have effects on the markets for GSM and UMTS mobile communications. The technology-neutral award of parts of the previous 1800 MHz spectrum would mean asymmetrical refarming in the GSM spectrum. Established GSM network operators would then be able to use their spectrum in the same band position only for GSM mobile communications, which would represent a distinct competitive disadvantage.

The chamber ruled as follows on this point:

According to Section 134 (1) TKG, the deliberation room (*for matters decided by order, not judgement*) would start a procedure itself or following an application. According to Section 22 sentence 1 VwVfG, the authority decides according to its best judgement if and when administrative proceedings are to be started ex officio.

In line with international and national frequency planning, the frequency band between 2500 MHz and 2690 MHz has been allocated in the frequency allocation plan primarily to mobile communications from 01.01.2008 onwards. Accordingly, the frequency usage plan has the following reference under the appropriate entries: "The 2500 – 2690 MHz frequency band is intended for terrestrial IMT mobile communication applications. It is planned to use the spectrum from the 2500 – 2690 MHz frequency band in accordance with the market requirements for 3rd generation terrestrial mobile communication applications from 2008 onwards."

In addition to the 2.6 GHz spectrum, the BNA shall also put up for award at the same time the available frequencies in the 1.8 and 2 GHz bands and, as a result, the entire spectrum available for digital cellular mobile communications. This procedure is intended to avoid regulatory induced frequency shortages (see B. Justification in detail on this point). Accordingly, in 2003 the BNA did not make immediately available to the market the frequencies handed back by Mobilcom Multimedia GmbH, but included them in the overall planning for the 1.8, 2 and 2.6 GHz bands. This has already been referred to in order 33/2005 dated 04 May 2005 (OG Reg TP 8/2005, page 782 ff.)

To ensure prompt provision of this spectrum, it is necessary in the view of the chamber to start the formal award procedure right away in order to be able to conclude the procedure at a point in time corresponding to the market requirements.

To accelerate matters, the decision on arranging an award procedure in accordance with section 55(9) TKG is to be taken at the same time as the decision on the choice of award procedure in accordance with Section 61(1) TKG. Both procedural steps can be taken together as a result. The decision on the award conditions in accordance with Section 61 (4) TKG and the decision on the auction rules in accordance with Section 61 (5) TKG shall be issued at a later date after another public hearing.

If it is suggested that the timetable for the award process and availability should be coordinated with the national regulatory authorities of other countries since the bands have been identified for global use for terrestrial IMT-2000, then the following is to be pointed out:

The ITU member states – as stated above – have already agreed with decisions 223 and 224 of the WRC 2000 to open up the affected frequency bands for mobile communications although the timing of the opening up of these frequency bands for mobile communications has been left to the discretion of the national regulatory authorities and is to be done in a demand-oriented manner in particular.

The CEPT also determined with decision ECC/DEC/(02)06 that the 2500 – 2690 MHz frequency band should be made available for use by UMTS/IMT-2000 with effect from 01.01.2008 with reference to market demand and the national approval framework.

The chamber is convinced that an appropriate market demand for frequencies for digital cellular mobile communications exists in the Federal Republic of Germany. This consideration was confirmed within the framework of the hearing on this draft decision and by the registered demands and actual frequency allocation applications that reflect a range of different business models. Starting the award procedure now is also in line with the international approach.

But it must be pointed out that the order to hold an award procedure at the present time is not connected with starting the award procedure almost at the same time. The implementation of the award procedure assumes that other legally provided decisions of the chamber (decision on award conditions in accordance with Section 61 (4) sentence 2 TKG and the decision on auction rules in accordance with Section 61 (5) TKG) have been taken; to make these decisions, the BNA council must also be consulted. If it is requested in the opinions that the award timing is adjusted to fit the availability of technology and terminal equipment, it must be noted that the development of technologies and terminal equipment is interlinked with the concrete usage conditions of a frequency band. The continuing development of technology will also be accelerated by the concrete demand from network operators and end customers. To this extent it is proper that frequency usage conditions are defined as early as possible. This takes for granted the setting up of an award procedure in the area where frequencies are scarce in accordance with Section 55 (9) TKG as a first step.

The revision of the frequency usage plan was also started at the same time as the award procedure was started. It is intended to update the entries in the overall frequency usage plan as early as this year. To do this, the BNA has written the draft of an amended plan in accordance with the guidelines of the frequency usage plan establishment order (FreqNPAV). The BNA council has already been heard on the draft of the amended frequency usage plan on 21.05.2007 (Section 120 (6) TKG) with the result that the other legal procedural steps can be taken in accordance with Section 54 (3) TKG and Section 9 in conjunction with Sections 5 and 6 FreqNPAV. According to the frequency usage plan establishment order, consultation with the senior Federal and State authorities is to be conducted and the interested parties are to be heard as part of the publication of the draft (Section 9 in conjunction with Sections 5 and 6 FreqNPAV). The outcome is to be that an amended frequency plan is to be drawn up and brought into force well before the implementation of the award procedure for the frequencies involved here.

Even if the implementation of the award procedure for the frequencies in the 1.8, 2 and 2.6 GHz bands depends on the amended frequency usage plan coming into force, the chamber considers it proper that a decision is taken even now as a first step towards arranging and choosing an award procedure. The legally necessary procedural steps up to the actual implementation of an award procedure require considerable time. Overall, decisions must be taken on the arrangement of an award procedure (Section 55 (9) TKG), on the choice of the award procedure (Section 61 (1 & 2) TKG, on the award conditions in detail (Section 61 (4) sentence 2 TKG) and the auction rules (Section 61 (5) TKG); a public hearing is to be held for each step. As a result, the chamber sees the need to start the procedure as early as possible so that the frequencies can be made available to the market in due time. The chamber inserted into its observation that the outcome of the procedure on amending the frequency usage plan is still undecided at present and for this reason there is no guarantee that the frequencies will actually be allocated to digital cellular mobile communications. The chamber regards this “uncertainty” – also raised by commentators – as acceptable since an award of frequencies cannot be made until the amended frequency usage plan has come into force.

The outcome of the procedure to amend the frequency usage plan will not be affected by this decision, even if some commentators assert that pre-definitions have already been made on the arrangement and choice of the award procedure with the decision made here. The

chamber based this decision on the – already compiled – draft of an amended frequency usage plan. If the draft of the amended frequency usage plan were subject to a change later on in the procedure that would affect the frequency bands in question here, the chamber will review the need for the change of the decisions made here and will make any adjustments required. The chamber does not expect this approach to cause time delays in the award of frequencies.

The chamber also does not see any need for a further separate frequency demand inquiry in advance of these decisions. As early as 2005, the BNA conducted verbal and written hearings on the award of the spectrum in the 2 and 2.6 GHz bands (cf. Order 89/2005 OG BNA 24/2005, p. 1909 ff) in which the various requirements for these frequency bands were stated. It is on this basis in particular that the draft of this decision of the president's chamber was written, published in the official gazette and on the internet homepage of the BNA and left for comment; at the same time, interested parties were asked in this OG publication to submit applications now (communication 219/2007, OG BNA 7/2007, p. 1115). From the outcome of the evaluation of the opinions and the applications received it can be noted that there is a demand – which exceeds supply – for all the available spectrum, including the frequencies in litigation. So the demand situation became much clearer as a result of the hearings in 2005. Therefore the need for a renewed demand inquiry – requested by some commentators – cannot be identified.

The objection raised in this context that the hearing of the parties involved required in accordance with Section 55 (9) sentence 2 TKG on the frequencies failed to take place is unjustified. The draft of this decision – and not the decision itself – was published and submitted for hearing in communication 219/2007 OG BNA 7/2007. Consequently, the parties involved were heard before the final decision. At the same time, the public was asked in the above mentioned communication to record the respective demand. Explicit reference was made to the facility to submit applications at all times. This means that a demand assessment procedure was conducted for the 1.8 GHz frequencies as well.

If it is argued by commentators in relation to regional requirements that initially the actual interest in regional frequency allocations would need to be assessed, the following can be said:

Regional requirements, and the chamber will have to deal with them in a decision still to be taken in accordance with Section 61 (4) sentence 2 No. 2 TKG, were stated both as part of the hearings in 2005 and also in the opinions on this draft decision and also in the applications for frequency allocation received following communication 219/2007 OG BNA 7/2007. The objectively and geographically relevant market for which the frequencies can be used in accordance with the frequency usage plan is to be determined in this decision. The chamber will include in its observation the interests of companies that adhere to regional or Federal business models when determining the geographically regional market. As a result, a separate demand assessment relating to regional business models is not appropriate for the decisions about to be taken in this case.

In addition the chamber is of the opinion that the fact that some parts of the available spectrum are in litigation does not negate the inclusion into the award of the other frequencies.

For this reason there is a total of 2 x 10 MHz (paired) available in the 1.8 GHz frequency band to be awarded. However, these frequencies are currently in litigation. As part of the implementation of the initial raft of actions relating to the GSM concept (order 88/2005, OG BNA 23/2005, page 1852 ff) these frequencies were vacated by the E network operators in return for the assignment of frequencies in the so-called E-GSM-band (see communication 78/2006, OG BNA 4/2006, page 702). Proceedings were initiated against this reallocation, and they are still pending. Therefore the E network operators gave up the usage rights of the frequencies vacated in the 1.8 GHz band on condition that the assignments of the frequencies from the so-called E-GSM band will continue to exist even after the administrative court proceedings. If the proceedings against the reallocations are successful

contrary to the BNA's expectations, the dispensation declarations would be invalid and the frequencies in the 1.8 GHz band no longer available.

For this reason, there is a total of 2 x 20 MHz (paired) and 4 blocks each of 5 MHz (unpaired) available in the 2.0 GHz band. 2 x 10 MHz (paired) and 1 x 5 MHz (unpaired) are available without restriction to be re-awarded following the return of the spectrum assigned in 2000 to MobilCom Multimedia GmbH as part of the auction procedure. The frequencies originally allocated to Quam GmbH totalling 2 x 10 MHz (paired) and 1 x 5 MHz (unpaired) were revoked by the BNA; proceedings were initiated against this revocation, which was rejected in a first legal process by the Cologne administrative court in a ruling on 25.04.2007. However, this decision is not final and absolute with the result that the frequencies are still in litigation at the time of this decision.

The 2.6 GHz frequency band encompasses a total spectrum of 190 MHz. This frequency band, which is assigned to the fixed radio service until it expires on 31 December 2007, is to be allocated to digital cellular mobile communications from 01.01.2008 onwards. A large part of the spectrum is currently not used and available as a result. But it should be pointed out that up to 56 MHz have been currently assigned regionally to the fixed radio service. These frequency allocations have a time limit of 31.12.2007, and the BNA has rejected the requested extension of the frequency allocations, although the holder of the frequency allocations has lodged an appeal against the rejection of the extension. In an informal discussion of the case on 02 March 2007, within the framework of the summary proceedings, a court settlement was proposed at the initiative of the court; according to this settlement the current assignee can continue to use the frequency usage rights in the 2.6 GHz band beyond 31 December 2007 until proceedings on the main issue are final and absolute, and at most until use is made of them by a different assignee.

[1] If it has been requested by some parties to wait for the outcome of the court proceedings as the first legal process, the chamber points out that waiting for the ruling of the court of first instance will not necessarily bring about legal force and also not the legal and investment certainty demanded by some commentators. This can be done only by a final and absolute decision that concludes the court proceedings, a fact also advanced by some commentators.

The chamber is also of the opinion that the advantages of an award of the remaining spectrum outweigh the advantages of waiting for the award of the frequencies in litigation.

Firstly, it must be noted that these disputed frequencies are also still available in the meaning of section 55(5) sentence 1 No. 2 TKG since they have not yet been used by other assignees (see official justification on section 53 of the government draft, BR-Drs 755/03, page 105). The TKG allows in principle for available frequencies to be made available to the market if the allocations were to come with the proviso that they can be revoked. This also applies to frequencies whose usage rights were indeed valid, but that have not yet been cancelled finally and absolutely.

However, this principle can be disregarded if the regulatory goals in section 2(2) TKG contradict the provision of these frequencies or if the implementation of an objective, transparent and non-discriminatory award procedure cannot be guaranteed due to the provision of the spectrum in litigation.

The chamber fully appreciates that the stated frequency usage rights are associated with risk. This will have to be included by the interested parties in their economic considerations relating in particular to participation in or the bidding conduct during the auction. These

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[1] Editor's note: when the President's chamber reached its judgements on 19th June 2007, the judgements of the Cologne Administrative Court (VG Köln) in the law cases 11 K 572/07 and 11 K 573/07 relating to frequency allocations in the 2.6 GHz band had not been made by then. Because of the informal negotiation on 15.06.2007 the Cologne AC rightly acknowledged that the BNA is obliged to extend the current frequency allocations for fixed radio services in the 2.6 GHz band for the period running from 1st January 2008 until 31st December 2016. The decisions are not final and absolute. The BNA shall lodge an appeal against the decisions.

fundamental facts were made transparent for all involved by the chamber. This means that all potential bidders now have the same necessary information to allow them to make an individual value judgement of the risk and to include it in their bidding conduct. The provision of the disputed spectrum is thus in line with the regulatory goal of ensuring an equitable competition and the promotion of sustainably competitive telecommunication markets (section 2(2) No. 2 TKG) and corresponds to the principle of holding objective, transparent and non-discriminatory procedures in accordance with section 55(1) sentence 3, section 61(5) sentence 1 and section 61(6) sentence 4 TKG.

In contrast to this partially represented view, the chamber is of the opinion, for these reasons, that Art 8 (2) letter b of the EEC directive 2002/21/EEC (outline directive) has not been contravened.

This approach also brings about the statutory goal of an auction process, namely to select those bidders who are best suited to using the frequencies efficiently. The following was argued on this matter in the official justification of section 61(5) TKG (section 59(5) of the government draft, BR-Drs 755/03 page 109):

> “The successful bid will typically substantiate the willingness and the ability to deploy in the most optimum manner possible the frequency to be allocated in the free market competition of service provision and will strive to use the frequency economically and thriftily”. (Highlights here only)

It is true that the disputed frequencies are subject to greater risk that will become part of the bidding process via the bidders’ individual risk assessment. But the legal nature, and hence the accompanying risk, are basically the same for all bidders with the result that in this case the highest bid that a bidder submits to win against other bidders will underpin the greatest willingness and ability to use in the most optimum manner possible the frequency that is actually to be allocated. Hence, the provision of the disputed spectrum will not result in the legal purpose of the award procedure being adversely affected.

The BNA must take account of the legal task entrusted to it by section 52(1) TKG to assign frequencies to ensure an efficient and interference-free use in the meaning of section 2(2) No. 7 TKG and with reference to the other regulatory goals stated in section 2(2) TKG. If available frequencies were withheld from the market by regulations, the inevitable consequence would be the non-use of the frequencies and hence of a public resource. But this consequence could not be reconciled with the principle of providing an efficient frequency usage and would run contrary to the legal task.

For these reasons the chamber is not of the view that Art. 8 (2) letter d, Art. 9 (1) of the EEC directive 2002/21/EEC (outline directive) has been contravened.

The chamber does not share the opinion expressed in the comments that awarding frequencies in litigation should be considered an infringement of the regulatory goal of efficient and interference-free frequency usage in accordance with Section 2 (2) TKG and of Section 55 (5) sentence 1 No. 4 TKG since business models and technologies linked to low investments were preferred. First of all it must be pointed out that only those businesses that meet the licensing conditions under Section 61 (4) sentence 2 TKG will be allowed into the auction. These conditions include the statutory allocation conditions under Section 55 (5) sentence 1 TKG. A licensing application involves demonstrating and proving that the applicant will use the frequencies efficiently and free of interference.

It seems unlikely that a successful bidder will use for his network structure a technology that would represent an inefficient infrastructure investment. In the chamber’s view it is far more likely that a business will use the advantage of a possible lower maximum offer and the lower costs resulting from it to acquire a frequency in order to have more funds available to build up the network. In this case an efficient infrastructure investment, resulting in efficient frequency usage, is what is to be expected.

The fact that the goal of the most comprehensive population coverage possible is undermined as a result also cannot be recognised. This goal might not be reached if the

frequencies were not provided for allocation because they were in litigation. Also, obligations relating to the level of coverage in terms of frequency usage and its implementation in time can also be provided under the award conditions in accordance with Section 61 (4) sentence 2 TKG. They will be defined by the chamber in another decision after hearing the parties interested in the frequency usage provisions in accordance with Section 61 (4) sentence 2 No. 4 TKG.

If it has been pointed out in this context that large companies with high capital equity were preferred here, then it should be noted that the risk created by the fact that frequencies are in litigation applies equally to all businesses. The funding risk must be estimated and assessed by all parties in relation to their own business planning. The fact that the circumstance of being in litigation changes the differences that presumably exist anyway in the ways interested parties have of accessing funds also cannot be recognised.

The new award of the spectrum in litigation also does not unlawfully restrict the discretion of the BNA in the event that it would have to cancel the rights of the “new allocation holder” if the BNA’s decision to cancel or deny a frequency usage right is cancelled by a court decision. Firstly, if necessary, the BNA will include in the frequency assignment a right of revocation for this event, with the result that the confidence of the allocation holder in this situation cannot be created from the outset or can only be to a limited degree. Also, the BNA would be empowered in this case to withdraw the allocation under Section 48 (1) sentence 2 VwVfG. This decision is indeed a discretionary decision, but there is much in favour of the fact that in this situation the discretion to withdraw (the allocation) to the detriment of the “new allocation holder” will be reduced to nothing.

The unravelling of the legal relations with the “new allocation holder” that would be necessary due to the cancelling of the allocation following a court decision would be based on the general provisions of law. This also means that any payments made whose legal basis has subsequently become null and void would have to be reimbursed.

The chamber is of the opinion that an award of the available spectrum from the 1.8, 2 and 2.6 GHz frequency bands can take place now, even if, in the so-called GSM band (900 MHz and 1800 MHz) as a result of final and absolute frequency allocations, flexible usage of the frequencies will initially be possible only for the frequencies that have not been allocated so far in this band in line with the intended amendment of the frequency usage plan. To the extent that it has been requested that the already allocated GSM spectrum be made more flexible before the implementation of this procedure for 5 MHz systems, it should be established that it is currently intended to allocate the entire so-called GSM spectrum in the 900 and 1800 MHz bands to digital cellular mobile communications in the frequency usage plan without any further limitations on the GSM standard.

If and to what extent a divergent decision might exceptionally be reached here to ensure the regulatory goals on the type and scope of the frequency usage in the frequency allocations will need to be determined in the next procedural step by the president’s chamber within the framework of defining the award conditions in accordance with Section 61 (4) sentence 2 TKG after hearing the involved parties. The apprehensions expressed on the subject of asymmetrical “refarming” will also need to be included in the chamber’s considerations.

The definitions on guard separations and frequency usage conditions, e.g. frequency masks, will also need to be done in this procedural step. If it has been requested that the definition of frequency usage regulations is done before allocation to digital cellular mobile communications, the chamber is of the opinion that this is not the subject of the decision on the arrangement and choice of the award procedure.

2. Available frequency bands

The following was argued on this point:

A large section of the commentators welcomed the BNA's approach of awarding the entire available spectrum in the 1.8, 2 and 2.6 GHz bands as far as possible. The decision of the president's chamber to put all the remaining spectrum up for award for digital cellular mobile communications was of great importance for the mobile communications industry since, if properly formulated, this would offer in addition to an expansion of capacity the facility to introduce new broadband technologies for innovative mobile communication services without impairing the increasingly utilised frequency bands "licensed" today. Awarding the entire available spectrum would satisfy both the interests of newcomers and also those of the established mobile network operators. The TKG would also not offer any basis for holding back available frequencies. In contrast, holding back frequencies would create "regulatory induced frequency shortages".

A majority of commentators were explicitly or tacitly in favour of awarding frequencies for digital cellular mobile communications.

It is suggested that the allocation of frequencies to digital cellular mobile communications be limited to the IMT-2000 system family, or that this be expressed in concrete terms. There would then be an urgent requirement for spectrum for current and long-term technical developments for UMTS because of the high channel bandwidths. The frequencies in the 2.6 GHz band had also been identified by the WRC-2000 for IMT-2000. The appropriate bands had also been harmonised internationally for terrestrial IMT-2000 systems and nominated for UMTS/IMT-2000 by ECC decisions. The international legal framework was sufficiently technology-neutral following on from these decisions and Article 5 of the Radio Regulations. The ITU recommendation for IMT-2000 (ITU-R M.1457) already contained five different standards and the adoption of another standard was being reviewed. Allocation to IMT-2000 would ensure interference-free and hence very efficient use of frequencies. A national independent initiative might lead to inefficiencies and to a setback in the establishment of a common European market. The frequency usages should guarantee really mobile communication applications in any case, with mobile communication at high speeds as well as seamless communication when transferring to another communication cell or coverage area (seamless handover).

It is suggested in contrast that the BNA should take account of the European Commission's recommendation on a technology-neutral approach and award the frequencies in the 2.6 GHz band in a completely technology-neutral manner, or at least not restrict them to certain technologies, like IMT-2000. To this extent the term digital cellular mobile communications might be misunderstood with the result that a clarification in relation to mobile WiMAX systems would be welcomed. There are also two ITU proposals that clarify that the frequency bands in question are not limited to technologies currently identified as IMT-2000. One proposal would include the adoption of the mobile WiMAX technology into the ITU-R recommendation M.1457 as a member of the IMT-2000 technology family. A second proposal would allow an expansion of the footnote 5.384A, whereby the 2.6 GHz band would be earmarked for usages for "IMT-2000 and other wireless broadband access systems".

Some commentators want us to think that a restriction of frequency usages to pure mobile communication applications would exclude applications for the fixed radio service. If it did so, the BNA would be departing from the previous intentions for frequency usage without any obvious reason. Order 89/2005 OG BNA 24/2005 would have allowed for the use of sub-bands of the spectrum for the fixed radio service. Deciding on digital cellular mobile communications was neither appropriate nor necessary. The narrow definition would fly in the face of convergence of the areas of mobile communications, fixed radio service and fixed network. In addition, it would also not be compatible either in terms of demand or with European guidelines on making frequency regulation flexible or with the technology-neutral principle of WAPECS.

It is also argued, even if correct that providers of broadband wireless network access would be interested in offering mobile services (based on WiMAX or other services), then the WiMAX technology would facilitate a combination of mobile, portable and “fixed wireless” usages. This was the better way of allowing frequency usages for fixed, portable or mobile services in accordance with customer wishes. Restricting frequency usage to mobile use would not be in line with the regulatory goal of efficient frequency use under Section 2 (2) No. 7 TKG since the WiMAX technology would also allow portable and “fixed wireless” usages in addition to mobile frequency usages. As a result, a broader definition of frequency usages is proposed: “digital cellular mobile communications and/or broadband wireless network access”.

Awarding frequencies without determining the type of use is to be welcomed. This opens up the path for broadcasting radio or radio-like services using the capacities reserved until now for mobile communications.

It is proposed to write a precise definition of the allocation for digital cellular mobile communications to include all technologies whose operating conditions to ensure interference-free frequency usages are listed in the planned decision of the European Commission on the opening up of GSM frequency bands at 900 and 1800 MHz for technologies other than GSM. This process alone would guarantee a balanced relationship between the regulatory goals of efficient and interference-free frequency usage. To this extent, making frequency usage more flexible would only be possible insofar as contractual usage could be guaranteed. In contrast, with its allocation to digital cellular mobile communications, the BNA is going beyond the liberalisation of the frequency policy planned by the EU without obvious reason. The allocation also goes against the regulatory goal of interference-free frequency usage. Based on the interference studies of the CEPT between UMTS and GSM, and on other applications on adjacent frequencies, which were published in ECC Reports 82 and 96, there would also be a considerable amount of protection of existing GSM applications in the frequency bands in the planned Commission decision. In this context, operating conditions for the other technologies were defined in the annex to the planned Commission decision in order to guarantee this protection. The only “new” technology was UMTS, according to the draft EU decision. Other technologies might follow as soon as the appropriate interference studies have been submitted to the CEPT.

Taking interference-free frequency usages as the basis, the BNA’s definition of the objectively relevant market was also necessary within the framework of the UMTS decision on the setting of minimum technical requirements. The attempt to create a definition without any reference to minimum technical requirements on operational use would increase the potential interference between the individual applications on the one hand (against the regulatory goal of interference-free frequency usage) and/or on the other hand would massively increase the demand for guard separations between the individual applications (against the regulatory goal of efficient frequency usage). Such a definition of usage conditions to ensure efficient and interference-free frequency usage was also included in the European Commission’s WAPECS model.

It should be noted that a technology-neutral award of the 2.6 GHz frequencies would not be in accordance with the developments in neighbouring countries at present. ARCEP of France, for example, has not decided on full technology neutrality in the 2.6 GHz band. The French regulator is of the opinion that full technology neutrality in the 2.6 GHz band is not the only way of satisfying the demand for spectrum for the new technologies. For this reason, ARCEP has opened up a discussion at European level on the frequency requirement for technologies that are not part of the IMT-2000 family. For this reason, a national independent initiative would lead more to a fragmentation of the market for system technology and thus to higher costs when introducing 3G technologies.

One group of commentators welcomes a Federal-wide allocation of frequencies. Sustainable competition between the frequency allocation holders can be ensured this way. The regional award of frequencies conceals risks that would destabilise the development of mobile communications. In addition, there is no regionally delimited demand for digital cellular

mobile communications. The goal of comprehensive coverage of the population was best guaranteed in this way, even in rural areas. The auction of frequencies in the 3.6 GHz band in 2006 showed that a Federal-wide award of spectrum was preferred.

It is stressed that the radio waves in the frequency bands up for award are very suitable for mobile communication applications because of their physical propagation conditions. A clear allocation to mobile communication services is indispensable and Federal-wide allocation necessary in addition.

In contrast, another group of commentators is in favour of awarding at least some of the frequencies for regional usages. The Federal-wide allocation of frequencies would go against the intention of making frequency usage conditions more flexible, a fact mentioned several times in the hearing, as well as not facilitating various business models and the broadly based definition of the objective market. One commentator expressed the fear that rural areas would be relegated even further if frequencies were allocated on a federal basis.

It is stated that the interests of small and medium-sized businesses would be well served with regional usage of frequencies. Awarding frequencies in the 3.5 GHz band in 2006 showed that there was a high demand for regional frequency usages. In the 2005 hearings regional business models had not even been asked about. For this reason, potential interested parties had not registered any demand. It is pointed out that there is concrete demand for regional frequency usage in the 2.6 GHz band.

One commentator pointed out that awarding frequencies regionally would be one way of dealing with the frequencies in litigation in the 2.6 GHz band. According to the annex to appendix 2 of communication 219/2007 OG BNA 7/2007, the existing frequency allocations were regional in each case with the result that the litigation would refer always only to parts of the Federal territory, whereas frequencies could otherwise be available – in the view of the current frequency allocation holder - following a positive outcome of the court proceedings and could then be allocated regionally as appropriate.

The chamber ruled as follows on this point:

In principle, the following frequency bands are currently available for allocation to digital cellular mobile communications:

Frequency band	**Available frequency spectrum**	
1.8 GHz	2 x 5 MHz (10 MHz) 2 x 5 MHz (10 MHz)	1730.1-1735.1 MHz; 1825.1-1830.1 MHz 1758.1-1763.1 MHz; 1853.1-1858.1 MHz
2 GHz	2 x 9.9 MHz (19.8 MHz) 2 x 9.9 MHz (19.8 MHz) 10 MHz 9.2 MHz	1930.2-1940.1 MHz; 2120.2-2130.1 MHz 1950.0-1959.9 MHz; 2140.0-2149.9 MHz 1900.1-1910.1 MHz 2010.5-2019.7 MHz
2.6 GHz	2 x 70 MHz (140 MHz) and 50 MHz FDD downlink (external) or 50 MHz TDD	2500-2570 MHz / 2620- 2690 MHz 2570 – 2620 MHz

There is considerably more spectrum available to be awarded with these frequencies, which make up a frequency band of 270 MHz in total, than in the previous award procedure in the mobile communications area.

The frequencies originally reserved internationally for SPA applications in the 2010.5 MHz to 2019.7 MHz band will no longer to be provided for these applications following ECC decision (06)01. Consequently, the frequencies should be made available for digital cellular mobile communications.

The above mentioned frequency bands are defined as follows in the current frequency usage plan:

Frequency band	**Frequency usage**	**Frequency usage conditions**
1.8 GHz	Digital cellular mobile communications	GSM standard and its future developments
2 GHz	Digital cellular mobile communications	UMTS/IMT-2000
2.6 GHz	Radio relay	Digital point-to-multipoint radio relay, time limited to 31 December 2007
2.6 GHz	Mobile communications	*The frequency band is planned for terrestrial IMT mobile communications applications, but it is planned to use spectrum […] in accordance with market demands for 3rd generation terrestrial mobile communications applications from 2008 onwards.*

It is planned to allocate these frequency bands uniformly to the frequency usages of digital cellular mobile communications without restricting their frequency usage conditions to certain standards. The considerations of the WAPECS concept will then be implemented in this concrete national award procedure. As a result – and in order to implement the findings of the ITU's 2003 World Radio Conference (WRC-2003), which was implemented in national law by the First Ordinance to amend the Frequency Band Assignment Plan Ordinance dated 23 August 2006 (BGBl. I, page 1977) – it is intended to update the above mentioned entries in the Frequency Usage Plan as early as this year. To do this, the BNA will put together the draft of an amended plan in accordance with the provisions of the Frequency Usage Plan establishment order, and will also submit it to interested groups among others for a hearing. The BNA is keen to implement the procedure to establish a modified Frequency Usage Plan at the same time as the current proceedings. As a result, a modified Frequency Usage Plan is to be drawn up in due course before the frequencies up for award here are allocated.

The views received as part of the hearing contained a great number of statements on the question of the allocation of frequencies at the level of the frequency usage plan. The outstanding decision on the question of frequency shortage and the arrangement of an auction procedure assumes that the frequency usage plan for the frequency bands in question will contain the allocation to digital cellular mobile communications. The suggestions from the commentators will need to be taken into account within the framework of the procedure for drafting the frequency usage plan; the procedure will also need to include a hearing of the interested parties in accordance with Section 6 FreqNPAV. It is guaranteed that the comments received will be included in the hearing as part of the question on the allocation.

Notwithstanding this, the chamber is currently of the opinion that the 1.8, 2 and 2.6 GHz frequency bands should be allocated to digital cellular mobile communications without restriction to certain technologies or standards.

The allocation of these frequency bands to digital cellular mobile communications should ensure that mobile communication networks are operated. If commentators point out that actual mobile communication applications are to be guaranteed and hence the allocation to IMT-2000 is to be expressed in concrete terms, then the following must also be pointed out:

the frequency bands in question have been allocated to mobile communications in the frequency band assignment plan. So it is intended to allocate the 1.8, 2 and 2.6 GHz bands uniformly to digital cellular mobile communications in the frequency usage plan. Digital cellular mobile communications are to be used to connect mobile terminal equipment to

public digital communication networks via static base stations that cover one or more communication cells (sectors). The switch to another communication cell will be implemented regularly without interrupting the communication links (seamless handover). It is neither necessary nor appropriate to name explicitly defined technologies with which a mobile communication network can be operated, or to exclude other technologies.

Even from the point of view of providing efficient and interference-free frequency usage there is no need to stipulate allocation to certain technologies or standards. The provision of interference-free frequency usage is to be done by means of the frequency usage conditions to be laid down in the award conditions. The groups affected also need to be heard on this point in accordance with Section 61 (1) and (4) TKG.

The chamber is of the opinion that this planned allocation of the frequency bands, especially the allocation of the so-called GSM frequency band for digital cellular mobile communications, does not go beyond the liberalisation of the frequency policy planned by the European Commission. At present, the European Commission also includes the use of technologies other than GSM for opening up the so-called GSM frequency bands (900 MHz and 1800 MHz) provided freedom from interference is guaranteed, and does not restrict the use of these other technologies – as stated in the comments – to one specific technology. The European Commission is looking more at opening up these frequency bands for the use of other terrestrial systems for transmitting pan-European electronic telecommunication services. Providing interference-free frequency usage in the meaning of the definition of minimum technical requirements will be done – as already stated - with the definitions of the frequency usage conditions that will need to be defined at a later date as part of the decision on the award conditions.

The intended allocation of the 2.6 GHz frequency band to digital cellular mobile communications, in the court's view, is in line with the thinking of the European Commission (Communication (2007)50 dated 08.02.2007) relating to the "fast access to frequencies for wireless electronic communication services by more flexibility". On this subject the European Commission asked Member States to cancel any restriction **as far as possible** among other things in order to promote flexibility, fast access to the frequencies and competition in the communication infrastructure. As part of the implementation of this request for more flexible frequency regulation it is intended to expand the allocation of the 1.8, 2 and 2.6 GHz frequency bands and to define "digital cellular mobile communications" as standard frequency usage in these frequency bands in a technology-neutral manner. This means that all frequency usages can be offered in principle with all available technologies as part of the allocation to digital cellular mobile communications.

To this extent the objection from some commentators that a technology-neutral award of the 2.6 GHz band for digital cellular mobile communications was not currently in accordance with the development in neighbouring countries falls flat. Should other Member States decide against the extensive lifting of the restrictions demanded by the European Commission when awarding this frequency band and stipulate that certain technologies are used or certain technologies excluded, such an approach would run contrary to European thinking. However this cannot lead to such a non-compliant procedure being binding on other member states.

Moreover, we refer you to the arguments of the chamber under "B. Justification in detail".

In its arguments the chamber points out that any "fragmentation of the market" for system technology would be an expression of the competition between system technologies, a competition that is to be created explicitly by the Europe-wide liberalisation of the telecommunication equipment market.

If it is argued by commentators that the BNA is pursuing a technology-neutral approach with particular reference to the 2.6 GHz frequency band, but it should be undertaking clarification of mobile WiMAX systems, it should be pointed out that it is not intended to define the use of specific technologies in one of the frequency bands being discussed here. The condition for frequency usage in accordance with the allocation is the operation of a digital cellular mobile communications network. There is no need for clarification of the use of certain technologies.

The allocation holder is thus free to choose his mobile communication equipment in the future. So a mobile communication network operator will be able to provide to his customers, in line with demand, all services that can be provided on the basis of the mobile communications technology chosen by him. So there will be no restriction of offers to mobile “applications” – as noted by commentators.

The same applies to the existing possibility – also noted by commentators – of providing services other than mobile communication services, such as radio contents. But the question of allocating frequencies for a specific radio service must be separated from this. The frequencies to be awarded here are allocated to the mobile communication service in the meaning of Section 4 No. 22 FreqBZPV, and not to the radio service in the meaning of Section 4 No. 33 FreqBZPV or the fixed usage service in the meaning of Section 4 No. 5 FreqBZPV.

If noted by the commentators that a *restriction of the frequency usages to purely mobile communication applications would exclude fixed radio services,* then the following must be pointed out:

the frequency bands in question have been allocated to mobile communications in the frequency band assignment plan. In Section 4 (22) of the FreqBZPV (Frequency Band Assignment Planning Order), mobile communications are defined as a radio service between mobile and static communication sites or between mobile communication sites. In addition to the mobile communication service, the 2.6 GHz band has also been allocated to the fixed radio service. But usage provision 27 of the frequency band assignment planning order rules that the allocation of the 2520 MHz to 2690 MHz frequency band to the fixed radio service is valid only until 31st December 2007. So it is intended to allocate the 1.8, 2 and 2.6 GHz bands uniformly for digital cellular mobile communications in the frequency usage plan.

Allocation to digital cellular mobile communications does also not negate the regulatory considerations of the WAPECS concept and the arguments about the objectively relevant market. The WAPECS concept leaves intact the allocations of frequency bands for certain radio services, provided by the ITU, as well as their national implementation in the frequency band assignment planning order (see the conceptual thinking on this point above). The chamber does not accept the suggestion from some commentators that the frequency bands being discussed must be allocated to wireless network access.

This approach also does not contravene order 89/2005 OG BNA 24/2005 since it was pointed out in this order that in principle use of sub-bands of the spectrum for fixed radio service beyond 31.12.2007 for existing usages would be reviewed provided there was no actual demand for a frequency for mobile communications.

The stated frequency bands are available throughout Federal territory. Accordingly, the frequency bands can be assigned throughout Federal territory.

The question of the capability of geographical allocation is to be distinguished from the question of which geographically relevant market the frequencies up for award are to be used in according to the frequency usage plan. The provision of the objectively and geographically relevant market is the subject of the decision of the president’s chamber on the award conditions in accordance with Section 61 (4) sentence 2 TKG and hence not the subject of this decision.

Notwithstanding this fact, the chamber considers it proper in the meaning of an open, transparent and non-discriminatory award procedure, without anticipating its own decision on this matter, to indicate its subsequent initial provisional considerations as part of this decision:

the chamber considers that the frequencies available at 1.8, 2 and 2.6 GHz for digital cellular mobile communications should be awarded and allocated federally (nationally). The design of digital cellular mobile communications is geared to international, global usability of national services. It has been demonstrated in the sphere of digital cellular mobile communications that user coverage, and especially consumer coverage, can be provided most efficiently of all

by Federal-wide providers. For this reason, the allocations made to date in the sphere of digital cellular mobile communications have been made on a Federal basis. Awarding frequencies on a regional basis rather than a national basis cannot satisfy the need to ensure efficient frequency planning or use to the same extent. In view of this fact, it is impossible to identify what sort of a specific demand for regionally restricted usage facilities there might be (see order 13/2000, OG Reg TP 4/2000, page 516 (521 ff)). The experience gained when auctioning the frequencies in the 3.5 GHz band in December 2006 also demonstrated this fact. Despite the regionalisation allowed during this auction, the frequencies were basically allocated on a Federal basis.

If some commentators requested that at least a part of the available spectrum should be awarded and allocated regionally, the chamber is of the view that the advantages of federal allocation outweigh the advantages of regional allocation. Regional allocation does facilitate the realisation of regionally aligned business models, but the chamber has to weigh up the technical-regulatory aspects of efficient frequency usage against the practicability of the widest range of business models. What must be taken into account is that the degrees of freedom created by a technology-neutral and flexible frequency regulation are reduced to the extent that holders of frequency usage rights must coordinate with each other to ensure efficient and interference-free frequency usage. From the technical-regulatory point of view it is advisable to allow only the necessary and unavoidable degree of coordination effort to be created among the holders of single allocations. This effort would then grow if spectrum were awarded on a regional basis.

The chamber does not share the view expressed in the comments that the coverage of rural areas with digital cellular mobile communication services might lag behind if spectrum is not awarded on a regional basis. According to section 61(4) sentence 2 No. 4 TKG, the president's chamber shall determine, prior to holding an award procedure, the frequency usage conditions including the degree of coverage of frequency usage and its implementation within a time frame. By using the requirement of ensuring – also geographically – defined coverage the chamber has available to it a way of taking into account the coverage of rural areas among other things. But it must be stated at this point that the services to be offered with the frequencies up for award here do not represent universal services in accordance with Section 78 (2) TKG .

Even if the interests of small and medium-sized enterprises are to be taken into account under Section 61 (5) TKG in the rules for the execution of the auction procedure, the chamber does not share the view that this must automatically lead to regionalisation. The pluses and minuses of a regional frequency award need to be weighed up against those of national award, as was stated above.

The situation that regional frequency allocations in the 2.6 GHz band are in litigation also does not support the case for regionalisation. The chamber cannot accept the assumption that the regional award of frequencies represents a way of dealing with the litigation surrounding the frequencies in the 2.6 GHz band as the litigation situation applies to only parts of Federal territory. It must be pointed out at this point that the frequencies are available on a federal basis. The question of the litigation is of no relevance to the question of geographical availability. It is more the case that the regionalisation aspect needs to be dealt with within the framework of determining the geographically relevant market in which the frequencies can be used in accordance with the frequency usage plan.

3. Shortage

The following was argued on this point:

Some commentators agree with the BNA's demand assessment. They share and support the view as regards the anticipated growth of data volume and the requirement arising from it for additional spectrum for digital cellular mobile communication applications. A market demand for the 2.6 GHz band has been highlighted several times by both the mobile communication

industry and the ITU-R. In a series of studies, it is assumed that there will be a 20 to 25 fold increase in total traffic in mobile communication networks with broadband services in the period from 2010 to 2020. As a result, spectrum is urgently required for the continued development of UMTS (with HSPA) and LTE (Long Term Evolution) in the future in order to cope with the future demand for broadband for mobile services. Future high-speed applications would require potential channel bandwidths of up to 20 MHz for full implementation. The 2.6 GHz band is the only extension band currently available for UMTS/IMT-2000 that has been harmonised throughout Europe. The earliest more spectrum that could be made available would be several years away, by 2015 approx., if it were to be allocated as part of the WRC 2007.

Some commentators have submitted concrete applications for frequency allocation in all the frequency bands available here or are submitting an actual frequency demand for this reason. A group of commentators is putting forward an additional frequency requirement as an important addition to their range of frequencies in the 3.5 GHz band for mobile BWA. It would not be enough to acquire 2 x 21 MHz paired frequencies from the BWA auction in order to market broadband services even in cooperation with content providers. A demand for frequency that exceeds the available spectrum has been created by the application situation and the registrations of demand.

In view of the previous investments in UMTS licenses and the building of the network, the regulator is obliged to cover the additional frequency demand for mobile communications that is already beginning to show among the UMTS network operators.

The forecast decision is being called partly into question in principle. The frequency shortage is being advanced generally without any understandable factual basis for such a forecast decision having been identified. The general reference to a “considerable margin for assessment” being claimed by the authority is not enough to justify a forecast decision. What assumptions and what current level of knowledge and experience were used to determine the shortage cannot be identified. It is particularly incomprehensible why the BNA is relying on the results of the 2005 hearing at which a shortage for the 2.6 GHz band could not have been established. In contrast to the 190 MHz in 2.6 GHz band submitted to the 2005 hearing, the volume of the frequency resources is another 80 MHz larger here. Against this background determining that there was a shortage is even less understandable.

The arrangement of the award procedure based on the BNA’s shortage forecast is not logical because the BNA expanded without good reason the circle of subscribers for the award procedure to bidders from the BWA sphere and included the demand from “manufacturers of WiMAX system technology”. Including demand for bidders for BWA services was questionable because WiMAX system technology is not mobile communications technology, but a technology for the fixed radio service. Including demand for BWA was going to lead to an artificial shortage since the BNA was actually combining inadmissibly the objectively relevant market for third generation digital mobile communications with the broadband wireless access based on the fixed radio service.

So it was already doubtful if there was a corresponding demand at all from bidders from the BWA sector that could be met by awarding the 3.5 GHz spectrum. Not all the frequencies were awarded for BWA in the 2006 auction. The inclusion of the requirement for BWA frequencies into the discussion on the award of mobile spectrum could also not be understood and should be omitted as a result.

It was also not obvious to what extent a requirement expressed by “manufacturers of WiMAX system technology” should be brought into line with the principles of frequency policy. On the one hand, the WiMAX system is not mobile communications technology, so it has to be asked why this system was considered at all during the requirement analysis. But it is basically questionable why a technology was highlighted at all, especially because the BNA was arguing greatly about the development of the European frequency policy and the introduction of the WAPECS concept, which demands substantial neutrality in terms of the technology and also the services. So it is incomprehensible why a regulatory authority

becomes an advocate for industry policy and then includes this in the justification of the decisions on frequency policy.

When assessing the frequency requirement, it makes more sense to take the allocation of the spectrum for mobile communications as the starting point. If the approaches of the European policy to liberalise the legal framework is not converted into national law and the frequency usage plans have been revised, then the inclusion of third parties who are not mobile communication network operators must be questioned in principle. On this basis, the requirement of the established and potential new third generation mobile communication network operators is the requirement that actually needs to be reviewed. The requirement for newcomers to the mobile communications market should be limited to a starting set of frequencies of 2 x 10 MHz (paired). As became clear at the 2005 BNA hearing, this requirement would include the 2 GHz and the 2.6 GHz spectrum. On current estimates, the present requirement for capacity expansion could also be covered with these frequency bands if allocation is aligned with the award of frequencies for digital cellular mobile communications. This could also be expected if it is borne in mind that digital cellular mobile communications will continue to develop and technologies are deployed in the future that would allow wider band services to be used than are available today. These services and the technologies used would require connected spectrum with large channel bandwidth. The 190 MHz spectrum capacity in the 2.6 GHz band were coordinated long time ago for this purpose and would facilitate the anticipated development of digital cellular mobile communications. In contrast, including other business models and technological approaches with a narrow-band spectrum requirement could lead to a fragmentation of the spectrum that would jeopardise in principle the possible formation of broad frequency blocks (2 x 10 MHz to 2 x 20 MHz paired frequencies). To this extent the arguments of the BNA that a shortage situation would be created from the inclusion of non-mobile communication applications and non-mobile communication systems are incomprehensible. Instead of confirming the requirement of the mobile communication network operators, the BNA put forward conflicting interests and derived a frequency shortage as a result. Consequently, the arrangement of an auction as an award procedure is not logical. As a result, the BNA is urged to put the spectrum for digital cellular mobile communications, as planned, out to tender in accordance with the purpose of allocation, but also to use the purpose of allocation consistently as the basis for the reviewing requirement. If the spectrum is to be limited to mobile communications, then an auction is not obligatory as an award procedure. This approach would not obstruct the implementation of the WAPECS concept since a basic step would have been taken by implementing technology neutrality.

In the context of the question of shortage, some commentators also addressed the subject of reserving frequencies. Some of the commentators were not in favour of reserving frequencies. In contrast, another group wanted the reservation of spectrum for newcomers, for established mobile communication network operators, for regional business models and for certain technologies.

It was also argued that the allocation of the extension band to the bidders that were successful in the auction was the commercial basis for taking part in the auction. Reducing spectrum by licensing interested parties with other business models was not acceptable. The UMTS network operators who took part in 2000 in expectation of the extension spectrum must be allowed as a priority and prior to an auction to obtain frequencies in the extension band. The remaining frequencies could then be considered for auctioning off to other interested parties.

In this context it is stressed that the investment already made by the established UMTS network operators should be taken into account. They must be given the facility of refunding these investments. So it was acceptable to award the frequencies in the 2.6 GHz band on the basis of administration fees. Other costs were already covered by the earlier auction.

Commentators point out that the previous frequencies allocated to the UMTS network operators at 2 GHz could be attributed to a very small minimum number of frequencies granted by the regulatory authority during the award in 2000. The network operators had

indicated even then the required frequency allocation of 2 x 15 MHz that was now to be provided in the 2 GHz band. If the available 4 x 5 MHz (paired) were allocated to the established UMTS network operators from the 2 GHz band and then used even as connected spectrum after “shifting”, a balanced situation for later migration to LTE or other innovation services might have been created and guaranteed in Germany. The frequency resources then available could be used in the short term since terminal equipment of the right design and numbers for the mass market could have been provided for the 2 GHz band. This would have meant that there was still enough spectrum available in the 2.6 GHz band for interested parties who wanted to use systems with channel bandwidths up to 20 MHz.

Moreover, we refer to order 89/2005, OG BNA 24/2005 in which the BNA announced that it intended to reserve spectrum for UMTS operators on the one hand and for newcomers on the other. This proposal is no longer contained in the draft submitted for the hearing.

The chamber ruled as follows on this point:

The chamber is convinced that the demand exceeds the spectrum available and the frequencies are in short supply in the meaning of section 55(9) sentence 1, 1st alternative TKG.

An award procedure can be ordered if there is not enough spectrum available for assignments or several applications have been submitted for certain frequencies. This arrangement under section 55(9) TKG is at the discretion of the BNA.

There are not enough frequencies available for allocation for digital cellular mobile communications in the 1.8 GHz, 2.0 GHz and 2.6 GHz bands.

This finding is based on a forecast decision of the chamber. Under section 55(9), the Telecommunications Act (TKG) provides for this possibility of the BNA determining that a shortage exists. According to the legal justification this is then the case when the BNA is of the opinion that there are not enough frequencies available for frequency assignments (see official justification on section 53(9) of the government draft, BR-Drs 755/03, page 109). The BNA has considerable margin for assessment when performing tasks to do with the frequency order and especially when determining shortage in accordance with section 55(9) TKG since valuations and weightings have to be applied to the planning and executive decisions about the frequency order in order to compensate for some contradictory interests on the one hand and to weigh up the regulatory goals on the other. In this process, the BNA must start with assumptions that correspond to the current level of knowledge and experience, are also comprehensible, and that take the regulatory goals into account.

This forecast decision is based on the following considerations:

The demands for mobile communication frequencies will continue to increase in principle – irrespective of the actual registrations - in view of the increasing data traffic and of the increasing demand for ever higher transmission rates for the same mobility. Also, technical sophistication will ensure that the market players demand large bandwidths with the result that the possibility of acquiring connected spectrum must be available. Connected spectrum with a bandwidth of no less than 20 MHz will be required for the future development of LTE (Long Term Evolution). All these requirements can be met with the spectrum available here – especially in the 2.6 GHz band. Spectrum in which it is possible to have larger bandwidths can also be made available to existing mobile communication network operators and also to newcomers to the market with the overall 190 MHz available from the 2.6 GHz band. At present there is no way of knowing when equivalent quantities of connected mobile communication spectrum will ever be available again. So the chamber is of the opinion that there is great interest even now in the spectrum that is available.

This was also confirmed by the results of the public hearings conducted earlier.

As early as order 33/2005 OG BNA 8/2005, p. 782 ff, a hearing was opened to determine the frequency requirement to be expected after 2008 in the 2 GHz and 2.6 GHz bands. This formal hearing reflected a demand for frequencies to create the widest range of business models, a demand that exceeds the available spectrum. This outcome was confirmed by the informal hearing on 27 October 2005.

The existing UMTS network operators submitted a total frequency requirement that includes the available frequencies in the 2 GHz band and also in the 2.6 GHz band. This means the interests of the UMTS network operators shall be competing with those of potential newcomers who had already announced at the hearing their application for the frequencies up for award here.

BWA network operators and manufacturers of appropriate system technology also announced their interest in using the frequencies in the 2.6 GHz band to deploy systems for mobile data transmission. In connection with the auction of frequencies for BWA in the 3.5 GHz band in December 2006 it was again pointed out by interested parties that they would not get involved in the BWA auction relating to a future award of frequencies in the 2.6 GHz band since this frequency band was better suited to mobile applications given the propagation properties. The fact that not all frequencies were awarded as part of the auction of frequencies in the 3.5 GHz band cannot just be taken as a sign of declining interest in the market for frequencies from the spectrum up for award here.

The chamber considers all statements of requirement from 2005 as stable, then as now, with the result – especially in view of the announcements made by interested parties during the BWA auction – that it must be assumed that there is still a shortage. This also applies against the background of the planned inclusion of the available frequencies from the 1.8 GHz band (2 blocks of 5 MHz paired).

Furthermore, as part of the hearings on these draft decisions, a range of requirements was registered and – in some cases – concrete applications were submitted for frequency allocation for all the frequency bands concerned here, especially for the 2.6 GHz band also. These requirement registrations and applications exceed the total amount of spectrum available. The total amount of 270 MHz available in the frequency bands up for award is the target of requirement registrations and frequency allocation applications that exceed the spectrum available by more than 100 MHz. The forecast of frequency shortage, that was the outcome of the hearings conducted in 2005, has been substantiated. For this reason, the chamber maintains its shortage forecast in accordance with Section 55 (9) sentence 1, 1st alternative TKG.

If it is demanded in addition within the framework of the hearing that in order to confirm the forecast decision another requirement inquiry ought to be conducted to determine the current frequency requirement, then the chamber cannot support this. The chamber is more of the view that another frequency demand inquiry is neither necessary nor pertinent. The hearing on the draft decision of the president's chamber is the method currently available to the interested parties of indicating their requirements. The requirement registrations and frequency allocation applications that have been submitted have confirmed the demand situation that had already been made clear from the hearings in 2005. There is no need for another requirement inquiry.

If it is argued by commentators that the group of subscribers for the award procedure has expanded without satisfactory reason and hence an artificial shortage has been created, the following is to be noted:

It is intended to make the frequencies up for award here available for digital cellular mobile communications in a technology-neutral manner. For this reason it is not possible not to include the users of a specific technology in the assessment of requirement provided this is mobile communications technology. In the chamber's view, no specific technology is being highlighted in particular or even stipulated with the result that the objection of some commentators that the BNA is making itself into the "advocate for industry policy" just does not apply. If the group of interested parties for certain frequencies grows larger as a result of

this more flexible approach, this is not an artificial shortage in any case. It is more the case that awarding the total spectrum available of 270 MHz exclusively for users of specific mobile communication technologies would result in a range of other business models being excluded on the basis of different mobile communication technologies, with the result that the shortage would only tend to become more acute in other frequency bands for them. This is also true if reservations are made for individual technologies/business models. The preferential treatment of some leads to the shortage of facilities for others, a factor that is the purpose of making reservations. Even if the direct competition between potential bidders can be increased in the frequency bands available here for award, the approach of using technology neutrality restricts only the requirement of users of specific technology from being included. This applies in particular against the background that the spectrum available here for award has the considerable width of 270 MHz.

If, as requested by some commentators, the demand for newcomers to the mobile communications market is limited to a starter set of frequencies, it is pointed out that the aspects of minimum and maximum frequency spectrum are to be included as part of the award conditions that will be the subject of a later decision by the president's chamber.

If the question of reserving frequencies is broached by some commentators in the context of the shortage issue, it should be pointed out in principle that reserving all or part of the spectrum is irrelevant when determining shortage and is not the subject of this decision. The treatment of the issue of reserving spectrum or parts of the spectrum initially presupposes the decision to implement such a procedure as a possible component of an award procedure, a decision that will be made on the basis of determining a shortage. To this extent, a reservation does not presuppose a shortage in each case in the meaning of Section 55 (9) TKG and cannot change this.

If and to what extent reservations are to be made will have to be laid down in the decision on the award conditions. The opinions formulated within the framework of the hearing on the draft of this decision and of the initial considerations on the award conditions are already included when writing the draft decision on the award conditions that is made available to the public for hearing.

Notwithstanding this fact, the chamber takes the following considerations as its starting point on the issue of reserving spectrum:

Reserving spectrum is not advisable in view of the decision of the chamber dated 18.02.2000 (Order 13/2000, OG Reg TP 4/2000, p. 516 (552)) – as suggested by some commentators. In that document the chamber stated the following on the issue of awarding spectrum in the 2.6 GHz frequency band:

> "The forecasts or studies available on the market today assume to an overwhelming degree that the market for UMTS/IMT-2000 services will not develop in leaps and bounds from 2002 onwards but will grow successively. The actual "breakthrough" is anticipated between 2007 and 2010. […]
>
> If it is assumed that, on the basis of the significantly higher demand for UMTS/IMT-2000 services that is not anticipated until between 2007 and 2010, there will also be an increased frequency requirement from that time onwards among network operators/licensees, it seems appropriate if other frequencies can also be made available to the licensees within the framework of the planned availability of the UMTS/IMT-2000 extension bands (see Mandate to CEPT for the development of a common plan to identify additional frequency spectrum for a terrestrial third-generation mobile and wireless communications system (UMTS) in the community (3) dated 26 July 99 LC/99/15/Final). This is all the more so if it is expected by including forecasts from the above mentioned market studies that the growth of mobile communications sales will be based primarily on data use only after 2005."

If it is argued that existing UMTS network operators have a claim for priority allocation of frequencies from the 2.6 GHz frequency band arising from this, then it must be pointed out

that in the above mentioned decision dated 18.02.2000 the UMTS network operators were offered the possibility of acquiring additional spectrum in principle since frequencies from the 2.6 GHz band could be made available to UMTS licence holders also. This clarified the fact that UMTS network operators will not be excluded from the award of additional spectrum. But reserving this spectrum or granting a preferential position was not planned. Against this background, the investments made in the procedure in 2000 as part of the award of the UMTS/IMT-2000 frequencies do not justify any preference in terms of award of the 2.6 GHz band that will be available from 01.01.2008 onwards. For the same reasons, in the chamber's view, reserving the 2 GHz frequencies for existing network operators is also not advisable.

If it is pointed out that the BNA announced in order 89/2005 OG BNA 24/2005 that it wanted to reserve spectrum for existing UMTS network operators on the one hand and for newcomers on the other, the following must be noted:

The BNA held a hearing in 2005. At this hearing, the spectrum available at that point in time was outlined and at the same time inquiries made about the probable requirement for this spectrum, with the BNA assuming even at that time that there might possibly be a shortage. The result of this written and subsequent informal hearing was only that the first considerations on possible award scenarios were developed based on the ideas of the commentators and submitted to the hearing (order 89/2005, OG BNA 24/2005, page 1909 ff). What was shown among other things was the possibility of reserving a part of the spectrum for existing UMTS network operators and newcomers in order to take adequate account of conflicting interests. Determining the award conditions, especially also the aspect of reserving (spectrum), is the subject of the decision of the chamber on the award rules in detail in accordance with Section 61 (4) sentence 2 TKG; the decision will be issued later.

On II. (Choice of the award procedure):

The following was argued on this point:

Some of the commentators agreed unreservedly with the choice of the auction process as an award procedure. This view is justified by the fact that the auction procedure is better suited than any other award procedure to improving efficient use of frequencies and promoting competition between the companies. The fact that some frequency bands are in litigation does not negate choosing an auction procedure, provided at least that the bidders are informed in advance of the risk resulting from this situation.

In addition, the choice of auction as an award procedure was welcomed in principle, but was also seen as a risk since this might result in sustained discrimination against small and medium-sized enterprises resulting from the auction conditions chosen by the BNA, and competitive structures could be greatly restricted.

One commentator pointed out that it had not yet been decided what procedure was to be used if frequencies not auctioned for broadcasting purposes initially could then (also) be auctioned later for the broadcasting of radio. There was consensus only on the fact that broadcasting frequencies would not be auctioned, but would be awarded in the form of so-called "beauty contests".

Other commentators regard the choice of auction procedure as an award procedure as questionable at least.

The auction procedure was indeed the legal standard procedure, but the BNA failed to appreciate that – according to the comments – the presence of standard examples in Section 61 (2) sentence 2 TKG indicated that lack of suitability of the auction procedure. This was particularly true in this case where frequencies had already been allocated on the objectively and geographically relevant market in which the frequencies can be used in accordance with the frequency usage plan without holding an auction procedure in advance. Because of this, the decision of the BNA to award the frequencies as part of an auction procedure required a

special justification with sound arguments. The arguments put forward by the BNA in this context that frequencies had been allocated until now for frequency usages of digital cellular mobile communications within the framework of all legally available allocation possibilities and hence there would be no heterogeneous market access conditions for digital cellular mobile communications were dubious since this legal opinion could lead in the final analysis to an erosion of Section 62 (2) sentence 2 TKG.

In addition the BNA ought also to have taken into account in this context at least the fact that the frequencies in the 1.8 GHz band were only available because the BNA had allocated the – technically and economically far more valuable – frequencies in the 900 MHz band without holding the legally stipulated award procedure. The fact that established mobile communication network operators could “swap” their existing frequencies easily for more valuable frequencies, whereas potential newcomers would have to buy through auction the less valuable frequencies left ought to have been flagged up as problematic.

Furthermore, a special justification of the BNA’s choice of award procedure was regarded as necessary since otherwise the simple fact of determining the shortage of frequencies would automatically have lead to the use of the auction procedure, which was not supposed to happen.

To some extent an award of the “extension band” on the basis of administration fees is seen as acceptable since the subsequent allocation of these frequencies as extension band was seen as an integral part of the UMTS spectrum in the auction held in 2000 and consequently the commercial basis of that auction.

The auction procedure was judged to be illegal according to a different opinion. The award of the frequencies as part of the auction procedure did not contravene only national law, but also European telecommunications law since it contradicted in particular the condition of ensuring efficient use of frequencies. The auction procedure was not suitable in any way of guaranteeing the regulatory goals of Section 2 (2) TKG. Moreover, an award of mobile communication frequencies as part of the highest bid auctions was in contravention of Art. 12 of the EEC directive 2002/21/EEC (approval directive). There were also considerable apprehensions that the auction procedure wanted by the BNA would not stand up to close scrutiny under constitutional law.

The chamber ruled as follows on this point:

The award procedure for allocating frequencies for digital cellular mobile communications in the 1.8 GHz, 2.0 GHz and 2.6 GHz bands will be carried out in accordance with section 61(1) and (2) TKG as an auctioneering procedure in accordance with section 61(5) TKG.

Section 61 TKG provides for the auction and competitive bidding procedure as a suitable award procedure. The chamber regards the auction procedure as the appropriate selection procedure for the imminent procedure, meeting regulatory goals in accordance with section 2(2) TKG. This decision on choosing the procedure is based on the following considerations:

The auction procedure is the normal legal procedure under section 61(2) TKG. The auction procedure is to be held on this basis in principle (see order 42/2006 OG BNA 20/2006, page 3051 (3070 ff)). It is an appropriate, constitutionally permissible selection procedure. A fundamental regulatory goal, namely that of efficient frequency usage, can be achieved with this selection procedure. At the same time, the economic aspects of frequency selection criterion serve the regulatory policy goal of promoting competition (see the official justification BR-Drs 755/03, page 109 on section 59).

If it has been noted by some commentators that the auction procedure brings with it the risk of discrimination against small and medium-sized enterprises, it must be pointed out that the legislator has determined this procedure as being the standard procedure and the interests of small and medium-sized enterprises are to be included as part of the concrete auction rules; see Section 61 (5) TKG. These definitions and rules of the auction procedure need to be determined in a subsequent decision.

Exceptionally, the auction procedure is not to be held in accordance with section 61(2) sentence 1 TKG if it is not able to guarantee the regulatory goals in accordance with section 2(2) TKG. This may be the case in particular in accordance with section 61(2) sentence 2 Var. 1 TKG if frequencies have already been assigned, without holding an auction procedure beforehand, in the objectively and geographically relevant market for which the radio frequencies may be used in accordance with the Frequency Usage Plan.

Choosing the auction procedure for awarding frequencies in the 1.8, 2.0 and 2.6 GHz bands is not negated here by the fact that in the past frequencies were awarded for digital cellular mobile communications in the 900 MHz and 1.8 GHz band in a competitive bidding procedure. The example given in section 61(2) sentence 2 TKG for the possible unsuitability of the auction procedure (… in the objectively and geographically relevant market frequencies had already been allocated without holding an auction procedure beforehand…) is an indication of the possible unsuitability of the auction procedure. By itself the fact that the case given as an example exists does not automatically mean that a competitive bidding procedure is to be used.

The wording of the act (… this can be the case in particular if..) suggests rather that the BNA is to take a decision in each individual case in accordance with section 61(2) sentence 1 TKG according to its best judgement. The regulatory goals in accordance with section 2(2) TKG must be taken into account in relation to the objectively and geographically relevant market in each case.

In this case, the purpose of use was very wide, with the result that a variety of existing frequency usages is included. This applies in particular to GSM and UMTS/IMT-2000. In addition, there are substitution relationships with other frequency usages, such as BWA in the 3.5 GHz band for instance. The frequencies for these frequency usages were awarded in various ways. The result was that the UMTS/IMT-2000 frequencies in the 2.0 GHz band were auctioned, the GSM frequencies in the 1.8 GHz band were awarded using the competitive bidding and auction procedures. The BWA frequencies in the 3.5 GHz band were also auctioned.

The protective purpose, supported with the above mentioned standard example, of preventing unacceptable competitive disadvantages by asymmetrical market access conditions requires the inclusion of all award procedures in the review of suitability of the auction procedure. Frequencies were awarded for frequency usages of digital cellular mobile communications by means of all the allocation methods provided by law. So it can be said that the market entry conditions were heterogeneous so far for digital cellular mobile communications. As a result, the holding of an auction does not contravene the protective purpose of section 61(2) sentence 2 Var. 1 TKG in this case.

This argument also does not mean, as argued at the hearing, that the ruling of Section 61 (2) sentence 2 TKG has been eroded. Section 61 (2) sentence 2 TKG contains only standard examples of the conditions in which the auction procedure cannot be suitable for ensuring regulatory goals. In the final analysis, it may only depend on the fact that the choice of award procedure guarantees the regulatory goals in the meaning of Section 61 (2) TKG. The auction procedure is suitable in this case for guaranteeing the regulatory goals in accordance with Section 2 (2) TKG.

The choice of auction procedure is used to safeguard user and, in particular, consumer interests in the sphere of telecommunications in accordance with section 2(2) No. 1 TKG. The auction procedure is an open, transparent and objective procedure that also allows a fast market entry in particular. The decision on award of contract can be made quickly with the auction procedure without needing to go through a tedious procedure to select suitable network operators.

Moreover, the auction procedure is suitable for guaranteeing the regulatory goal of ensuring efficient and interference-free frequency usage in accordance with section 2(2) No. 7 TKG. The willingness and ability to use the frequencies in the free enterprise market of service provision as optimally and efficiently as possible are substantiated by a successful offer. To

verify this presumption further, the chamber, in accordance with section 61(5) TKG, will specify definitions and rules for the auction procedure, such as the licensing prerequisites (reliability, efficiency and expertise, business model) and usage conditions (such as coverage obligation).

The guarantee of efficient frequency usage will also not be put at risk by choosing the auction procedure in the sense that some of the frequencies from the above mentioned frequency bands are still in litigation (see I 1 above on this point). But the simple fact that the frequencies in litigation come with an additional risk does not negate holding an auction procedure. Even if the disputed frequencies are beset with risks regarding the continued existence of the right of use, the auction procedure for awarding the frequencies is suitable in this case. The fact of being in litigation will be made equally transparent for all interested parties. In addition, the risk of cancellation of the usage rights following a court decision is equally high in principle for all interested parties.

What only the auction procedure does in fact offer in this case is adequate flexibility and, consequently, the necessary margin for decision taking for the individual bidders so that they can freely select the frequency packets on which they are bidding in accordance with their own preferences. Furthermore, every bidder has the possibility, including during the auction, of switching from spectrum in litigation to spectrum not in litigation and vice versa.

The other regulatory goals of section 2(2) TKG also do not leave any doubts about the suitability of the standard legal procedure of the auction

Consequently, under section 61(2) TKG, the auction is the appropriate procedure for the award of frequencies for digital cellular mobile communications in the 1.8 GHz, 2.0 GHz and 2.6 GHz bands.

The award of frequencies as part of an auction procedure is also in line with the rules of the European directive. Awarding frequencies as part of a “highest bid auction” does not contravene Art. 12 of the approval directive – as noted by one commentator – since this provision concerns only administrative fees.

If it is also noted by one commentator that it has not been decided how to proceed if the frequencies to be auctioned are used later for broadcasting purposes, it should be pointed out that the frequencies to be awarded here are intended for mobile communications and not for the radio service. For this reason, the ruling of Section 61 (2) sentence 3 TKG does not apply to this procedure.

The choice of auction procedure is also not negated by the fact that, within the framework of the GSM concept, spectrum available in the so-called E-GSM band was allocated initially to E-network operators as part of the frequency shifting since they had handed back to the BNA in return equivalent spectrum from the 1800 MHz band that had already been allocated. The result is that 2 x 10 MHz (paired) are now available, as was the case before the frequency shift, and they can now be made available to the market in an auction.

The choice of an auction procedure should also not be questioned because one part of the spectrum is also seen, by one section of commentators at least, as already having been promised. Promising parts of the spectrum – such as the 2.6 GHz band – to network operators was never done at any time. The reference of the UMTS network operators to the auction rules from 2000 also misses the point that in that decision of the president’s chamber (Order 13/2000 OG Reg TP No. 4/2000) there was no promise to make specific spectrum available later, but only the reference to the possibility of access to additional spectrum.

Instructions about the right to appeal

Proceedings can be initiated against this decision within one month after its promulgation, to the Verwaltungsgericht in Köln (Cologne Administrative Court), Appellhofplatz, 50667 Köln, in writing or to be recorded by the document clerk of the court office. The proceedings must

name the plaintiff, the defendant and the subject of litigation. It should contain a specific motion. The facts and evidence to be used as justification should also be given. In accordance with section 137(1) TKG the proceedings have no delaying effect.

An adequate number of copies of the proceedings and attachments must be provided so that all parties involved can receive a copy.

Bundesnetzagentur für Elektrizität, Gas,
(Federal Network Agency for Electricity, Gas,
Telekommunikation, Post und Eisenbahnen
Telecommunications, Post and Railways)
The Presidential Chamber

Bonn, 19th June 2007

Dr. Henseler-Unger	Kurth	Kindler
Associate judge	Presiding judge	Associate judge