**BEMFV** 

Order on the procedure for providing proof as regards limiting exposure to

electromagnetic fields

**Unofficial translation. Only the German text is authentic.** 

The Order on the procedure for providing proof as regards limiting exposure to

electromagnetic fields of 20 August 2002 (Federal Law Gazette I p. 3366), amended by

Article 3(20) of the Act of 7 July 2005 (Federal Law Gazette I p. 1970), has been

amended as follows.

STATUS:

Wording at entry into force on 22 August 2013

LAST AMENDMENT:

Last amended by Article 2 of the amending order of 14 August 2013 (Federal Law

Gazette 2013 Part I No. 50 p. 3263) issued in Bonn on 21 August 2013 on the basis

of Section 12 of the Act on radio equipment and telecommunications terminal

equipment of 31 January 2001 (Federal Law Gazette I p. 170), last amended by

Article 3(20) of the Act of 7 July 2005 (Federal Law Gazette I p. 1970).

**Preamble** 

On the basis of Section 12 and Section 16 (1) point 3 of the Act on radio

equipment and telecommunications terminal equipment of 31 January 2001

(Federal Law Gazette I p. 170) in conjunction with Chapter Two of the Act on

administrative costs of 23 June 1970 (Federal Law Gazette I p. 821), the Federal

**Government orders the following:** 

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# **Section 1**

# Purpose and area of application

This Order regulates the procedure for providing proof to ensure the safety of people in the electromagnetic fields produced during the operation of fixed radio equipment.

# **Section 2**

# **Terms and definitions**

For the purposes of this Order

1. fixed radio equipment

is radio equipment within the meaning of Section 2 point 3 of the Act on radio equipment and telecommunications terminal equipment, including radar devices, which when operated in accordance with their intended use do not experience a change of location,

2. fixed amateur radio equipment

is fixed radio equipment within the meaning of point 1 which is operated in accordance with Section 2 point 3 of the Amateur Radio Act of 23 June 1997 (Federal Law Gazette I p. 1494), last amended by Section 48 of the Act of 10. November 2001 (Federal Law Gazette I p. 2992)

3. a site

is the place where fixed radio equipment is erected or is to be erected; the site includes all radio equipment which is operated on the same mast or in close proximity to each other (the safety distances of the particular antennas overlap)

4. the site-specific safety distance

is the distance required between the reference antenna and the area in which the limit values in accordance with Section 3 sentence 1, taking into account the relevant field strengths of the surrounding fixed radio equipment, are met,

5. the reference antenna

is the transmitting antenna with the lowest mounting height above the ground, which requires a systems-based safety distance or, due to the nature of its features, must be taken into account when calculating the site-specific safety distance,

6. the systems-based safety distance

is the distance between an individual fixed antenna and the area in which the limit values in accordance with Section 3 sentence 1 are met,

7. the controllable area

is the area in which the operator may decide who is permitted to enter or remain or an area which, due to actual circumstances, people are prohibited from entering, 8.

the operator

is any natural or legal person who has legal and physical control of all the functions of radio equipment.

### **Section 3**

#### **Limit values**

In order to limit exposure of the electromagnetic fields (EMF) produced by fixed radio equipment, the following limit values must be observed within the 9 kilohertz to 300 gigahertz frequency range:

- the limit values laid down in the currently valid version of the Order on electromagnetic fields (26th Order implementing the Federal Law for the protection against emissions) [German designation: 26.BImSchV] and,
- in addition, within the 9 kilohertz to 50 megahertz frequency range, the limit values for active implants in accordance with standard DIN EN 50527-1 (issued January 2011) and standard DIN EN 50527-2-1 (issued May 2012).

Taking into account the emissions from other fixed radio equipment, the limit values in sentence 1 must be observed at least at the sites where the limit values in the Order on electromagnetic fields (26. BlmSchV) also apply. The DIN standards referred to in this Order are published by VDE-Verlag GmbH, Berlin and Beuth-Verlag GmbH Berlin and Cologne and are securely archived at the German Patent and Trade Mark Office in Munich.

### **Section 4**

#### Site certificate

- (1) Fixed radio equipment with an equivalent isotropic radiated power (EIRP) of 10 watts or over may only be operated if accompanied by a valid site certificate. This also applies to fixed radio equipment with an equivalent isotropic radiated power (EIRP) of less than 10 watts which is installed at a site with a total radiated power of 10 watts or over, or if the arriving radio equipment has or exceeds a total radiated power of 10 watts EIRP. Sentence 2 does not apply to radio equipment with an EIRP of 100 milliwatts or less.
- (2) Paragraph 1 applies to fixed amateur radio equipment only insofar as stipulated by the provisions of Section 8. Paragraph 1 does not apply to fixed radio equipment for which there is no systems-based safety distance. The operator of the equipment pursuant to sentence 2 must inform the Bundesnetzagentur für Elektrizität, Gas,

Telekommunikation, Post und Eisenbahnen of the site where this equipment is installed along with the geographical coordinates.

- (3) By way of deviation from paragraph 1, fixed radio equipment may be operated without a site certificate provided it is necessary to place this equipment into service immediately purely to carry out activities connected with public safety, State security or activities associated with hazard control or criminal prosecution and provided the limit values in accordance with Section 3 have been met. The Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen must receive an application at the latest four weeks following its placing into service or the equipment must be taken out of service.
- (4) Applications for a site certificate for equipment to be used in frequencies of 30 megahertz or over may only use the application forms published in the official journal of the Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen. Where only frequencies below 30 megahertz are used, application for the site certificate may be made without the official forms.
- (5) The application shall only be deemed valid if all the necessary documentation is submitted to the Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen. With the application the operator informs the Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen of the site where the equipment is installed along with the equipment's geographical coordinates.

Duplicate copies of the following must be enclosed with the application:

- a site plan (local maps, excerpts from the local development or zoning plan), showing the land and buildings adjacent to the site where the radio equipment in question is to be operated,
- if the transmitting antenna is to be mounted on a structure, a building plan or sketch of the structure with dimensions (side view and top view), showing the mounting position of the radio equipment,
- 3. diagrams of the antennae to be used.
- (6) If the processing of an application for a site certificate presupposes a re-assessment of radio equipment already installed on site, the applicant shall be liable for any costs incurred as a result.

# Issuing the site certificate

- (1) Before issuing the site certificate, the Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen shall determine, either by calculation or measurement in accordance with German standard DIN EN 50413 (issued August 2009), on the basis of the system-based safety distance, the site-specific safety distance necessary to comply with the limit values in accordance with Section 3. The Authority shall also take into account the relevant field strengths of the surrounding fixed radio equipment (site-specific factors of the surrounding area). Should the Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen issue the site certificate on the basis of measurements, it will record the results in an appropriate manner.
- (2) The Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen shall issue a site certificate provided the site-specific safety distance lies within the controllable area. The equipment may only be operated provided no one is present within the site-specific safety distance, unless this is for operational reasons.
- (3) In the absence of the stipulations of paragraph 2 sentence 1, a site certificate may only be issued in agreement with the relevant authority for the protection against emissions if
- the application concerns a short, medium or long wave radio transmitter, and
- depending on the circumstances of each individual case, particularly the type and duration of the equipment's operating capacity and the actual presence of people within the area affected by the equipment, the equipment is not expected to be present a health risk. The area to which the limit values outside the controllable area do not apply shall be stipulated by the Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen in the site certificate (secondary area for radio transmitting equipment).

In order to ensure compliance with these requirements, the site certificate is subject to additional provisions. The boundaries of the secondary area shall be marked by the operator. The Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen shall monitor compliance with the requirements at regular intervals. The equipment may only be operated provided no one is present within the site-specific safety distance, unless this is for operational reasons.

(4) If due to the conditions for taking measurements, a site certificate for fixed radio equipment within the meaning of paragraphs 2 and 3 can only be issued after the equipment has been installed and temporarily placed into service, the applicant shall be issued with a provisional site certificate on request provided it can be assumed from the data available that the conditions for issuing a site certificate have been met. The

Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen shall inspect the radio equipment before it is finally placed into service. If, given the conditions for taking measurements, the conditions for issuing the site certificate stipulated in paragraphs 2 or 3 have been met, the Authority shall issue this certificate.

(5) For the purpose of informing the public, the Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen operates a non-personal information portal indicating the safety distance as specified in paragraph 1 for each radio equipment for which a certficate has been issued.

#### **Section 6**

#### Shared use of site

- (1) If fixed radio equipment is already present at the site intended for the fixed radio equipment in question and if the total output of all the fixed radio equipment to be operated at the site corresponds to a radiated power (EIRP) of 10 watts and over, an application must be made for a site certificate for the most recently installed radio equipment. The applicant must provide the Bundesnetzagentur für Elektrizität, Gas, Telekommunikation. Post und Eisenbahnen with the name of the operator of the existing fixed radio equipment. The Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen may ask the operator of the existing equipment to provide the necessary information for inspection purposes, provided that this information is not already supplied on an existing site certificate. If the operator does not supply the necessary information within eight weeks of this request, the applicant must state whether they require an extension of the deadline or whether the field strength measurement should be carried out by the Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen, the cost of which will be borne by the applicant. If the applicant requests an extension of this deadline and at the end of this extension the necessary data has still not been produced, the Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen may turn down the application.
- (2) The stipulations in paragraph 1 also apply to the operator of fixed radio equipment used at the same site who modifies their equipment in such a way that the conditions under which the site certificate was issued are no longer met.
- (3) When assessing amateur radio equipment already existing at a site, according to the instructions from the Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen for the notification of each transmitting antenna or group of transmitting antennae, the most disadvantageous configuration of transmitters shall be adopted. The party applying for the site certificate shall bear the cost of incorporating amateur radio equipment.
- (4) The site certificate issued for the most recently installed piece of radio equipment or radio equipment modified as specified in paragraph 2 shall apply at the same time to the other remaining pieces of fixed radio equipment installed at the site and will replace earlier certificates issued for the site. The operators of the radio equipment shall receive a copy of the new site certificate from the Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen specifying the holder of the site certificate.

# Revocation and expiry of a site certificate

- (1) A site certificate may be revoked if the limit values in accordance with Section 3 are amended.
- (2) A site certificate shall cease to be valid if the conditions according to which the certificate was issued are no longer met as regards the technical parameters of the radio equipment or due to a modification made in the area surrounding the radio equipment.
- (3) A provisional site certificate shall cease to be valid upon issue of a site certificate in accordance with Section 5 (2) or (3).

### **Section 8**

### Fixed amateur radio equipment

- (1) Fixed amateur radio equipment requires a site certificate in accordance with Section 5 if fixed radio equipment to which the provisions of Section 4 apply is already installed at the site intended for the amateur radio equipment.
- (2) Fixed amateur radio equipment which exhibits a total radiated power (EIRP) of 10 watts or over at the site may also only be operated provided
- the site-specific safety distance lies within the controllable area,
- 2. the operator has notified the equipment in accordance with Section 9,
- the operating data corresponds to the data provided with the notification/application, and
- personal health, particularly the health of people with active implants, cannot be impaired by the operation of this equipment.
- (3) As regards compliance with the limit values in accordance with Section 3 sentence 1 point 2, the operator may be excluded from the stipulation of paragraph 2 sentence 1 point 1 provided they

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- inform the Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen, within the framework of the notification in accordance with Section 9, of the area outside the controllable area in which the limit values in accordance with paragraph 3 sentence 1 point 2 are not met (secondary area for active implants),
- ensure that people with active implants will not be present in the secondary area during the operation of amateur radio equipment.

# Notifying fixed amateur radio equipment

- (1) The operator of fixed amateur radio equipment with an equivalent isotropic radiated power (EIRP) of 10 watts or over must notify this equipment to the Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen prior to placing into service. The instructions pertaining to notifications published in the official journal of the Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen shall apply in this connection.
- (2) The operator must determine, either by calculation or measurement on the basis of German standard DIN EN 50413 (issued August 2009), the safety distance necessary to comply with the limit values and document this in a comprehensible form.
- (3) A comprehensible diagram of the site-specific safety distance and of the area controlled by the operator shall be enclosed with the notification. The operator must also keep the following documents available from the date of the placing into service of the equipment:
- documentation concerning compliance with the requirements of Section 8 (2) and (3),
- 2. antennae diagrams, in the case of commercial antennae,
- 3. a site plan based on the local development, property or zoning plan, showing the land and buildings adjacent to the site where the radio equipment in question is to be operated as well as the areas in which the limit values in accordance with Section 3 shall be met.

4.

if the transmitting antenna is to be mounted on a structure, a building plan or sketch of the structure with dimensions (side view and top view), and

- details of the configuration of the installed fixed amateur radio equipment, including their transmitting power and all the other technical parameters necessary to assess the maximum electromagnetic fields produced by the equipment.
- (4) Following submission of the notification, the amateur radio equipment operator must also ensure that the information supplied by them remains accurate. If the information contained in the notification no longer corresponds with the actual conditions, the operator must repeat the notification procedure.
- (5) Amateur radio equipment subject to notification may be published in the information portal specified in Section 5 (5) provided the operator of the equipment has given its consent and provided the notification is published in the form described in the notification instructions. Should the operator request the removal of the amateur radio equipment from the portal, the notification published in accordance with sentence 1 shall be deleted forthwith or at the latest two weeks after receipt of the request for removal.

#### **Section 10**

### Additional protection of people with active implants

- (1) Anyone who operates fixed radio equipment or amateur radio equipment in a frequency range from 9 kilohertz to 3 gigahertz must ensure in an appropriate manner the protection of people with active implants present in the area in which the limit values in accordance with standard DIN EN 50527-1 (issued January 2011) and DIN EN 50527-2-1 (issued May 2012) are not met (area affecting active implants). The operator must keep a record of the measures taken by them and present this to the relevant authorities on request.
- (2) The Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen shall specify the area affecting active implants in the site certificate, if this exceeds the safety distance stipulated in the site certificate. The operator of fixed amateur radio equipment subject to the notification obligation of Section 8 (2) or (3) must provide a diagram of the area affecting active implants. Section 9 (2) applies accordingly.

# Placing into service and withdrawal from service of radio equipment

- (1) The placing into service and major modification of fixed radio equipment subject to the provisions of Section 4 must be notified to the Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen at least two weeks prior to placing into service. The withdrawal from service of fixed radio equipment subject to the provisions of Section 4 must be notified to the Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen without delay.
- (2) The date of the placing into service and withdrawal from service of fixed radio equipment (base stations) in public mobile radio networks, which exhibit an equivalent radiated power of less than 10 watts (EIRP), must be notified to the Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen within four weeks of being placed into service or withdrawn. Sentence 1 does not apply to radio equipment with an EIRP of 100 milliwatts or less.

#### Section 12

# **Modifying radio equipment**

- (1) The operator of fixed amateur radio equipment which is subject to the requirements of Section 8 (2) or (3) must repeat the notification procedure in accordance with Section 9 if the radio equipment exhibits technical parameters which mean that the conditions under which it was originally notified no longer apply.
- (2) The operator of fixed radio equipment which is subject to the provisions of Section 4 must immediately notify the Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen of any modifications made to the radio equipment as regards registered data.

#### Section 13

### Inspection

(1) The Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen may monitor compliance with the values stipulated in the site certificates on site and document the functionality of the certification procedure by taking a regular series of measurements. The operator must grant the employees of the Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen performing this inspection access to the radio equipment in question during normal office hours and must carry out and support any measures necessary to carry out this inspection. The operator must bear the costs of the inspection if the information supplied in their application is incorrect.

(2) The Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen may inspect the information supplied within the framework of the notification procedure in accordance with Section 9. To this end, the operator must submit the documentation kept in accordance with Section 9 (3) to the Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen. If the authority has reason to suspect that the requirements of this Order are not being met, they shall order the inspection of the equipment. Paragraph 1 sentence 2 and 3 apply accordingly. For the measurement the amateur radio equipment shall be ready for operation following prior notification.

# § 14

#### Orders

The Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen shall issue the necessary orders to ensure compliance with this Order. In particular, they may restrict or ban the operation of fixed radio equipment. Orders ensuring adherence to paragraph 3 sentence 1 point 1 shall be issued in agreement with the local emission protection authority.

# § 15

### Fees and expenses

The fees and expenses set out in Annex 1 shall apply to the individually attributable public services performed by the Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen on the basis of the aforementioned regulations. If

- an application is withdrawn once official proceedings have been initiated and before the individually attributable public services performed by the Authority have been completed or if an application is refused for reasons other than lack of competence, up to 75% of the fee for the administrative act in question is payable,
- an appeal against a substantive decision is wholly or partially rejected, provided the appeal's lack of success is not based purely on the obscurity of an infringement of a procedural or formal requirement in accordance with Section 45 of the Act on administrative procedures, up to 100% of the fee for the individually attributable public services appealed against is payable.

# § 15a

### Administrative offences

Under Section 17(1) para 7 of the Act on radio equipment and telecommunications terminal equipment, whoever, intentionally or negligently, operates a fixed radio equipment in contravention of paragraph 4 section 1 sentence 1, also in conjunction with sentence 2, in contravention of paragraph 5 section 2 sentence 2 or in contravention of paragraph 5 section 3 sentence 5, shall be deemed to have committed an administrative offence.

# § 16

### **Transitional provisions**

Section 4 shall not apply until 31 December 2003 to fixed radio equipment placed into operation before 20 August 1997. If this equipment undergoes technical modifications following the entry into force of this Order or additional fixed radio equipment is installed at the same site, the provisions of Section 4 shall apply.

# § 17

### **Entry into force**

This Order shall enter into force on the day following promulgation.

The Bundesrat has agreed.

# Annex (to section 15)

Source of the original wording: Federal Law Gazette I 2002, 3371

A.	Fees for issuing a site certificate	in EUR
A.1	Basic fee for processing an application	73
A.2	Fee, in addition to A.1, for each transmitting antenna to be assessed (also applies to transmitting antennae already existing on site and transmitting antennae to be assessed in the event of the shared use of a site; also applies in the case of provisional site certificates pursuant to Section 5 (4))	92
A.3	Fee, in addition to A.1, in the case of a site in accordance with Section 5 (3)	The fee amount is calculated on the basis of the actual cost arising from fee numbers A.5.1 to A.5.3
A.4	Per transmitting antennae to be assessed, as regards the conversion of a provisional site certificate into a final site certificate	92
A.5	Fee in addition to A.2 to A.4 if measurements or near-field calculations are necessary	The fee amount is calculated on the basis of the actual cost arising from fee numbers A.5.1 to A.5.5
A.5.1	Hourly rate for high-ranking officials	240,17
A.5.2	Hourly rate for senior civil servants	169,37
A.5.3	Hourly rate for middle-ranking officials	129,82
A.5.4	Hourly rate for the use of a measuring car (incl. the measuring instruments on board the measuring car)	57,26
A.5.5	Rate of a measuring car per km	0,23
В.	Other Fees	in EUR
B.1	Notification of radio equipment subject to the certification procedure pursuant to Section 11 (2)	22
B.2	True copy of a site certificate	25

C.	Operation of radio equipment without the necessary site certificate or in violation of the provisions thereof; infringement of obligations relating to notification and documentation; operation of amateur radio equipment in violation of Section 8 of the Order	in EUR
C.1	Administrative measures taken to deal with an infringement, including stipulating measures depending on expenses	100 to 2.000
C.2	Fee, in addition to C.1, if a mobile measuring gauge is used	The fee amount is calculated on the basis of the actual cost arising from
		fee numbers A.5.1 to A.5.5