

# Unified Jurisdiction

High-frequency systems do not require official approval in the sense of the immission protection law. The Federal German Immission Protection Act (BImSchV) obligates to set up and operate such systems so that damaging environmental effects, which could be avoided according to the standard of technology, are prevented. Unavoidable environmental effects have to be limited to a minimum. The BImSchV authorizes the Federal Government to define requirements for such systems by means of statutory orders. Requirements in this sense could for example be limiting values for electromagnetic fields. Only with the regulation on electromagnetic fields (26th BImSchV) such a legal order was coming into force on 1 January 1997. It puts the BImSchV into concrete form and defines limiting values, whereat it differs between high-frequency and low-frequency field with regard to potential health risks. Besides the carrier of a high-frequency system is obliged to indicate the installation at least two weeks before commissioning to the appropriate authorities. The same applies to fundamental changes on already existing systems.

According to the BImSchV, electromagnetic fields caused by high-frequency systems in principle have to be assessed as immissions. This was also confirmed for low-frequency systems by the Federal Administrative Court in 1996. The law determines the measure of what has to be subjected as environmental effects due to electromagnetic fields. However, the health protection conveyed by the

immission protection law only starts where human medicine can make sufficiently reliable predicates about the risk of emissions. Therefore with systems, which do not need official approval according to the immission protection law, only the protection against verifiable damaging environmental effects can be demanded. Statutory safety precautions against damaging environmental influences do not exist in contrast to the systems requiring official approval according to the immission protection law.

The regulation on electromagnetic fields is restricted to the construction, constitution and operation of stationary systems that generate high-frequency or low-frequency electromagnetic fields. Additionally, the systems have to serve commercial purposes. Transmitting radio communication systems of the public broadcasting corporations are not affected by the regulation, as the carrier does not practice a commercial occupation.

## **Limiting Values of the 26th Federal German Immission Protection Act**

The immission limit values defined in the 26th BImSchV are based on the recommendations of the International Radiation Protection Association (IRPA) and the International Non-Ionizing Radiation Committee (INIRC), the International Commission on Non-Ionizing Radio Protection (ICNIRP), which continues the work of IRPA/INIRC, as well as on the recommendations of the Commission on Radiation Protection.

The regulations are orientated on the realization prevailing in science, that the main effect of high-frequency fields is the heating up of tissue. For the protection of the population an SAR basic limit value (Specific Absorption Rate SAR) was internationally determined on 0.08 W/kg, on which also the limit value determination for high-frequency systems in appendix 1 of paragraph 2 of the 26th BImSchV is based. By the adherence to this limit value thermal effects in the human body can be excluded. By the definition of the immission limit values the legislator made a definite regulation about the electromagnetic fields which are binding to the public. The courts are bound to the limit value definition in the regulation. Something else could only apply if the legislator had misjudged the yardstick resulting from article 2 paragraph 2 Basic Law in the definition of the limit values. The state is in principle obligated to protect its citizens against potential health risks. This protection obligation not only intervenes if lives and health are concretely endangered. In addition, it cannot be expanded into the „scientific ignorance“ concerning possible damages. The right of the public and the neighborhood to physical soundness is protected if indications for a health risk do not exist according to the status of science and technology.

## **Court Decision concerning Potential Health Risks due to Electromagnetic Fields**

Although only verdicts by the supreme court do exist so far concerning the influences of low-frequency electric and

*on electromagnetic fields (26th BImSchV)*

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magnetic fields on health, those decisions are essential for the assessment of the health effects of high-frequency systems in jurisdiction and literature. In a judgement concerning the construction of a 110-kV railroad conduction, the Federal Administrative Court acknowledged that the rights of third are protected according to the present state of knowledge, if the limit value recommendations of the IRPA are kept. In the adherence to these limit values a health risk of the residents is impossible. Transferred to high frequency systems, this would mean that on observance of the limit values determined in the appendix of the 26th BImSchV health risks by thermal effects on the human body are impossible, because these limit values correspond to the international recommendations. In a resolution from 17 February 1997 about the operation of a transformer station next to a house the Federal Constitutional Court determined that electromagnetic fields can impair the human state of health in principle. However, according to the present state of knowledge a health risk would only occur with effects, which were situated clearly above the determined limit values. In further proceedings, which also dealt with a study of the American National Council for Radiation Protection (NCRP), the Federal Constitutional Court acknowledged the limit values of the 26th BImSchV for low-frequency systems, as they were determined according to international recommendations. Since this applies also to the limit values of high frequency systems, the decision of the Federal

Administrative Court from 17 February 1997 might be applicable to high frequency systems as well.

Beside thermal effects also so-called athermal effects are discussed in science. The influencing of the human EEG, the melatonin secretion of the pineal gland as well as a cancer-promoting effect are after-said to high-frequency electromagnetic fields. However, first results of such diseases can - according to the probably unanimous jurisdiction - neither be consulted for the evaluation of harmful environmental effects in the sense of the BImSchG nor for the reason of a violation of fundamental rights according to the Basic Law. For an endangerment in the sense of right rather a state of affairs must exist, which in foreseeable time would lead to a damage with sufficient probability.



# REGULATORY JURISDICTION

**The right of the general public and the neighborhood to physical soundness is protected, if there is no evidence for a potential health risk according to the standard of science and technology.**



Such a probability of damage is not given with electromagnetic fields. None of the effects described in science so far could be determined again with comparable tests. Accordingly the Administrative Court (VG) Osnabrueck determined in a judgement of 26 April 1996 that athermal effects could not be verified scientifically at present. The most provable biological effects due to high-frequency fields rather correspond to the reactions as they are caused by a tissue heating up (recommendation of the ICNIRP, Edition Wissenschaft, Research Association of Radio Applications, April 1996, p. 6/8).

The protection from any health risks due to electromagnetic fields is therefore ensured by the adherence to the limit values of the 26th BImSchV, because this regulation is just to prevent effects due to an increase of the body temperature. On adherence to the limit values the rights of the public and the neighborhood to physical soundness in the sense of article 2 paragraph 2 rate 1 Basic Law are thus protected.

In this sense also the Higher Administrative Court (OVG) Lueneburg expressed itself to a judgement announced on 26 March 1998. Accordingly an infringement of the law of the plaintiffs by the operation of a portable radio base station in a distance of approx. 140 m is not recognizable. According to the court, it cannot be ascertained that pulsed electromagnetic fields of high frequency systems produce health impairments in the population of the closer vicinity of transmitting plants by athermal biological effects.

The court neither sees a basis for the necessity of an expert evidence. It relies on the fact that the plaintiffs themselves could not bring a concrete proof for the existence of the athermal health-impairing effects maintained by them. The court sees,

however, still research requirement here, since the status of science is „still just as unsatisfactory today as five to ten years ago“.

Altogether the jurisdiction of the higher administrative courts and administrative courts come to the corresponding result that athermal effects on health are not proven.

The OVG Lueneburg neither sees a legal base for the fact that the criterion of precaution could oppose the construction and operation of radio transmitting installations, which are actually in agreement with the 26th BImSchV. The BImSchG does not designate such a precaution precept. The precaution in the area of the systems that do not require official approval is rather transferred to the legislator who is entitled to have further clearance in estimation, evaluation and organization according to the already quoted decision of the Federal Administrative Court from 17 February 1997.

According to the judgement of the OVG Lueneburg, the limit values determined in the 26th BImSchV are important for the evaluation of the legal validity of the system also in the relation to the neighbors. The limit values concretize the request for the protection of the public and the neighborhood from harmful environmental effects. These requests are now defined normatively. Thereby they obligatorily and sufficiently determine the measure, in which protection and precaution are required against endangerment of the health. The legislator thereby acts in practice of the national protection obligation. His decision concretizes the necessary measure of protection and precaution.

Regarding the non-thermal effects, the OVG Lueneburg decides that the legislator

before the decree of the 26th BImSchV dealt with the question, whether precaution requests are to be placed on the high frequency systems for the consideration of non-thermal effects. However, he decided against it, because it „missed any scientific basis“. This normative decision is relevant for the judicial evaluation.

In the same sense the Administrative Court Munich had already expressed itself before in its resolution of 8 July 1997. It also deems the adherence to the determined limit values sufficiently. Regarding potential health risks due to so-called athermal effects of electromagnetic fields on biological systems like humans, the Munich judges noted that this was just a bare first suspicion, which is not sufficient anyhow to „lift out“ the obligatory limit value definition. The limit values, which were determined on the basis of the natural body stream and were based on the recommendations of the International Radiation Protection Association (IRPA) as well as the World Health Organization (WHO), reliably protected against irritations and thermal damage. In fact, health-relevant effects, which cannot be led back to irritation and warming up, were also discussed underneath these limit values. Concrete evidence for possible health risks would not be available according to the present status of science.

Also the Administrative Court Schleswig determined in a judgement of 22 August 1997 that with adherence to the limit values a health risk can be excluded both by thermal and by possible athermal effects of electromagnetic fields according to the present status of science. In this sense also the Higher Administrative Court Bautzen expressed itself in the resolution of 17 December 1997. It decided that with a system, which does not exceed the limit

values, a deviating evaluation of the possibility of harmful environmental effects is basically excluded in the sense of the BImSchG. Also regarding the so-called athermal effects, a comprehensible risk potential does not exist in the opinion of the OVG Bautzen.

The Bautzen judges besides expressly refused granting special protection to one of the plaintiffs who had fallen ill with a brain tumor. It is not evident that the limit values could not offer sufficient protection considering particularly sensitive states of health. Regarding the heating up of the body tissue, sufficiently conservative values might insofar have been determined in the 26th BImSchV. After a rise in temperature negative effects were basically only determined during a continuous influence of SAR values of above 2 W/kg. With an SAR of 0.08 W/kg the limit value offers an extensive safety margin. The risk of health consequences due to a high frequency system could hence be excluded even with a markedly increased health sensitivity of residents.

A resolution of the Administrative Court (VG) Hamburg from 24 April 1997 is based on the statement that at the present state of science there are no realizations about so-called athermal or non-thermal effects, which would have the character of harmful environmental influences in the sense of the BImSchG. Many predicates existed about the fact that particularly low-frequency pulsed high-frequency fields can cause biological effects, which are not based on a heating up of the body. These findings are, however, disputed. It is just as disputed whether such athermal effects are harmful to the organism. This uncertainty in the scientific evaluation of the athermal effects of portable radio systems does not lead to the consequence that the legal evaluation

has to assume a risk situation, which is different from atomic energy law. Under no circumstances it can be spoken of concrete or provable risks for life and health at the present state of knowledge. The causative and damage profile of such effects is theoretically as well as empirically vague and may become recognizable in its individual effects only after a further, longer observation phase. Only then necessary preventive measures could be evaluated. Finally the VG Hamburg decided that the limit values determined in the 26th BImSchV ensure the protection against health risks, considerable disadvantages and irritations.

The Administrative Court Munich determined in the judgement of 11 November 1997 that the limit values defined in the 26th BImSchV do not offend against higher-ranking right and have to be regarded as obligatory. In case of adherence to the intended limit values health damage is impossible - anyhow according to the present state of knowledge.

### Summary

The 26th Federal Immission Protection Act specifies obligatory values for the authorizing bodies and the courts with the evaluation of the effects of electromagnetic fields. In most cases no more doubts might therefore exist against the approvability of antenna carriers for portable radio. However, this does not mean that the carriers can „lean back“ calmed. It is rather important to research furthermore about possible health risks due to electromagnetic fields. As long as research does not reveal any contradictory recognition, the keeping of the limit values ensures sufficient protection against the possible endangerment of third.

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## Judgements for Rereading

- Federal Administrative Court (BVerwG), resolution from 02-09-1996 - 11 VR 46.95, published in the German Verwaltungsbblatt 1996, 682
- VD Osnabrueck, judgement from 04-26-1996, AZ. 2 A 34/94, not published
- OVG Lueneburg, judgement from 03-26-1998 - 1 L 1796/97, not published
- VG Schleswig-Holstein, judgement from 08-29-1995 - 1 L 143/93, not published
- VGH Mannheim, resolution from 01-02-1997 - 8 S 3396/96, published in Neue Zeitschrift für Verwaltungsrecht 1997, 704
- Federal Constitutional Court (BverfG), decision from 02-17-1997, published in Neue Juristische Wochenzeitschrift 1997, 2509
- VGH Munich, judgement from 07-08-1997, published in Neue Zeitschrift für Verwaltungsrecht 1998, 419/420
- VG Schleswig, judgement from 08-22-1997, published in Neue Zeitschrift für Verwaltungsrecht 1998, 434
- OVG Bautzen, resolution from 12-17-1997 - 1 S 746/96, not published
- VG Hamburg, resolution from 04-27-1997 - 13 VG 127/97, not published
- VG Munich, resolution from 11-11-1997 - M 1 K 95.927, not published

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