

[Translation from the German]

Droht den Mikrowellen ein ähnliches Fiasko wie der Atomenergie?

Wolfgang Volkrodt

Are Microwaves faced with a Fiasco similar to that experienced by Nuclear Energy?

In our time we are witnessing intense discussions on the problem of waste disposal. An increase in waste proliferation is supposed to be regulated by public referendum. The packaging industry is [finally] reading the writing on the wall, and is switching to increasingly smaller, environmentally safe packaging (as in the case of laundry detergents), and switches from the non-returnable bottle to the deposit bottle which is suitable for repeated use. Pioneering auto makers issue a return authorization warranty for their scrap cars and issue a commitment for the recycling of usable materials.

The aforementioned actions focus on the garbage which is in plain public view. Later, one shall also have to deal with the «invisible» waste, which has so far escaped immediate attention by our senses. Anyone having a cursory overview of our radio transmission system is aware that our airwaves, and thereby our environment, are contaminated with much waste in the form of harmful electromagnetic fields and radiation. This development became possible because in the United States around 1950, for instance, the threshold values for microwaves, with a performance density of approximately 10 mW/cm² [milliwatts per square centimeter], were set much too high. The fact that the threshold values of the USSR were set at a thousandth of that value, and that there surely had to be a valid reason for this, was conveniently pushed aside. German industry blissfully rode along on the crest of the much-too-high threshold values introduced by the U.S. military. Now, however, drastic changes are knocking on our door. They originate with the international committee for non-ionizing radiation, or IRPA/INIRC, which is a subsidiary organization of the World Health Organization. This organization demands a future two-level separation of the threshold levels: One relatively high value is intended to be a guideline for the experts who are familiar with radio wave emissions. They are aware of the existing threats and of the means of deliberate protection from such dangers. A second, new threshold value is intended to protect the general public, which is unaware of the fact that it is exposed to real dangers to its health by, for instance, a neighboring telecommunications relay tower or radar installation, and that this threat exists, unlike in the short-term exposure in the case of the experts, day and night around the clock. This new threshold value is much lower than the standard used until now.

The following statement is excerpted from Volume 16 of the publication issued by the German Radiation Protection Commission¹ after its closed-door meeting on "Non-Ionizing Radiation" on December 7-9 1988: "The practical operation in the handling of electromagnetic fields has shown that the introduction of the new 1988 IRPA threshold values for the general population would confront the operators of high-performance transmitters, such as radio networks and the German Postal Service² with significant problems, since in many existing facilities these threshold values are, with the exception of the facilities' own immediate physical site, exceeded by a large margin."

¹*Deutsche Strahlenschutzkommission*

²*Deutsche Bundespost*

Where are the new threshold values being exceeded?

This statement, issued in 1988, must be assumed to be based on concrete data, otherwise the Strahlenschutzkommission would be guilty of publishing a lie. When will the public receive reliable information from radio networks and from Telekom³ regarding the areas in which the new IRPA threshold values are exceeded by a large margin outside the physical sites of the named institutions? What recommendations regarding preventive health protection will then be issued to the general public? Which measures regarding the termination of a threat to the population through radiation have already been instituted by the radio networks and by Telekom? The public has a right to receive answers to the foregoing questions!

It should not be overlooked that the new Environmental Liability Law⁴ has been in force since January 1991. The law's commentary contains, among others, the following statement: "In the event that the harmfulness of an emitted substance is scientifically proven only at a later date, the operator of the facility which is found to have emitted this hazardous substance is subject to the full risk of liability. Section 15 of the UHG establishes liability ceilings of 160 million Deutsche Marks for injuries to persons and 160 million Deutsche Marks for property damage." The claim not to have been informed at start-up time of the environmentally damaging effect of, i.e., a directional radio transmitting station, shall not indemnify the operator from the full liability risk. The possible compensation payments in the millions being assessed may mean the end to the existence of an enterprise.

Under the headline, "Threshold value creates tension", the daily DIE WELT reports on a new statutory regulation regarding the protection from electromagnetic fields. According to this article, the enforcement of the new international threshold values is meeting stiff resistance in the FRG.⁵ However, the radiation protection officials appear undaunted and are intent upon enforcement of the international standard values. Admittedly, in the opinion of Professor BERNARD (Federal Radiation Protection Authority at Neuherberg), the chances for such enforcement are at best "fifty-fifty". Whichever way the squabble over threshold values will be decided, it is clear that the Federal Republic will have to tread new legal ground in any case. To date there exists no specific regulatory statute for the protection from non-ionizing radiation. In this area, the radiation protection law is not applicable. In addition, until now there did not exist any pertinent decree attached to the Federal Emission Protection Law.⁶ The new situation requires a consequent about-face in considering these problems.

In January 1991 we saw the presentation of the draft entitled DIN VDE 0848, part 2, entitled "Safety in electromagnetic fields" — protection of persons within the frequency range of 30 kHz to 300 GHz. The paper recommends that the findings contained in this draft for a future standard be carefully observed already during the practical transfer [to the new regulations]. So far, however, one does not gain the impression that this recommendation is being taken seriously. It seems that this will not happen until an entity causing environmental damage is penalized in a court of law with significant financial penalties. Will Telekom be the first to be sued in this context? It is understandable, that the new Federal Lands⁷

³the communications subsidiary of the German Post Office

⁴*Umwelthaftungsgesetz* (UHG)

⁵Federal Republic of Germany

⁶*Bundesimmissionsschutzgesetz*

⁷the lands of the former German Democratic Republic

are in great haste to be connected into the western telephone network. But why are new directional radio transmitters being installed for this purpose, when it is already clear today that in the next millennium the optical light wave conductor technology⁸ will replace the much less capable and environmentally damaging directional radio technology? Why not install light wave conductor technology right away, and thereby avoid possible trouble due to environmental damages and directional radio? Who at Telekom is making the much too short-sighted calculations? The overaccelerated expansion of the D-Mobile⁹ radio networks seems to be taking place in a similarly inconsiderate fashion. Has the calculation been made whether the earnings to be expected from mobile radio user fees will be sufficient to cover possible compensation payments awarded to persons and property damaged by microwave influence? Quite possibly the mobile radio network will become a billion-DM flop, which will have to be paid for by the average citizen through his tax payments. In this case, the citizen has already today a right to press for the disclosure of the calculations upon which the mobile radio networks are based.

Meanwhile, public initiatives are forming at several locations in which Telekom intends to erect new radio towers. In the discussions which they are having with Telekom representatives, arguments regarding the benign nature of radio waves are presented, which are all to reminiscent of those of the nuclear energy lobby. This only adds to an increasing suspicion. In the end it is quite possible that the population, as in the example of nuclear energy and of billion-DM projects such as Wackersdorf, renders their realization impossible also in the area of microwaves. Inevitably, this would have significant negative repercussions for those companies which are charged with the manufacture and erection of possibly risk-prone transmission facilities. For this reason, in their practical work on such projects such companies should take the direction concerning the stipulations contained in the standards draft DIN VDE 0848, Part 2 very seriously and, as one resort, even get out of the too-risky microwave business in time, and in turn engage themselves more strongly in the future business of opto-electronics [fiber optics].

How significant, measured by our current scientific knowledge, is the likelihood that hazards to the health of man and environment emanate from microwave radio transmitters? The following public tender, issued in August of 1990 by the Federal Office for Radiation Protection [Bundesamt für Strahlenschutz] is proof of the persisting significant dearth of research:

"Investigations in the immediate scanning area of high frequency radiation facilities for the frequency range between 10 MHz and 3 GHz with the purpose:

- Development of measuring procedures with suitable local resolution for the evaluation of electrical field strengths in phantom tissues;
- Measurement of the high frequency energy absorbed by the phantom tissues in the immediate scanning area of high frequency radiation devices and devices of the mobile radio system. (Author's note: This means, that currently the introduction of mobile radio is being accelerated without any prior scientifically exact investigation of the risks emanating from the system component!)

⁸Fiber-optics technology

⁹Digital Mobile Radio Networks

Investigations on the effective mechanisms of high frequency radiation with the purpose:

-Clarification of the effect of pulsed high frequency radiation on cell membranes. Further clarification of changes in cellular growth in the presence of high frequency absorption.

Initial results of this research are to be available by approximately the end of 1993. What will happen if these results deliver proof of the effective health hazard posed by the mobile radio networks which will have been installed by then? Why is there no careful research to provide the answer to whether a new technology may be connected with too high a risk, before it is introduced? Have we learned nothing at all from the fiasco with nuclear energy? Who among our economic and political leaders is responsible for such nonsense, which is so contemptible of man and environment that he should be publicly pilloried?

New types of forest damage are caused by microwaves

Anyone who has in the past years carefully observed in which areas there occurred a conspicuous concentration of new types of forest damage was able to notice that these were almost without exception situated within the sweep area of microwave radio installations such as radar or directional radio. After the end of the "Cold War" most of the "spying installations" along the former border between the FRG and the GDR, and also the Soviet installations on the crests of the Erzgebirge and Riesengebirge mountain ranges have been powered down. First reactions concerning the heretofore damaged forest are coming from the Fichtelgebirge mountains. These reports indicate, in the forests on the Schneeberg and Ochsenkopf summits, a visible recovery of the forests which were, until recently, severely damaged. Similar claims [of observed recovery] come from forest rangers in the Erzgebirge and Riesengebirge ranges. To a large extent, the main culprits were radar installations.

Revelations regarding forest damage through directional radio will be offered by the further development of the Grunewald forest at Berlin. Some seven directional radio links emanate from the giant tele-communications tower operated by today's Telekom south of [the town of] Wannsee and traverse the forest in a northerly direction. Until now, significant forest damage was exhibited by each small forested elevation situated under the beam of one of these directional radio links. The greater Berlin area is now increasingly being equipped with fiber optical cables. Soon the old telecommunications tower in the south of West Berlin, with its directional radio link to the Torfhaus summit in the Harz mountains will no longer be needed. Beginning in approximately 1995, according to estimates from Berlin, the directional radio links traversing the Grunewald forest will have ceased to operate. Which arguments will be presented, if the forest, in plain view of an observant public, were to recover from its known severe damaged state, and this in spite of the fact that in the meantime the automobile traffic in Berlin along with its attendant air pollution have increased to a frightening degree? Will we then hear that the wider distribution of the automotive catalytic converter is manifesting itself in the form of initial positive reactions by the Grunewald forest?

Misleading the public on the subject of automotive catalytic converters

Today even the last holdout among forest botanist is waking up to the fact that the "acid rain theory" used as an explanation of the new type of forest damages was decidedly moronic. During the past

decade, the emission of sulfur-bearing waste gases, and of those of power plants in particular, has been reduced to less than a third [of former values]. Regardless of this, the forests continued dying unchecked. In the case of nitrogen oxide emissions from automobiles, the botanists are divided even on the question whether nitrogen oxides serve as a fertilizer or act as damaging agents in forests. It has been observed in the vicinity of busy freeways that in these locations the forest is not dying, but that the trees are growing annual rings of greater thickness, and in fact are growing wild. It is not possible to speak of a positive effect of the automotive catalytic converter, as long as the steady increase of traffic volume and the attendant higher fuel consumption and air pollution more than compensates for the [beneficial effect of the] catalytic converter. In addition, there exists not a single piece of scientific evidence for the ability of the catalytic converter to cause a change toward the positive in the case of forest deaths. Meanwhile, there is speculation that the late F. J. [Franz-Josef] STRAUSS not only assisted the GDR in obtaining billions in credits, but that he also arranged sales of platinum metals ranging in the billions for his friends in South Africa. South Africa supplies 80% of world platinum consumption. For a long time, the prices of this commodity remained at rock bottom. When the then Federal Secretary for Transportation, Dr. ZIMMERMANN, in unison with the German auto manufacturers, showed no interest in the introduction of the catalytic converter, he was pressured by his party chairman F. J. Strauss. As a result, approximately 40% of South Africa's platinum metals production had to be purchased for the production of catalytic converters. This aided South Africa's apartheid regime in generating urgently needed export earnings.

In the future, too, the topic of catalytic converters will continue to supply significant headlines. Since June of 1991 the Hannover public prosecutor's office has had to deal with catalytic converter technology. The catalytic converter not only emits lung-damaging platinum particles, but also creates a synthesis of hydrogen cyanide¹⁰, hydrogen sulfide and other hazardous nerve gases. The new environmental liability law (UHG) is being applied. The outcome of this court action may influence future disputes pertinent to the risks of microwave exposure. After the public has already felt fooled during the discussions regarding nuclear energy, the possible disclosure of an additional deliberate misleading in the case of the automotive catalytic converter or of heretofore concealed risks pertaining to microwave technology would make it likely to expect a public overkill reaction.

In what manner do microwaves cause the new type of forest damage?

It is now an established fact in the current state of technology that microwaves are "received" by our trees and finally converted into electrical currents which flow into the soil. Already in 1987, the renowned forest biologist Professor HÜTTERMANN made the following statement:

"It is absolutely beyond question, that the area of the German Federal Republic exhibits a high installation density of radio, television and radar transmitters. There can also be no doubt that electromagnetic waves are "received" by the trees and [their] needles. Admittedly, the leaves and needles are not optimal conductors. But it can be demonstrated by means of simple experiments that electromagnetic waves are received by them, and that this process causes the induction of a flow of electrically charged particles in the needles and leaves."

¹⁰prussic acid

In the meantime, this thesis from the year 1987 has been enhanced by more details. The induced charge carriers finally migrate into the ground. Where else would they go? A type of electrical rectification takes place within the cell membranes. In turn, the direct current that spreads from the roots into the soil causes a kind of electrolysis. And this, in turn—and not "acid rain"—leads to the soil "acidification" which is being repeatedly observed in the ground under trees exhibiting the new type of forest damage.

The statement by the Radiation Protection Commission¹¹ of 27 September 1990 contains the following excerpt:

"The absorption of high frequency energy in plants or other biological objects is dependent upon the size, shape and position of the object, relative to the outer field. This can lead to resonant types of absorption increases which, in the example of needles and leaves assume a factor of three in the frequency range between 2 GHz and 20 GHz."

If now, after the decommissioning of the powerful military microwave transmitters at the end of the Cold War, and in connection with the changeover from directional radio to fiber optics conductors, the forests begin to recover from the new type of forest damage, the public will awaken to the fact that something must be wrong with the current "acid rain and catalytic converter babble." Public anger will focus on the true sources of the new types of forest damage. The question will arise whether no one among the microwave experts was aware of the connections with forest damage. In fact, older, now mostly retired employees already experienced suspicions in this direction during start-up and maintenance of directional radio and radar installations. Among these circles there exists also the suspicion that the damages to deciduous trees, which occurred much later in addition to that noted on coniferous trees, has something to do with the changeover from analog to the more broad band-effective digital modulation and full polarization in directional radio. The coincidence in time underscores the latter supposition.

It may be assumed that there have been, during the past decades, warning voices regarding environmental damages in all enterprises dealing with microwave radiation. But it may also be assumed that no one in the executive suite was willing to listen to such talk, which meant potential damage to corporate image and profits. Now, with the new Environmental Protection Law [UHG], the time has come for dealing with the question of compensation and fines. In addition, the need is indicated for new strategic considerations regarding whether the risky new directional radio links should be configured from the start with fiber optic conductors, and whether it might not be wise to slow down the speed of mobile radio introduction until scientists have presented clear reports concerning possible damaging effects.

Microwave damages in humans

The fact that not only forests but humans can suffer health damages through microwaves is proven by several factual accounts. It has been noted that, according to the statistics of types of illnesses kept by the medical insurer General Sickness Benefit Fund¹², in the period of 1975 to 1985, the incidence of hospitalization for psychiatric, rheumatic and nervous disorders as well as cancer approximately

¹¹*Strahlenschutzkommission*

¹²*Allgemeine Ortskrankenkasse/AOK*

doubled, mirroring the occurrences of forest deaths. The reason for this, so we are told, is unknown. At any rate, it is not the over-aging of the population that is responsible, which is proven by new AOK statistics which effect a separate sampling of those under sixty who are, to a large extent, still among the ranks of the employed. Tip-offs toward the real causes are offered the American researcher Dr. R. O./ BECKER in his book "The Spark of Life" (Scherz-Verlag, ISBN 3-502-1340-X), which was published in its first German edition in 1991. Among other statements, he cites a recently published article that is based on the test program on microwave research at the Walter Reed Army Institute of Research. It states:

"Microwave energy of the militarily significant range of 1 to 15 GHz enters into all organ systems of the body and therefore constitutes a danger to all organ systems. The test program, which commenced in 1986, dealt with four areas: 1. Effect on immediate debilitation; 2. Immediate stimulation/irritation through acoustic effects; 3. Effects on influencing or prevention of work [activities], and 4. Effect on stimulus-controlled behavior. The report continues: Microwave impulses appear to couple with the central nervous system and induce stimuli which must be compared to a non-thermal electrical stimulation."

With such publications, the U.S. military itself contradicts the heretofore made assertion that microwave emissions are largely harmless to the public. [Translator's Note: The author uses a double negative by saying: "... contradicts the heretofore made assertion that microwave emissions are largely harmless to the public, was false."] According to the report by the Radiation Protection Commission, the Federal Post Office argued, "Although many installations (which exceed the new IRPA threshold values by a large margin), some with significant urban development in their immediate vicinity, have operated for several decades, no really serious reports of relevant damages have come to our attention."

The phrasing, "no really serious reports" is indicative of the fact that in the mind of the general public a possible correlation between its illnesses and diseases and the effect of microwaves from neighboring transmitter installations is beyond comprehension. We do not possess any senses capable of registering such radiation or waves. Furthermore, there is a general lack of basic physics and medical knowledge, which prevents the logical understanding of such complex correlations. Budding physicians, most of whom abhor physics and mathematics, learn at our universities nothing about the effect of electromagnetic fields and waves on individual cells, their membranes and neural interconnections. Quite new, for instance, is the finding published in Science, vol. 253/92, page 851, that genes are switched on and off by the minute electrical currents produced by the body itself. It was established that embryonic spinal cord cells can electrically trigger a gene which then produces a protein which aids in the survival of specific nerve cells. This gene, however, remained inactive when the body's internal electrical currents were suppressed. Inevitably, this begs the question of what happens when the genes in our body are affected by foreign-induced currents which are not generated by our own body. Clearly, there is still much research to be done in this field. If now the Federal Office for Radiation Protection has, for the first time, initiated research work in this direction by posting its 1990 competition, we may not count on quick and useful results. To achieve this, one would have to form research teams consisting of physicists, high frequency technicians, biologists, physicians, forest botanists, etc., who share a common goal. However, each one of the contributors speaks a different language. If the high frequency technician were to understand the physician's language, the assistance of an interpreter would be required. Many years will pass before such functional teams can be assembled. Considering this, it would be better to rely upon the already existent research data of, for example, the military personnel at

the Walter Reed Army Institute of Research, because this institution already has seasoned research teams and can draw upon practically unlimited funds. The subject at hand, as Dr. R. O. BECKER writes in the above mentioned book, is the development of undetectable microwave weapons that offer the possibility of achieving complete mind control over a civilian population requiring pacification. This opens completely new dimensions in the creation of a new "world order."

Desist with the tactics used in nuclear energy!

Attempts at mollifying the public with, as in the cited Telekom example, statements such as "no really serious reports of relevant damages have come to our attention," appear to hold little promise of advancement. Such tactics would be doomed, as they were in the case of nuclear energy. Meanwhile, many locations are witnessing the formation of citizens' initiatives that are protesting, for example, the erection of a new transmission tower in their vicinity. In addition, there are now self-help groups of people who are 'electro-sensitive', and who attempt to delineate the possible causes of their suffering through the exchange of their personal experiences in meetings. Increasingly, they are knowledgeably supported in their plight by renowned scientists. We are now in a phase in which the resistance against the electromagnetic contamination of our environment is slowly beginning to organize, in a fashion similar to the discussions on nuclear energy years ago.

Presumably the approach through citizens' initiative is the single usable way to put an early end to the microwave nightmare of the past decades. This is also the opinion put forward by Dr. R. O. BECKER in his book. Reportedly the United States is far more advanced than we are in reigning in the excesses of microwave technology. Dr. R. O. BECKER approaches the topic in a suitably sober fashion, which presents useful suggestions also the originators of microwave radiation. First, he demands a risk/benefits analysis, on which he comments as follows:

"All data which is material to a decision (pro or con, i.e., for a new transmitter facility) must be made available to all participants. This prerequisite sounds simple enough, but in our technology-dependent world its satisfaction may translate into the expenditure of funds of significant size. In the event that the data is inapplicable or incomplete, the decision whether the benefit justifies the assumption of the risk can be made only after establishing proof that each conceivable risk is balanced by a significant benefit. - In all instances when citizens believe that they are endangered by an institution, they should first get organized. A well-organized citizens' initiative possesses effective weapons. One such weapon are the public media. Whatever the opposition wishes to state must merely be brought into a format acceptable to the media and dressed in a fashion which makes it appear to possess news value. The representatives of the news organizations have the means to present the notion put forward by the citizens' initiative in an eye-catching manner. They can also foster the initiative's goals through interviews with scientific experts which support the citizens' argumentation. The citizens' initiative's second weapon is the ballot during the next election.

The entire area of risk/benefit evaluation urgently requires some basic changes, and not only of the facilities which generate electromagnetic fields, but also in the entire field of technological innovations that has an effect on our environment. As long as no suitable steps are taken by the responsible authorities at the federal level, it is the business of the individual citizen to make up his own risk/benefit analysis and to initiate those steps which he considers essential in protecting his health and that of his children."

In Germany it must be recognized that an initiative by the Secretary for Environment, Nature Conservation and Reactor Safety¹³ led to the formation of a Federal Office for Radiation Protection, which is applying remarkable efforts in the enforcement of the new IRPA threshold values for the protection of the general public, and in informing of the real [scope of] risks posed by microwaves. While citizens' initiatives protest against the accelerated and unchecked expansion of additional microwave transmitters, i.e., by Telekom, they indirectly support the efforts of the World Health Organization (WHO), the international IRPA and the German Federal Office for Radiation Protection. Accordingly, their actions are in agreement with the legal basis upon which our state is founded.

Questions directed to those responsible for microwave technology

- 1.) Without WW II, we would not have seen a rapid development of the nuclear energy and microwave technologies. In times of war no one asks whether a new technology is justifiable, as long as it offers an initial temporary advantage over the adversary. Only decades after the explosion of the first atom bomb and after the worldwide proliferation of nuclear power plants has mankind recognized the great risks associated with nuclear fission (Chernobyl), and the fact that there does not exist an absolute degree of safety in the harnessing of nuclear fission and in the disposal of nuclear products and their waste. Now we are confronted with accumulating evidence suggesting that the introduction of microwaves is leading to radiation risks for man and environment which are similar to those imposed by nuclear energy technology. Or is there any definite scientific proof of the absence of radiation risks in microwaves?
- 2.) The German Radiation Protection Commission [Deutsche Strahlenschutzkommission], after its closed-door meeting on December 7-9 1988, stated that many existing radio installations exceed to a large degree the 1988 IRPA standards suggested for the protection of the general public. It follows that the public living in the vicinity of these installations is endangered by microwaves. Where are these hazardous installations located? What steps have already been taken in order to comply with the demands made by IRPA for the protection of the general public?
- 3.) Since 1986 the American Walter Reed Army Institute of Research has been working on the development of a new type of microwave weapons. In this research it was found that microwave energy within the range of 1 to 15 GHz enters all organ systems of the body, and that microwave pulses tend to couple with the central nervous system. This could serve as an explanation of the fact that between 1975 and 85 the incidence of cases of hospitalization for rheumatic, psychiatric and nervous disorders as well as cancer have roughly doubled. This would lead to the deduction that the already existing microwave radio installations (directional radio, radar) should be turned off as soon as possible. Why is this not only not happening, but why are additional transmitter installations being erected?
- 4.) The Environmental Protection Law (UHG) of 1 January 1991 includes full liability risk also for those installations that began operating prior to the availability of scientific evidence of their hazardous effect. Accordingly, the operators of microwave radio installations which have been operating for decades, are liable to the owners of the forests damaged by their installations. According to the liability ceiling stated in the Law, this may create compensation payments in the amount of 160 billion Deutsche

¹³*Bundesminister für Umwelt, Naturschutz und Reaktorsicherheit*

Marks. How do the injurious parties envision the raising of such a sum? Will the general public have to step in and pay through increased general taxation?

5.) The research project tendered by the Federal Office for Radiation Protection in 1990 is an indication of the fact that there is no clarity regarding the possibility of damages through microwaves to participants to the mobile radio network. For this reason a risk/benefit analysis is currently not feasible. Why are the mobile radio networks being expanded so rapidly anyway? Who bears the responsibility in the event that the mobile radio networks turn out to be a billion-DM flop of the magnitude of Wackersdorf, [simply] because the population refuses to accept this technology due to health risks which are being revealed in the meantime?

6.) Those responsible possess the technical possibilities to utilize the biologically clean fiber optics technology instead of that of directional radio. Because of the much higher performance capabilities of opto-electronics, such a changeover is already planned by the year 2005. Why does one not effect the change to fiber optics today, decommissioning older directional radio facilities and simultaneously lessening the risk of having to make immensely high future compensation payments based on the Environmental Protection Law (UHG)?

7.) The general population regards mobile radio largely as a technological toy for the rich and for screwballs. There exists no recognizable necessity for the installation of novel mobile radio networks of seamless coverage in addition to existing hardware-based transmission systems. The majority of the population is exposed to a higher health hazard than before, in order to satisfy the play instinct of a minority of mobile radio users. Who among the political and economic leadership bears the responsibility for this and is willing to bear the consequences in case all of this goes wrong?

In the event that you may have additional questions or wish to study the literature on which this article is based, please contact the author:

(author's address:)

Dr.-Ing. Wolfgang VOLKRODT
Waldsiedlung 8
W-8740 Bad Neustadt
Telephone [0]9771/2704

[Published in *Wetter - Boden - Mensch* 4/1991]

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