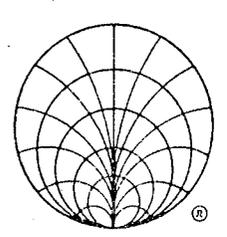


Add Glazer

Editorial: "Biological Effects and Health Implications of Microwave Radiation"

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Recently at a 3-day conference on the Biological Effects and Health Implications of Microwave Radiation, sponsored by Virginia Commonwealth University and the United States Public Health Service, people from the medical, biological and engineering fields were brought together to discuss the problems of microwave radiation hazards. It was the first meeting of this type that has been held in several years.

The hope was that through meaningful dialogue between the various disciplines a practical standard for maximum permissible exposure level to microwave energy could ultimately be established. At the present time, in the United States, there is a voluntary standard of 10 mw/cm².

It's a very serious and a very difficult problem. The thing that stirred the matter up in this country was the work the Russians began reporting about 1964, in which they described the effects of microwave radiation on workers in that country. On the basis of what appear to be rather extensive investigations, the Russians have adopted a more explicit, time-related standard which for short exposure times starts at a level of 1 mw/cm². For unlimited periods of time the allowable exposure level drops to 1 microwatt/cm². Unfortunately, the Russian information is not documented to the satisfaction of the American workers with the result that the work and the standard tend to be down graded. Some work is presently going on in the U. S. to exactly duplicate some of the Russian experiments.

To date there has been no provable damage reported on human beings who have been exposed to microwave radiation under "proper operating conditions." There have been a number of reports of cataracts of the eye, but in every case the individual who suffered the cataract was known to have been exposed to microwave energy well in excess of 10 mw/cm².

Perhaps the entire problem revolves around the question of whether microwave radiation at whatever level has a cumulative effect on the human body. It has been demonstrated that except for cataracts the human body appears capable of handling a fair amount of power seemingly without permanent damage. But the uses of microwave energy are growing daily and, therefore, the concern of the experimenter is that perhaps there is a cumulative effect. This is a serious matter and should not be ignored. The fact remains, however, that for at least 25 years, literally thousands of people have been exposed to all levels of microwave radiation. If there was a cumulative effect careful study would have given some evidence by this time. Up to the present time no such evidence has been detected. It is possible the time is still too short, however, to a layman, it does seem that after 25 years of living in a microwave environment any cumulative effect would have been detected by this time.

At the present time, there is no agreement on what should be done. The Russian work appears to concern itself primarily with effects on the central nervous system. They report on people working in a microwave environment having headaches, nervousness, dizziness, falling hair etc. We have reports of individuals in the U.S. who suffer from "microwave headaches." The capability of the Russians in this type of work is such that we should not ignore their results. On the other hand, to suddenly jump to a specification which is substantially more stringent on the users of microwave energy than has been the case in the recent past, might be an unnecessary, expensive and restrictive precaution. The meeting in Richmond was a small, but important step in the right direction.