

# GLOSSARY

<p><b>ABSORPTION</b> In radio wave propagation, attenuation of a radio wave due to dissipation of its energy, i.e. conversion of its energy into another form, such as heat.</p>	<p>they are the conversion that takes place in the body from electromagnetic energy into heat. Between 100 kHz and 10 MHz, both the induction of currents in the body and the generation of heat are important.</p>
<p><b>ACUTE</b> Short term, immediate consequence.</p>	<p><b>CAUTIONARY APPROACH</b> Cautionary approaches are used for management of health risks in the face of scientific uncertainty, high potential risk, and public controversy. Several different policies promoting caution have been developed to address concerns about public, occupational and environmental health issues.</p>
<p><b>ALARA</b> A cautionary policy. “As Low As Reasonably Achievable” used to minimize risks, taking into account different factors such as costs, benefits or feasibility factors. It is only appropriate when considering a stochastic risk assumed to have no threshold. Originally used for ionizing radiation.</p>	<p><b>CARCINOGENIC</b> A substance or agent that causes cancer.</p>
<p><b>ASSOCIATION</b> In epidemiology, a connection established on the basis of statistical calculations in the sense that, in individuals exhibiting a certain clinical picture, certain environmental factors appear more frequently than in individuals without that picture. The existence of an association does not constitute proof of a causal link, but may well prompt further research.</p>	<p><b>COST-BENEFIT ANALYSIS</b> An economic method for assessing the costs and benefits of achieving alternative standards with different levels of health protection.</p>
<p><b>BASE STATION</b> (mobile telephone) A base station consists of the antenna(s) emitting electromagnetic radiation in the radio frequency range, the supporting structure, the equipment cabinet and the cable structure.</p>	<p><b>CRISIS</b> A crucial or decisive point when conflict reaches its highest level of tension; a turning point. In the “Issue Life Cycle,” the crisis stage is when the participants demand immediate action, i.e. when the dialogue stops, and the established process is no longer working.</p>
<p><b>BASIC RESTRICTION</b> Health-based exposure limits that relate to certain electromagnetic phenomena that, if exceeded, may lead to health impairment in the human body. For static fields these limits are the electric and magnetic field strengths, for alternating fields up to around 10 MHz, they are the electric current that is induced in the body, and for alternating fields greater than about 100 kHz</p>	

## GLOSSARY

<p><b>DELPHI PROCESS</b> A method for developing consensus, presented in two variations. The first variation includes the following steps: identify individuals who are most knowledgeable about the issue and ask them to identify others; repeat this until it is clear who people think are the experts; then, draw predictions from those experts, report the responses to them and ask if they wish to change their personal predictions; finally, repeat the process until the members choose to make no more changes. The second variation includes the following steps: use an expert panel, but ask stakeholders to name the experts they trust most; ask stakeholders to respond to questionnaires about the issue; provide their responses to the experts; and repeat the process until the experts have sufficient confidence to make decisions or propose recommendations they feel the community will accept.</p>	<p><b>EMISSION</b> Generally emissions are substances discharged into the air; in this handbook emissions are electromagnetic waves radiated by a source (e.g. power line or antenna).</p>
<p><b>DOSE-RESPONSE RELATIONSHIP</b> The relationship between exposure, characterized by level and duration, and the incidence and/or severity of adverse effects.</p>	<p><b>EPIDEMIOLOGY</b> Study of disease and health in human populations and of the factors that influence them.</p>
<p><b>DOSIMETRY</b> The technique to determine the amount of electromagnetic energy absorbed in the body or its tissues.</p>	<p><b>EXPOSURE</b> Concentration, amount or intensity of a particular agent that reaches a target system.</p>
<p><b>EFFECT</b> Change in the state or dynamics of a system, caused by the action of an agent.</p>	<p><b>EXPOSURE LIMIT</b> Values of specific parameters related to the strength of the electromagnetic field to which people may be maximally exposed. A difference is made between basic restrictions and reference levels.</p>
<p><b>ELECTRIC FIELD</b> A region associated with a distribution of electric forces acting upon electric charges</p>	<p><b>EXTREMELY LOW FREQUENCY (ELF)</b> Frequencies above zero and below 300 Hz.</p>
<p><b>ELECTROMAGNETIC COMPATIBILITY (EMC)</b> The property of an electrical or electronic apparatus to function satisfactorily in its electromagnetic environment without introducing unacceptable interference signals to that environment.</p>	<p><b>FREQUENCY</b> The number of complete waves or cycles per second passing a given point. The unit is hertz (1 Hz = 1 cycle per second).</p>
<p><b>EMF</b> Abbreviation for Electric and Magnetic Fields or Electromagnetic Fields.</p>	<p><b>HAZARD</b> A source of possible damage or injury.</p>
	<p><b>HEALTH</b> A state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.</p>
	<p><b>INTERMEDIATE FREQUENCY (IF)</b> Electromagnetic fields within the frequency range 300 Hz to 10 MHz.</p>
	<p><b>INTERNATIONAL AGENCY FOR RESEARCH ON CANCER</b> The International Agency for Research on Cancer (IARC) is a specialized agency of the World Health Organization. Its mission is to coordinate and conduct research on the causes of human cancer, the mechanisms of carcinogenesis, and to develop scientific strategies for cancer control.</p>
	<p><b>INTERNATIONAL COMMISSION FOR NON-IONIZING RADIATION PROTECTION</b> The International Commission on Non-Ionizing Radiation Protection (ICNIRP) is an independent international scientific organization whose aims are to provide guidance and advice on the health hazards of non-ionizing radiation exposure. It is in formal relations with the World</p>

## ESTABLISHING A DIALOGUE ON RISKS FROM ELECTROMAGNETIC FIELDS

<p>Health Organization, the International Labor Organization and the Commission of the European Communities.</p>	<p><b>OCCUPATIONAL EXPOSURE</b> All exposure to EMF experienced by individuals in the course of performing their work.</p>
<p><b>LIFE CYCLE</b> Tracking a project or a public concern through time at all stages of its development and evolution.</p>	<p><b>PEER REVIEW</b> Evaluation of the accuracy or validity of technical data, observations, and interpretation by qualified experts.</p>
<p><b>LONG-TERM EFFECT</b> Biological effect that only manifests itself a long time after exposure.</p>	<p><b>PRECAUTIONARY PRINCIPLE</b> The principle of taking measures to limit a certain activity or exposure, even when it has not been fully established that the activity or exposure constitutes a health hazard.</p>
<p><b>MAGNETIC FIELD</b> A region associated with forces acting upon ferromagnetic particles or moving electric charges.</p>	<p><b>PROPORTIONALITY</b> What is done to protect against risk of one agent or circumstance is about the same as has been done for other agents or circumstances of similar concern.</p>
<p><b>MICROWAVES</b> Electromagnetic fields of sufficiently short wavelength for which practical use can be made of waveguide and associated cavity techniques in its transmission and reception. The term is taken to signify radiation or fields having a frequency range of 300 MHz to 300 GHz.</p>	<p><b>PRUDENT AVOIDANCE</b> Cautionary measures that can be taken to reduce public exposure at little or modest cost; i.e., prudent refers to expenditures.</p>
<p><b>MOBILE TELEPHONY</b> A means of telecommunication where at least one of the users has a mobile phone to communicate via a base station with a stationary or another mobile phone user.</p>	<p><b>PUBLIC EXPOSURE</b> All exposure to EMF experienced by members of the general public, excluding occupational exposure and exposure during medical procedures.</p>
<p><b>NOMINAL GROUP PROCESS</b> A moderated group dynamics technique useful for goal setting and problem identification; the group responds to a value or conflict-laden question individually writing all responses in the form of a list; each participant reads one response until all the responses (including duplicated responses indicated by a check) are visibly listed; discussion for clarification or in-depth issues discussion follows; if the goal is a prioritized list, the moderator then asks all to individually and silently rate the top three (or another agreed upon number) items listed and then repeats the response recording process; the moderator then leads the group through a discussion which results in a priorities list and may produce an action plan for implementing those items.</p>	<p><b>PUBLIC HEALTH</b> The science and practice of protecting and improving the health of a community, as by preventive medicine, health education, control of communicable diseases, application of sanitary measures, and monitoring of environmental hazards.</p>
	<p><b>PUBLIC VALUE ASSESSMENT</b> Understanding how the community values something.</p>
	<p><b>RADIOFREQUENCY (RF)</b> Any frequency at which electromagnetic radiation is useful for telecommunications. Here, radiofrequency refers to the frequency range 10 MHz - 300 GHz.</p>
<p><b>NON-IONIZING RADIATION</b> Non-ionizing radiations (NIR) are electromagnetic waves that have photon energies too weak to break atomic bonds.</p>	<p><b>REDUCTION FACTOR</b> Size of the reduction or "safety factor" in the exposure limit that incorporates uncertainties in the data.</p>

## GLOSSARY

<p><b>REFERENCE LEVELS</b> Values for the strength of the undisturbed electric and magnetic field that are derived from the basic restrictions and which serve to establish whether the basic restrictions are being satisfied. Measuring the quantities that underlie the basic restrictions is not easy; whereas the electric and magnetic field strength is easily measured.</p>	<p><b>SPECIFIC ABSORPTION RATE (SAR)</b> The rate at which energy is absorbed in body tissues, in watt per kilogram (W/kg); SAR is the dosimetric measure that has been widely adopted at frequencies above about 100 kHz.</p>
<p><b>REGULATION</b> A legislated set of rules, usually under an act of parliament.</p>	<p><b>STAKEHOLDER</b> A person or a group who has an interest in the outcome of a policy or decision, or seeks to influence the outcome.</p>
<p><b>RISK</b> The probability of a specific outcome, generally adverse, given a particular set of conditions.</p>	<p><b>STATIC FIELDS</b> Electric or magnetic fields having no time variation, i.e. 0 Hz.</p>
<p><b>RISK ASSESSMENT</b> A formal process used to describe and estimate the likelihood of adverse health outcomes from environmental exposures to an agent. The four steps are hazard identification, dose-response assessment, exposure assessment, and risk characterization.</p>	<p><b>THERMAL EFFECTS</b> Biological effects caused by heating.</p>
<p><b>RISK COMMUNICATION</b> An interactive process of exchange of information and opinion among individuals, groups and institutions. It involves multiple messages about the nature of risk and other messages, not strictly about risks, that express concerns, opinions, or reactions to risk messages, or to legal and institutional arrangements for risk management.</p>	<p><b>THRESHOLD LEVEL</b> Minimal value of the exposure parameter necessary for an effect to be first observed.</p>
<p><b>RISK MANAGEMENT</b> The process of identifying, evaluating, selecting, and implementing actions to reduce risk to human health and to ecosystems.</p>	<p><b>UNCERTAINTY</b> Imperfect knowledge about the state of a system under consideration.</p>
<p><b>RISK PERCEPTION</b> The way that an individual or a group perceives and values a certain risk. A particular risk or hazard can have a different meaning depending on the individual and the context.</p>	<p><b>WEIGHT OF EVIDENCE</b> Considerations involved in assessing and interpreting published scientific information. These include the quality of methods, ability of a study to detect adverse effects, consistency of results across studies, and biological plausibility of cause-and-effect relationships.</p>
<p><b>RISK SURVEILLANCE</b> The process of monitoring and providing feedback to the ongoing risk management process with surveillance systems collecting data over time on risk factors and on health outcomes.</p>	<p><b>WORLD HEALTH ORGANIZATION</b> The World Health Organization (WHO) is a United Nations agency with the mandate to act as the directing and coordinating authority on international health work, promoting technical co-operation, assisting Governments in strengthening health services, and working towards the prevention and control of epidemic, endemic and other diseases.</p>
<p><b>SHORT-TERM EFFECT</b> Biological effect that occurs during or shortly after exposure.</p>	

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### **ON RISK PERCEPTION, RISK COMMUNICATION AND RISK MANAGEMENT AS APPLIED TO ELECTROMAGNETIC FIELDS**

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<http://www.icnirp.org/>

### ON ELECTROMAGNETIC FIELDS AND HEALTH IN GENERAL

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The World Health Organization International EMF Project  
<http://www.who.int/emf>

The International Commission on Non-Ionizing Radiation Protection (ICNIRP)  
<http://www.icnirp.org>

The National Radiological Protection Board (NRPB) of the United Kingdom  
<http://www.nrpb.org>

The NIEHS special RAPID program on electromagnetic fields  
<http://www.niehs.nih.gov/emfrapid>

### ON RISK COMMUNICATION AND MANAGEMENT IN GENERAL

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The annotated bibliography on risk communication of the National Cancer Institute of the United States  
<http://dccps.nci.nih.gov/DECC/riskcommbib/>

The Department of Health of the United Kingdom on: Communicating About Risks to Health: Pointers to Good Practice  
<http://www.doh.gov.uk/pointers.htm>

The annotated guide on literature about risk assessment, risk management and risk communication of the Research Center Jülich/Germany  
<http://www.fz-juelich.de/mut/rc/inhalt.html>

The US Environmental Protection Agency on risk assessment and policy options  
<http://www.epa.gov/ORD/spc>

A description of current national guidelines can be found on the WHO web page at  
<http://www.who.int/docstore/peh-emf/EMFStandards/who-0102/Worldmap5.htm>